A-125042

ARP 2002

Philadelphia Gas Works
Legal Department

PGW

800 W. Montgomery Avenue, Philadelphia, PA 19122
Fax: (215) 684-6798

ORIGINAL

March 1, 2002

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PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

VIA EXPRESS MAIL

James McNulty, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
2nd Floor, 1 North
400 North Street
Harrisburg, PA 17120

RE: Philadelphia Gas Works
Annual Resource Planning Report

Dear Secretary McNulty, IRP-125042

Enclosed for filing please find the original and seven (7) copies of Philadelphia Gas Works' Annual Resource Planning Report, Forms 1&2.

Please contact me if you have any questions regarding this filing at 215-684-6631.

Respectfully,

Margaret Flores, Esq.

Cc: Calvin Birge, Conservation, Economics and Energy Planning w/enc.
Office of Consumer Advocate w/enc.
Office of Small Business Advocate w/enc.
Office of Trial Staff w/enc.

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ORIGINAL

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PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

IRP-125042

ANNUAL RESOURCE PLANNING REPORT

Philadelphia Gas Works

Philadelphia, Pennsylvania

March 2002

Forms 1 & 2

BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

Philadelphia Gas Works
800 West Montgomery Avenue
Philadelphia, Pennsylvania 19122

ANNUAL RESOURCE PLANNING REPORT
MARCH 2002

Forms 1 & 2

Information Submitted in Compliance with and Pursuant to Title 52
Pennsylvania Code Section 59.81

PHILADELPHIA GAS WORKS

TABLE OF CONTENTS

EXHIBIT NO.	REGULATION	DESCRIPTION
1	59.81	General
2	59.81	Forms IRP-Gas 1A, and 1B Annual and Peak Day Energy Demand
3	59.81	Forms IRP-Gas 2A, 2B, and 2C Annual and Peak Day Energy Resources, And transmission and storage contracts

Section 59.81: ***General***

Pursuant to Section 59.81 (a), each major jurisdictional gas utility must file an annual resource planning report (ARPR) on or before June 1, 1996 and June 1 of each succeeding year, except Form 1A/2A which filing date is March 1. One (1) original and seven (7) copies of the report must be submitted to:

Secretary
Pennsylvania Public Utility Commission
P.O. Box 3265
Harrisburg, PA 17105-3265

One copy should be submitted unbound for ease of duplication.

One courtesy copy should also be submitted to:

Pennsylvania Public Utility Commission
Conservation, Economics and Energy Planning
P.O. Box 3265
Harrisburg, PA 17105-3265
Attn. Calvin Birge

Also submit one (1) copy to the following:

Office of Consumer Advocate
555 Walnut Street
Forum Place, 5th Floor
Harrisburg, PA 17101-1921

Office of Small Business Advocate
Suite 1102, Commerce Building
300 N. Second Street
Harrisburg, PA 17101

Be sure to indicate the name and telephone number of at least one individual at the company who is familiar with the filing and will be available to answer any questions the Commission staff may have. You may also wish to list those individuals who are directly involved in the preparation of the various document components.

Information contained in annual resource planning reports must be utility-specific. The report should follow an outline similar to that which is contained herein, with narrative accompanying the required data. Forms may be modified to accommodate wide columns of numbers and enhance readability, but the general format should be used to maintain consistency.

This information is not generally considered confidential. Utilities are obligated to provide complete information. However, we will treat as confidential those portions of the report designated by the utility as proprietary. If a utility's proprietary claim is challenged, the Commission will direct the utility to file a petition for protective order pursuant to 52 PA Code 5.423.

All questions concerning the reporting requirements for Forms IRP Gas 1A through 9 should be addressed to Pennsylvania Public Utility Commission Bureau of Conservation, Economics and Energy Planning.

Response: An original, seven (7) copies, and one unbound copy of Forms 1A, 1B, 2A, 2b, and 2C along with a general discussion of the methodologies, data sources, and assumptions are being submitted to meet the requirements of the March 1 filing.

All questions concerning the ARPR should be directed to Mr. William Muntzer, Director – Rates, Gas Planning, and Regulatory Affairs at (215) 684-6623. The following individual will be available to answer questions concerning each section:

Mr. Kenneth Dybalski Manager, Gas Planning at (215) 684-6317.

Section 59.81 **Forms IRP-Gas 1A, and 1B – Annual and Peak Day Demand**

The load growth projections shall reflect the effects of price elasticity, market induced conservation, building and appliance efficiency standards, and the effects of the utility's existing and planned conservation and load management activities.

Response: Please see the attached documentation and forms.

FORM-IRP-GAS-1A: ANNUAL GAS REQUIREMENTS
REPORTING UTILITY: PHILADELPHIA GAS WORKS
(VOLUMES IN MMcF)

	Historical Data		Current Year	Three Year Forecast		
Index Year	-2	-1	0	1	2	3
Actual Year	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005
Firm Sales:						
Retail Residential	40,988	46,228	39,578	45,686	45,103	43,318
Retail Commercial	12,238	12,931	11,283	12,620	12,613	12,114
Retail Industrial	1,299	1,521	1,299	1,640	1,682	1,616
Electric Power Generation						-
Exchanges with Other Utilities						-
Unaccounted For Gas	2,339	1,791	2,117	2,522	3,094	2,971
Company Use	69	107	86	93	93	89
Other (Off-system/Unbilled Estimate)	1,098	(1,073)	2,040			-
Subtotal Firm Sales	58,030	61,506	56,403	62,561	62,584	60,109
Interruptible Sales:						
Retail	8,407	5,865	8,235	7,942	7,030	6,752
Electric Power Generation	208	123	163	149	126	121
Company's Own Plant	316	290	792	505	536	515
Unaccounted For Gas	250	215	192	583	645	619
Subtotal Interruptible Sales	9,181	6,492	9,382	9,180	8,338	8,008
SUBTOTAL FIRM AND INTERRUPTIBLE SALES:	67,211	67,999	65,785	71,741	70,922	68,117
Transportation:						
Firm Residential						
Firm Commercial						
Firm Industrial			-	-	-	-
Interruptible Residential						
Interruptible Commercial	153	-	-	-	-	-
Interruptible Industrial	14,383	7,833	9,295	8,954	12,130	14,884
Electric Power Generation						
Subtotal Tranportation	14,536	7,833	9,295	8,954	12,130	14,884
TOTAL GAS REQUIREMENTS	81,748	75,832	75,081	80,695	83,053	83,001
Increase (Decrease)	na	(5,916)	(751)	5,614	2,357	(52)
Percent Change (%)	na	-7.24%	-0.99%	7.48%	2.92%	-0.06%

March 2002

FORM-IRP-GAS-1B:PEAK DAY REQUIREMENTS
REPORTING UTILITY: PHILADELPHIA GAS WORKS
(VOLUMES IN MMcF)

	Historical Data		Current Year	Three Year Forecast		
Index Year	-2	-1	0	1	2	3
Actual Year	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005
Firm Sales:						
Retail Residential	415	386	305	537	529	546
Retail Commercial	124	108	87	148	148	153
Retail Industrial	13	13	10	19	20	20
Electric Power Generation	0	0	0	0	0	0
Exchanges with Other Utilies	0	0	0	0	0	0
Unaccounted For Gas	24	15	16	30	36	37
Company Use	1	1	1	1	1	1
Other (Off-system/Unbilled Estimate)	11	-9	0	0	0	0
Subtotal Firm Sales	588	514	434	735	734	757
Interruptible Sales:						
Retail	49	4	23	0	0	0
Electric Power Generation	0	0	0	0	0	0
Company's Own Plant	2	1	1	3	0	0
Unaccounted For Gas	0	0	1	0	0	0
Subtotal Interruptible Sales	52	5	25	3	0	0
SUBTOTAL FIRM AND INTERRUPTIBLE SALES:	640	519	459	738	734	757
Transportation:						
Firm Residential	0	0	0	0	0	0
Firm Commercial	0	0	0	0	0	0
Firm Industrial	0	0	0	0	0	0
Interruptible Residential	0	0	0	0	0	0
Interruptible Commercial	0	0	0	0	0	0
Interruptible Industrial	0	1	0	0	0	0
Electric Power Generation	0	0	0	0	0	0
Subtotal Tranportation	0	1	0	0	0	0
TOTAL GAS REQUIREMENTS	640	520	460	738	734	757
Increase (Decrease)	na	(120)	(60)	279	(4)	23
Percent Change (%)	na	-18.72%	-11.63%	60.68%	-0.55%	3.13%

March 2002

BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

PHILADELPHIA GAS WORKS
800 WEST MONTGOMERY AVENUE
PHILADELPHIA, PENNSYLVANIA

Annual Resource Planning Summary Report

Filed: March 2002

Information Submitted in Compliance with and Pursuant to Title 52
Pennsylvania Code Sections 59.81-59.84

PHILADELPHIA GAS WORKS
2000 Annual Resource Planning Summary Report

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INTRODUCTION

SECTION I -- PGW's Overall Approach to Integrated Resource Planning

SECTION II -- Supply Forecasting Methodology and Assumptions

SECTION III -- Demand Forecasting Methodology and Assumptions

SECTION IV -- Peak Day Forecasting Methodology and Assumptions

SECTION V -- PGW Corporate Modeling System

Introduction

By Order entered January 11, 1996, the Pennsylvania Public Utility Commission (PUC) adopted final regulations (52 PA Code §§ 59.81 - 59.84) which set forth revised requirements for filing an Annual Resource Planning Report (the Plan). The Plan submitted represents Philadelphia Gas Works' (PGW or the Company) belief that integrated resource planning (IRP) is a workable approach to utility planning.

This plan summary contains historical data and projections for annual, winter and peak day supply to meet projected customer requirements in a least cost manner, while ensuring adequate and reliable service. It is organized into the following 6 sections:

I. PGW's Overall Approach to Integrated Resource Planning

II. Supply Forecasting Methodology and Assumptions

III. Demand Forecasting Methodology and Assumptions

IV Peak Day Forecasting Methodology and Assumptions

V. PGW Corporate Modeling System

I. PGW's Overall Approach to Integrated Resource Planning

PGW Optimization Standard for Purchasing and Utilizing Gas Supplies

As reasonably anticipated, PGW intends meeting its contractual obligations to supply all of its current customers in its service territory on the coldest day and throughout the season. Projected customer requirements for design day and design winter conditions form the basis for capacity commitments for pipeline supply, storage, and transportation contracting.

Natural gas supplies are purchased under a portfolio approach, intending to secure the lowest overall price, consistent with the primary corporate goals of reliability and security of supply. In addition, consideration is given to maintaining a diversity of sources and types of supply, coupled with contractual and operational flexibility on both a daily and seasonal basis. Short term purchases from spot market sources are utilized to the maximum degree that they are more economical, available, and transportable.

Natural gas supplies are utilized so as to maximize net contributions subject to reliability constraints. Supply contract obligations are honored and prudent Gas Control operational requirements are assumed. Storage contracts are drawn upon so as to always maintain an inventory level sufficient for protection in the event that design temperature conditions should occur in the remaining segment of any winter season. Within the above parameters, priority is given to utilizing the most economical sources of supply first, within the context of preserving the capability of meeting seasonal and annual demands rather than the momentary daily requirements. All facilities and sources of supply, flowing, storage and LNG are available to achieve the intended end; namely, maximizing net contributions subject to reliability constraints.

II. *Supply Forecasting Methodology and Assumptions*
Basic Assumptions

The PGW Gas Supply Policy Committee, representing senior corporate management as well as Gas Planning, Gas Control, Gas Supply, Regulatory and Marketing departmental management, approved the aforementioned Optimization Standard for Purchasing and Utilizing Gas Supplies (Section I). All natural gas purchases continue to be made in accordance with this standard. Projected sales, revenues and natural gas expenses in this report result from this agreement, particularly in the areas of inventory valuation, priorities of gas selection and interruptible supply availability.

Incorporated into our projections are additional implementation steps involved with developing a cohesive gas supply/demand strategy for the near term and the longer range. These include developing a cost relationship comparison for current resources and a review of current contract terms and alternatives for continuing, extending, modifying or eliminating contracts.
In order to achieve this while maintaining a balance between economics and security of supply, the company uses a portfolio strategy approach. This approach incorporates a menu driven selection of services which allows the company to choose only those specific services necessary to meet its requirements. This is achieved by first securing transportation capacity rights. Then sources of supply are contracted to cover the firm transport rights taking into consideration differing seasonal obligations.

Operating flexibility is sustained by variations in contract stipulations, to permit the system to swing on the most economical gas supplies available while maintaining the ability to supply rapidly fluctuating temperature requirements. Storage facilities are substituted wherever opportunity affords to reduce annual expense for flowing 365 day pipeline service without damage to peak day and peak winter season delivery capability. Direct control of all storage is sought to permit PGW to minimize winter costs by injecting lower priced summer purchases and to cycle storage to balance daily take fluctuations to avoid overrun/balancing charges.

II. Supply Forecasting Methodology and Assumptions
Basic Assumptions (Continued)

PGW's supply strategy incorporates maintaining full current winter day deliverabilty with regard to transportation capacity but to convert, where possible, to storage rather than winter flowing contracts to enhance financial and operational flexibility. A variety of long term supply contracts are necessary to support pipeline transportation capacity because reliance upon best effort spot suppliers to fill wintertime capacity required to meet firm customers' demands has proven to be an unreliable alternative. As a result, longer-term contracts are utilized to support firm transportation capacity. To accomplish this end, the Company purchases winter supply contracts with daily deliverabilty equal to approximately 58% of the contractual daily transportation entitlements on its two interstate pipelines with direct connections to PGW's service territory. Additionally, these supply contracts match the contractual entitlements of the two pipelines by sourcing supply in a manner consistent with the pipeline's upstream contractual requirements. In this way, PGW not only helps ensure the security of supply by sourcing the gas from geographically diverse supply regions but also this diversity allows PGW to take advantage of the pricing basis differential inherent in these supply locations.

These contracts all contain the ability to fix the price for upcoming months as well as to allow the pricing to default to an agreed upon market index when there is no market advantage in fixing a price before the month begins. PGW uses this fixed price option in conjunction with its Gas Cost Rate (GCR) filing (GCR filing includes pricing based upon the Standard and Poors' "DRI Price Forecast") by always attempting to buy under the DRI forecasted prices. Through the matching of the duration supply contracts to a seasonal demand, such as the Winter operating season, the firm rate payers benefit from not paying demand charges year-round.

A second component of PGW's supply portfolio, or a volume equal to 32% of pipeline capacity, is purchased gas based on a first-of-the-month index pricing methodology, with contracts that allow for daily change in volumetric take. This allows the Company to effectively shut-off higher priced supply, replacing such supply with daily cheaper spot priced gases. Under assumed normal winter conditions, PGW utilizes certain storage fields (ANR, Equitrans, Eminence and Washington), in a manner similar to third party supply.

II. Supply Forecasting Methodology and Assumptions
Basic Assumptions (Continued)

Specifically, these storage contracts do not contain bundled transportation to the PGW city gate. Therefore, storages must flow within PGW's contractual upstream capacity rights on TETCO and TGPL. Typical daily delivery from these fields utilizes approximately 10% of the daily TETCO and TGPL capacity rights to the Philadelphia city gates. These storage fields also act as a physical fixed price counter to winter price conditions since the WACOG usually reflects a winter/summer pricing differential. PGW's summer purchasing strategy also incorporates a portfolio approach to the purchase of system supply and storage refill. The GCR filing, with its Standard and Poors' based pricing, is again used as a yardstick in purchasing supply for both system supply and storage refill. PGW attempts to always purchase a portion of its supply needs below the projected GCR cost estimate with a portion of the portfolio purchased at default, first-of-the-month pricing. These first of the month pricing option contracts, in most instances, allow PGW to evaluate daily spot prices and provide for a turn-off of first-of-the-month index priced supply in favor of the purchase of more advantageous daily spot purchases.

Operating conditions permitting, the Company enters into the FERC approved capacity release market to offset demand charges it pays for its firm transportation and/or the incremental off-systems sales market when it is economically advantageous for the firm rate payer. In both instances, these opportunities are sought only when firm customer needs are satisfied. Additionally, PGW's bundled storages and LNG can be utilized as a substitute for higher price gas supply based on market pricing conditions and the results of PGW's weekly status report. Effectively, the Gas Supply Group is at all times studying the market for any economic advantage it can bring to the firm rate payer.

III. Demand Forecasting Methodology and Assumptions
Basic Assumptions

PGW uses a combination of four basic methods to develop demand projections. They are:

1) Customer Survey - Information as gathered by PGW's Marketing Department and used for annual projections by month and year.
2) Relative End Use -- Projections via Marketing methods of customer load sizing by appliance type, maximum input, maximum summer and winter full load hour (FLH) calculations which are used to develop yearly and monthly demand requirements.
3) Historical Data -- data showing long-term demand trends, conservation and utilization patterns by the various classes of customers -- Residential, Commercial, Industrial and Interruptible.
4) Judgement -- Experienced opinion as applied to the evaluation of the combination of all data to develop the basic demand requirements.

Customer Demand

The total system-wide demand is a function of the projected gas demand per customer and the anticipated number of customers in each class. In determining customer demand, consideration is given to projecting current customer usage, augmented by significant gains or losses in each of 49 homogeneous groups for the period being projected. The Gas Planning Department attempts to determine, for each customer class, the level of demand reliable to experienced temperature and the component of demand that is apparently not affected by changes in temperature. Within each class the most recent summer and winter usage patterns are established from historical records. Summer data provides an insight into each class of customer's non-temperature sensitive load requirements, baseload, which can be expressed in terms of thousands of cubic feet (Mcf) per day, per customer. Similarly, winter data, after removal of the daily baseload level, reveals the temperature sensitive load requirements for each class of customer.

This usage primarily reflects space heating, but also includes such other temperature sensitive needs as water heating attributable to colder ground water inlet temperatures and similar process variations, as well as supplementary range heating. This overall heating requirement can be expressed in terms of the cubic feet of gas utilized per degree of temperature change on a per customer basis for each separate customer classification.

III. *Demand Forecasting Methodology and Assumptions*
Basic Assumptions (Continued)

In addition, consideration must be given to the variation of customer utilization patterns, for space heating over the year, recognizing the transitional fall start-up of heaters, the deep winter period needs and the tapering off and shut-down which occurs in the spring. These usage patterns taken in conjunction with anticipated customer counts and appropriate temperature patterns form the basis of determining class and total system demands. Due to the inconsistencies of weather and weather forecasting techniques, no attempt is made to predict the specific daily temperatures of the projection period. Instead, PGW has developed a normal monthly temperature pattern by analyzing statistical records of actual temperature patterns over a 30-year period. This pattern reflects 4555 degree days annually distributed in a stylized pattern preserving the monthly range of colder to warmer daily temperatures experienced, but without regard to calendar date.

The term "degree days" quantifies the number of degrees of temperature below a base level of 65 degrees Fahrenheit as a tool to measure space heating requirements, i.e., on a day experiencing an average temperature of 40 degrees F. there would be counted 25 degree days. The annual 4555 degree days, which compose the PGW normal monthly temperature patterns, form the basis of the calculation of the temperature sensitive component of demand. The application of the above described baseload and space heating factors and customer counts, when applied to a calendar based daily temperature pattern, produces a daily statement of total customer requirements identified as sendout. It should be noted that there is a difference between sendout volume and sales volume. Sendout represents those volumes that left the plant initially to supply customers' requirements, while sales are those volumes reported on customer meters. The variation between sendout and sales is that portion which is lost and unaccounted for in the PGW distribution system. In addition, they differ on a monthly basis in the distribution pattern. For the convenience of distributing meter reading and billing efforts uniformly over the available number of working days in a month, the majority of PGW customers are divided into 20 individual groups or cycles, containing residential, commercial and industrial accounts within a specific geographic area.

III. Demand Forecasting Methodology and Assumptions
Basic Assumptions (Continued)

When these cycle customers are billed each month, they reflect meter reading usage not for the calendar month being billed, but for the number of days and temperature pattern of degree-days experienced during their specific interval between readings.

For example, assume the month of January contained 900 degree-days. The customers in cycle 10 being billed for the month of January might have had meter readings taken on December 15 and again on January 17. Sales billed and reported in company records for these customers would have reflected the number of days and degree days between these reading dates rather than the 900 degree days of the month. Similarly, cycle 1 customers that might have had meter readings taken on December 1 and January 2 would reflect principally the December temperature experience, while cycle 20 customers, with meter readings taken possibly December 28 and January 29, would reflect principally the January temperature experience.

An average of the 20 cycles (Average Cycle Degree-Days) is used as the temperature pattern upon which to project the potential volume of sales in the estimation period. Both projections of sales and sendouts represent the full potential demand for that period from both firm and interruptible customers.

Methodology Used to Develop Monthly Estimates

A trial domestic factor is developed by class of customer from sales reported for the previous year's summer months. This average factor is then utilized in the sendout formula with the customer counts for the months of July, August and September. A comparison between what the formula calculates and the actual experienced for those three months is ascertained and the trial domestic factors are finalized to replicate the total sendout experienced. The finalized domestic factors (DOMs) are then utilized in conjunction with the actual sales and customer counts for the months of December, January and February to determine the average Mcf per degree day for each of the individual months for the remaining temperature sensitive load. The results are weighted by degree-days to give an average value which is utilized as a trial value for the heating factor.

III. Demand Forecasting Methodology and Assumptions
Basic Assumptions (Continued)

The finalized domestic factor and the trial heating factor developed, as such, are then applied in the sendout calculations, together with customer counts for the months of December, January and February, the peak winter cold period, to project an estimated sendout for each of these months. The projected sendout is then compared with the actual sendout experienced. Any variation between the projected and actual is adjusted to force the replication of the actual sendout experience, thus resulting in the determination of a finalized heating factor.

To project the number of customers for each individual rate class, the following categories of customers are reviewed and accumulated individually: current customers are ascertained from the number of billings data available from sales and revenue actually experienced immediately prior to the commencement of a budget run. Declines are projected for anticipated losses to electric and other fuels or demolitions and from transfers to other rates. Direct transfers from a non-heating to a heating account, as a result of a current customer's conversion to gas heat, moves the domestic load to the new category. Projected additional customers are developed within the Marketing Department, where staff dealing with individual classes of customers and having the most direct knowledge of conditions within their sphere, project annual load additions which are translated into count based upon typical customer usage for that individual customer class. The approximate month of turn-on is also developed to permit reflection of the effective portion of the load addition within the fiscal period under study. Interruptible class customers, as well as other large special accounts, are detailed individually incorporating expected gains and losses as direct contact has indicated.

The base revenue projections for both firm and interruptible customer groups are derived as the product of the projected sales volumes and the present tariff rate for each individual customer class within each group. The GCR revenue projections are derived as the product of the GCR factor and the projected sales volumes to the non-interruptible customers.

III. Demand Forecasting Methodology and Assumptions
Basic Assumptions (Continued)

Finally, incremental Marketing efforts are concentrated on Air Conditioning and Co-generation opportunities. Rate design has been implemented fostering off-peak increase in utilization of current supply resources in an air conditioning discount, an interruptible Co-generation Rate and a Natural Gas Vehicle (NGV) Service. It is intended to limit on-peak expansion to acceptable interruptible availability of current resources rather than allowing the creation of new peak demands, prospective load management.

IV. Peak Day Forecasting Methodology and Assumptions

Each year, a six year estimate of Peak Day requirements anticipated under design peak day operating conditions is prepared to ensure that adequate resources are under contract and to further ensure that PGW can fulfil its utility obligation to its firm customer requirements on the design peak day and design peak hour.

The projected demands for design day, as delineated on Form 1B (attached), is developed utilizing previous winter period data, for all weekdays where the temperature average for the day is 32 degrees Fahrenheit or below. The total sendout for these days as recorded under actual conditions is reduced to base sendout by removal of the interruptible load. A computer generated linear regression procedure is utilized to develop a calculated sendout versus the actual sendout from which the necessary constants (factors) required to have the calculated sendout match, within a reasonable percent of error to the actual sendout are developed. The process is repeated in a quadratic regression and a cubic regression procedure. This approach produces a curvilinear regression method, the results of which are analyzed by statistical significance testing and the best-fit curve is selected for use in developing the design day sendouts. The factors derived from the curve selected are used to calculate current load requirements for a 0 degrees F day and a -5 degrees F hour. PGW's Marketing Department's load projections for present and future years are then applied to these requirements to develop design day and design hour present and future load requirements. This is achieved by the addition of the projected marketing load growth expectations on an annual basis (by day) to the derived base-year design day requirements.

V. PGW Corporate Modeling System

General Description

The corporate model system is a tool used by PGW management to project sales, revenues and expenses, as well as to examine key planning strategies and evaluate their effects on company operations. The system provides the ability to determine the results of alternate plans and scenarios, while at the same time allowing for responses to "what if" type situations quantifying revenue and expenses. The system is totally interactive in that it combines the power of the computer with the experience of management to develop both short and long range projections based upon experienced historical data for sales and sendout volumes, raw material expenses and sale revenues. The corporate model system is composed of five separate models. Each model operates independently, but requires substantial external data inputs as well as data output results from one or more of the other models in the system.

Gas Demand Model

The gas demand model is used to forecast total requirements for gas based upon current customer usage experience with adjustments for projected gains and losses. Input data includes domestic and space heating usage factors, customer counts by rate classifications, temperature patterns and results in projections of sales and sendout volumes. Detail and summary reports include average usage per customer and demands by rate classification. This data is transferred to the supply model.

Gas Supply Model

The supply model is used to dispatch the various supply sources in accordance with contract availability limitations. It develops the necessary balance between supply and demand, which reflects plant fuel and storage re-injection requirements as well as customer demands, by identifying the availability of interruptible load balancing sales. Detail and summary reports include daily and monthly load requirements, the volumes taken from each source by pipeline contract, storage balances, supplemental fuel requirements, etc. Data is transferred to both the cost model and the revenue model downstream.

V. PGW Corporate Modeling System (Continued)

Gas Cost Model

The gas cost model is used to determine natural gas and other raw material costs dispatched. The model tracks the various cost components of each contract - the demand, capacity, commodity, injection and withdrawal charges - providing monthly and annual details and summary information, including inventory valuations and expenses for supplemental LPG and LNG supplies. It transfers these expenses to the Gas Cost Rate Model.

Gas Cost Rate Model

The gas cost rate model is used to develop a base fuel charge and a fuel adjustment factor known as the Gas Cost Rate (GCR). It ascribes responsibility for the raw material costs, to firm and interruptible classes in accordance with PGW's tariff requirements, assigning cost on an as-used basis to customer classes applicable to such charges, and compensates for natural gas refunds and previous over or under billing of fuel expenses. Detail summary reports include specifics of raw material adjustment, statements of reconciliation, and determination of applicable sales and expenses, transferring its results to the revenue model.

Revenue Model

The revenue model is used to project billed revenue by rate classification in accordance with PGW's rate tariffs. It prepares both base non-fuel and base fuel revenue statements, GCR revenues, senior citizen discounts, and cycle and budget billing information, all detailed by rate classification. The detail and summary reports provided by this model are directed to the accounting and financial departments for inclusion in various financial reviews.

Summary

The corporate model system allows PGW management to effectively address supply/demand balancing, supply facilities planning, projected sales, cost, revenues, and sendout volumes in a timely manner. Results assist in the development of PGW's annual Operating Budget.

V. PGW Corporate Modeling System (Continued)

The model allows the evaluation of future winter requirements on both normal and design temperature patterns and the extrapolation of current years based upon the experience to date and an assumption of temperatures anticipated for the remaining period of the year, this latter acting as a guide for both financial cash flow planning and winter operations.

Section 59.81

Forms IRP-Gas 2A, 2B and 2C - Annual and Peak Day Energy Resources, Transmission and Storage Contracts

The forecast of energy sources shall indicate sources of all presently available and new supplies which the utility estimates will become available, displayed by component parts.

Response:

Please see the attached documentation and forms.

FORM-IRP-GAS-2A: NATURAL GAS SUPPLY
TABLE : PEAK DAY SUPPLY
REPORTING UTILITY: PHILADELPHIA GAS WORKS
(Volumes in MMcf)

	Historical Data		Current Year	Three Year Forcast		
Index Year	-2	-1	0	1	2	3
Actual Year	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005
Gas Supply for Sales Service						
TETCO	-	-			-	-
TRANSCO	67	53	1	55	55	55
Spot Purchases	221	220	252	233	235	244
Storage Withdraws	147	123	195	188	181	186
LNG/SNG/Propane Purchases	205	123	11	262	263	271
Company Production						
Local Purchases						
Exchanges with other LDCs						
Other						
Total Gas Supply for Sales	640	519	459	738	734	757
Total Transportation Services						
TOTAL SALES, GAS SUPPLY AND TRANPORTATION SERVICE	640	519	459	738	734	757
Deductions						
Curtailments						
Underground Storage Injections	-		-			
LNG Liquefactions						
Sales to other LDC's					-	
Total Deductions	-		-			
NET GAS SUPPLY	640	519	459	738	734	757

conversion @ 1030 Btu

2000-2001 Due to operational emergency deliverablity reduced.

March 2002

FORM-IRP-GAS-2B: NATURAL GAS TRANSPORTATION
REPORTING UTILITY: PHILADELPHIA GAS WORKS
(volumes in Mmcf)

	Historical Data				Current Year		Three Year Forcast					
Index Year	-2		-1		0		1		2		3	
Actual year	1999-2000		2000-2001		2001-2002		2002-2003		2003-2004		2004-2005	
	Annual	Peak	Annual	Peak	Annual	Peak	Annual	Peak	Annual	Peak	Annual	Peak
City Gate Transportation Contracts:												
CONSOLIDATED	3,723	52	3,723	52	3,723	52	3,723	52	3,723	52	3,723	52
TETCO	2,570	43	2,570	43	2,570	43	2,570	43	2,570	43	2,570	43
TETCO	2,390	20	2,390	20	2,390	20	2,390	20	2,390	20	2,390	20
CONSOLIDATED	453	4	453	4	453	4	453	4	453	4	453	4
Total	9,137	120	9,137	120	9,137	120	9,137	120	9,137	120	9,137	120
Upstream Transportation Contracts:												
TRANSCO	58,546	160	58,546	160	58,546	160	58,546	160	58,546	160	58,546	160
TETCO	26,578	73	26,578	73	26,578	73	26,578	73	26,578	73	26,578	73
TETCO	8,442	23	8,442	23	8,442	23	8,442	23	8,442	23	8,442	23
TETCO	2,359	17	2,359	17	2,359	17	2,359	17	2,359	17	2,359	17
TETCO	2,359	17	2,359	17	2,359	17	2,359	17	2,359	17	2,359	17
TRANSCO	172	2	172	2	172	2	172	2	172	2	172	2
Total	98,456	293	98,456	293	98,456	293	98,456	293	98,456	293	98,456	293
Storage-Related Transportation Contracts:												
CONSOLIDATED	9,110	22	9,110	22	9,110	22	9,110	22	9,110	22	9,110	22
CONSOLIDATED	2,760	7	2,760	7	2,760	7	2,760	7	2,760	7	2,760	7
EQUITABLE	1,911	5	1,911	5	1,911	-	1,911	5	1,911	5	1,911	5
Total	13,781	33	13,781	33	13,781	28	13,781	33	13,781	33	13,781	33

Conversion @ 1030 Btu

FORM-IRP-GAS-2C: NATURAL GAS STORAGE [1]
REPORTING UTILITY: PHILADELPHIA GAS WORKS
(volumes in Mmcf)

	Historical Data				Current Year		Three Year Forcast					
Index Year	-2		-1		0		1		2		3	
Actual year	2000		2001		2002		2003		2004		2005	
	Annual	Peak	Annual	Peak	Annual	Peak	Annual	Peak	Annual	Peak	Annual	Peak
Transcontinental Transmission Corp.	3,723	52	3,723	52	3,723	52	3,723	52	3,723	52	3,723	52
Dominion Transmission Inc.	3,481	28	3,481	28	3,481	28	3,481	28	3,481	28	3,481	28
Transcontinental Transmission Corp.	3,086	36	3,086	36	3,086	36	3,086	36	3,086	36	3,086	36
Texas Eastern Transmission Corp.	2,467	43	2,467	43	2,467	43	2,467	43	2,467	43	2,467	43
Texas Eastern Transmission Corp.	2,219	20	2,219	20	2,219	20	2,219	20	2,219	20	2,219	20
ANR	1,824	13	1,824	13	1,824	13	1,824	13	1,824	13	1,824	13
Equitrans	507	5	507	5	507	5	507	5	507	5	507	5
Transcontinental Transmission Corp.	453	4	453	4	453	4	453	4	453	4	453	4
Transcontinental Transmission Corp.	165	16	165	16	165	16	165	16	165	16	165	16
Total	17,925	218	17,925	218	17,925	218	17,925	218	17,925	218	17,925	218

1 Rank contracts in order of magnitude for the current year, noting the transportation provided and termination date for each contract reported
Reporting should proceed along rank ordering until 75% of total is accounted for, or until ten contracts have been listed, whichever occurs first.

Conversions at 1030 Btu

	Contract Expiration Date [2]
Transcontinental Transmission Corp.	3/31/13
Dominion Transmission Inc.	3/31/06
Transcontinental Transmission Corp.	Evergreen
Texas Eastern Transmission Corp.	4/30/12
Texas Eastern Transmission Corp.	4/30/12
ANR	3/31/13
Equitrans	3/31/03
Transcontinental Transmission Corp.	4/15/03
Transcontinental Transmission Corp.	10/31/13

2 For purposes of this report, contracts due to expire are assumed renewed for the forecast years.

Philadelphia Gas Works

PGW

800 W. Montgomery Avenue, Philadelphia, PA 19122
Telephone: (215) 236-0500

May 31, 2002

ORIGINAL

James McNulty, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
2nd Floor, 1 North
400 North Street
Harrisburg, PA 17120

KUR

RE: Philadelphia Gas Works
Annual Resource Planning Report

Dear Secretary McNulty, IRP-125042

Enclosed for filing please find the original and seven copies of Philadelphia Gas Works' Annual Resource Planning Report, Forms 3-9 as well as the Summary Report.

If you have any questions regarding this filing, please contact me directly at 215-684-6631.

Sincerely,

Margaret Flores, Esq.

RECEIVED
MAY 31 2002
PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

Enclosures

cc: Calvin Birge, Bureau of Conservation, Economics and Energy Planning (w/enc)
Office of the Consumer Advocate (w/enc)
Office of the Small Business Advocate (w/enc)
Office of Trial Staff (w/enc)

103

ANNUAL RESOURCE PLANNING REPORT

Forms 3 - 9

Philadelphia Gas Works
Philadelphia, Pennsylvania

June 2002

RECEIVED
MAY 31 2002
PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

Philadelphia Gas Works
800 West Montgomery Avenue
Philadelphia, Pennsylvania 19122

ANNUAL RESOURCE PLANNING REPORT

June 2002

Information Submitted in Compliance with and Pursuant to Title 52
Pennsylvania Code Section 59.81

PHILADELPHIA GAS WORKS
ANNUAL RESOURCE PLANNING REPORT

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General

Regulation	Description
59.81	Form IRP-Gas 3 Historical, Current and Forecast Number Of Customers
59.81	Forms IRP-Gas 4A and 4B Annual and Peak Day Energy Supply and Demand
59.82	Form IRP-Gas 5 Energy Conservation Report-Program Description
59.82	Form IRP-Gas 6 Energy Users 6
59.82	Form IRP-GAS 7 Conservation and Load Management Program Summary
59.82	Form IRP-Gas 8 Conservation and Load Management Program Cost Benefit Analysis Inputs
59.82	Form IRP-Gas 9 Conservation and Load Management Program Cost Benefit Analysis Results

Section 59.81: **General**

Pursuant to Section 59.81 (a), each major jurisdictional gas utility must file an annual resource planning report (ARPR) on or before June 1, 1996 and June 1 of each succeeding year, except Form 1A/2A which filing date is March 1. One (1) original and seven (7) copies of the report must be submitted to:

Secretary
Pennsylvania Public Utility Commission
P.O. Box 3265
Harrisburg, PA 17105-3265

One copy should be submitted unbound for ease of duplication.

One courtesy copy should also be submitted to:

Pennsylvania Public Utility Commission
Conservation, Economics and Energy Planning
P.O. Box 3265
Harrisburg, PA 17105-3265
Attn. Calvin Birge

Also submit one (1) copy to the following:

Office of Consumer Advocate
555 Walnut Street
Forum Place, 5th Floor
Harrisburg, PA 17101-1921

Office of Small Business Advocate
Suite 1102, Commerce Building
300 N. Second Street
Harrisburg, PA 17101

Be sure to indicate the name and telephone number of at least one individual at the company who is familiar with the filing and will be available to answer any questions the Commission staff may have. You may also wish to list those individuals who are directly involved in the preparation of the various document components.

Information contained in annual resource planning reports must be utility-specific. The report should follow an outline similar to that which is contained herein, with narrative accompanying the required data. Forms may be modified to accommodate wide columns of numbers and enhance readability, but the general format should be used to maintain consistency.

This information is not generally considered confidential. Utilities are obligated to provide complete information. However, we will treat as confidential those portions of the report designated by the utility as proprietary. If a utility's proprietary claim is challenged, the Commission will direct the utility to file a petition for protective order pursuant to 52 PA Code 5.423.

All questions concerning the reporting requirements for Forms IRP Gas 1A through 9 should be addressed to Pennsylvania Public Utility Commission Bureau of Conservation, Economics and Energy Planning.

Response: An original, seven (7) copies, and one unbound copy of Forms 1A, 1B, 2A, 2B, 2C, 3, 4A, 4b, 5, 6, 7, 8 and 9 along with a general discussion of the methodologies, data sources, and assumptions are being submitted to meet the requirements of the June 1 filing. Please note that Forms 1A, 1B, 2A, 2B, 2C were already filed in the company's March 1 filing and included herein, without modification, for completeness.

All questions concerning the ARPR should be directed to Mr. William Muntzer, Director – Rates, Gas Planning, and Regulatory Affairs at (215) 684-6623. The following individual will be available to answer questions concerning each section:

Mr. Kenneth Dybalski Manager, Gas Planning at (215) 684-6317.

Section 59.81 **Forms IRP-Gas 3 - Historical, Current and Forecast Number of Customers**

Provide the number of year end customers displayed by component parts.

Response: Please see the attached form.

FORM-IRP-GAS-3: NUMBER OF CUSTOMERS
REPORTING UTILUTY: PHILADELPHIA GAS WORKS

	Historical Data		Current Year	Three Year Forcast		
Index Year	-2	-1	0	1	2	3
Fiscal Year	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005
Firm Customers						-
Retail Residential	485,061	498,292	491,247	487,831	481,145	472,772
Retail Commercial	24,858	27,508	26,875	27,319	26,993	25,681
Retail Industrial	1,095	1,127	1,072	1,262	1,235	1,193
Other						-
Subtotal Sales Service	511,014	526,927	519,194	516,411	509,373	499,646
Electric Power Generation	3	3	4	4	4	4
Transportation Service	8	8	7	20	10,129	19,915
CUSTOMER TOTAL	511,025	526,938	519,205	516,435	519,506	519,565
Increase (Decrease)	na	15,913	(7,733)	(2,770)	3,071	59
Percent Change (%)	na	3.11%	-1.47%	-1%	0.59%	0.01%

Note: FY 1999-2000 customer count is based on the legacy system meter count. All other years are based on the average number of billings over the course of the year. Accurate information on the number of billings from the new BCCS system is not available for FY 1999-2000.

Section 59.81 **Forms IRP-Gas 4A and 4B - Annual and Peak Day Energy Supply and Demand**

Response: Please see the attached forms.

FORM-IRP-GAS-4A: ANNUAL SUPPLY AND REQUIREMENTS SUMMARY
REPORTING UTILITY: PHILADELPHIA GAS WORKS
(Volumes in MMcf)

	Historical Data		Current Year	Three Year Forcast		
Index Year	-2	-1	0	1	2	3
Actual Year	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005
Gas Supply:						
Supply Contracts	13,485	9,521	15,037	8,141	10,655	11,324
LNG	3,653	3,612	1,779	3,798	3,768	4,004
Storage Withdrawal	16,907	17,233	10,077	13,524	9,790	10,404
Spot Purchases	57,630	54,431	59,690	63,117	60,307	64,093
Subtotal Gas Supply	91,676	84,797	86,583	88,580	84,520	89,826
Transportation	14,536	7,833	9,295	8,954	12,130	14,884
TOTAL GAS SUPPLY	106,212	92,629	95,878	97,534	96,650	104,710
Requirements:						
Firm Requirements	58,030	61,506	56,403	62,561	62,584	60,109
Liqufaction	4,084	3,109	2,585	3,590	3,907	3,709
Interruptible Requirements	9,181	6,492	9,382	9,180	8,338	8,008
Storage Injections	19,697	12,855	18,212	13,250	9,690	18,000
Sales to other LDC's	684	834	-	-	-	-
Subtotal Firm & Interruptible	91,676	84,796	86,583	88,580	84,520	89,826
Transportation	14,536	7,833	9,295	8,954	12,130	14,884
Load Reductions						
TOTAL GAS REQUIREMENTS	106,212	92,629	95,878	97,535	96,650	104,710
Surplus (Deficiency)	(0)	0	0	(0)	0	-

March 2002

FORM-IRP-GAS-4B: PEAK DAY SUPPLY AND REQUIREMENTS SUMMARY
REPORTING UTILITY: PHILADELPHIA GAS WORKS
(Volumes in MMcf)

	Historical Data		Current Year	Three Year Forcast		
Index Year	-2	-1	0	1	2	3
Actual Year	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005
Gas Supply:						
Supply Contracts	288	273	253	289	291	300
Storage Withdraws	147	123	195	188	181	186
LNG	205	123	11	262	263	271
Spot Purchases	-	-	-	-	-	-
Subtotal Gas Supply	640	519	459	738	734	757
Transportation	-	1	0	-	-	-
TOTAL GAS SUPPLY	640	520	460	738	734	757
Requirements:						
Firm Requirements [1]	588	514	434	735	734	757
Interruptible Requirements	52	5	25	3	0	-
Subtotal Firm & Interruptible	640	519	459	738	734	757
Transportation	-	1	0	-	-	-
Load Reductions	-	-	-	-	-	-
TOTAL GAS REQUIREMENTS	640	520	460	738	734	757
Surplus (Deficiency)	0.0	0.0	(0.0)	0.00	0.00	0.00

[1] Firm requirements for the forecast years include plant use.

Section 59.82 **Forms IRP-Gas 5 - Energy Conservation Report-Program Description**

Response: Please see the attached forms.

FORM-IRP-GAS-5 PROGRAM DESCRIPTION

Company: Philadelphia Gas Works (PGW)

Program: Conservation Works Program (CWP)

Existing [X] Proposed [ ]

Contact Person: Cristina Coltro
(215) 684-6785

Objective: To reduce energy usage, therefore, making bills more affordable for low-income customers whose usage is average or above average and who are participants in the Customer Responsibility Program.

Details of Activity and Implementation Schedule:

Eligible customers are targeted for program participation. For each participating household, PGW's contractors will perform an energy diagnostic audit, energy education, and conservation treatments such as home repairs, automatic clock thermostat, insulation, etc.

Actual and/or Anticipated Results:

			Energy Savings		
Year	Peak Load Reduction Mcf	Electic Mwh	Gas Mcf	Oil Gallons	Other Results
1999 (1)			13.45		3717 Homes w/ Treatment
2000 (1)			12.5		4087 Homes w/ Treatment
2001 (2)			13		3419 Homes w/ Treatment

Monetary and Personal Resources:

	Categorized program Expenses			
Year	Personnel Est. Hrs. (4)	Outside Services	Admin. (PGW Internal)	Total
1999 (1)	40,887	$1,909,267	$60,000	$1,969,267
2000 (1)	44,957	$1,999,867	$60,000	$2,059,867
2001 (2)	37,609	$1,999,972	$41,000	$2,040,972

(1) Actual
(2) Actual number of participants, actual expenditure, estimated energy savings
(3) Personnel hours were estimated by multiplying the number of homes by 11, the average number of hours spent per home.

C. Coltro
05/22/02

Section 59.82 **Forms IRP-Gas 6 - Energy Users**

Response: Please see the attached forms.

FORM-IRP-GAS-6
ENERGY USERS
COMPANY: PHILADELPHIA GAS WORKS

	Fiscal Year Ending August 31, 2001	
Firm:	**Number of Customers**	**Sales (Mcf)**
Residential		
Heating	430,387	44,616,351
Non-heating	67,905	2,167,083
Commercial	27,508	12,375,660
Industrial	1,127	1,521,029
Sub-total Firm	526,927	60,680,123
Interruptible		
Commercial & Industrial	468	5,987,795
Transportation	8	7,630,886
Totals	527,403	74,298,804

Section 59.82 **Forms IRP-Gas 7 - Conservation and Load Management Program Cost Benefit Analysis Inputs**

Response: Please see the attached forms.

FORM-IRP-GAS-7 PROGRAM SUMMARY

Company: Philadelphia Gas Works (PGW)

Program Name	Peak Load Reduction (Mcf)	Energy Use Change (Mcf)	Personnel Est. Hrs (4)	Categorized Program Expenses		
				Outside Services	Adm.	Total
Conservation Works Program (CWP) - 1999 (1)	NA	13.45	40,887	$1,909,267	$60,000	$1,969,267
Conservation Works Program (CWP) - 2000 (1)	NA	12.5	44,957	$1,999,867	$60,000	$2,059,867
Conservation Works Program (CWP) - 2001 (2)	NA	13	37,609	$1,999,972	$60,000	$2,059,972

(1) Actual
(2) Actual figures except for Energy Savings
(4) Personnel hours were estimated by multiplying the number of homes by 11, the average number of hours spent per home

Section 59.82 **Forms IRP-Gas 8 - Conservation and Load Management Program Cost Benefit Analysis Results**

Response: Please see the attached forms.

Company Name:
FORM-IRP-GAS-8

Philadelphia Gas Works (PGW)
Cost-Benefit Analysis Input

PROGRAM: Conservation Works Program

t	Year	Energy Savings (E) Mcf	Average Energy Cost (ACE) $ per Mcf	Avoided Enegy Cost (MCE) $ per Mcf	Participant Demand Savings (D) Mcf	Utility Capacity Savings (G) Mcf	Average Demand Costs (ACD) $/Mcf	Avoided Demand Costs (MCD) $/Mcf	Participant Costs (PC) $
1	2000	52,908	$ 8.50	$ 4.64830	N/A	N/A	N/A		$ -
2	2001	52,908	$ 12.85	$ 4.12410	N/A	N/A	N/A		$ -
3	2002	52,908	$ 10.46	$ 4.00330	N/A	N/A	N/A		$ -
4	2003	52,908	$ 10.97	$ 4.00610	N/A	N/A	N/A		$ -
5	2004	52,908	$ 10.60	$ 3.82820	N/A	N/A	N/A		$ -
6	2005	52,908	$ 10.78	$ 3.90200	N/A	N/A	N/A		$ -
7	2006	52,908	$ 10.64	$ 4.05990	N/A	N/A	N/A		$ -
8	2007	52,908	$ 10.77	$ 4.05990	N/A	N/A	N/A		$ -
9	2008	52,908	$ 10.70	$ 4.05990	N/A	N/A	N/A		$ -
10	2009	52,908	$ 10.71	$ 4.05990	N/A	N/A	N/A		$ -
11	2010	52,908	$ 10.71	$ 4.05990	N/A	N/A	N/A		$ -
12	2011	52,908	$ 10.72	$ 4.05990	N/A	N/A	N/A		$ -
13	2012	52,908	$ 10.72	$ 4.05990	N/A	N/A	N/A		$ -
14	2013	52,908	$ 10.73	$ 4.05990	N/A	N/A	N/A		$ -
15	2014	52,908	$ 10.73	$ 4.05990	N/A	N/A	N/A		$ -
16	2015	25,687	$ 10.73	$ 4.05990	N/A	N/A	N/A		$ -
17	2016	25,687	$ 10.73	$ 4.05990	N/A	N/A	N/A		$ -
18	2017	25,687	$ 10.73	$ 4.05990	N/A	N/A	N/A		$ -
19	2018	25,687	$ 10.73	$ 4.05990	N/A	N/A	N/A		$ -
20	2019	25,687	$ 10.73	$ 4.05990	N/A	N/A	N/A		$ -
21	2020	25,687	$ 10.73	$ 4.05990	N/A	N/A	N/A		$ -
22	2021	25,687	$ 10.73	$ 4.05990	N/A	N/A	N/A		$ -
23	2022	25,687	$ 10.73	$ 4.05990	N/A	N/A	N/A		$ -
24	2023	25,687	$ 10.73	$ 4.05990	N/A	N/A	N/A		$ -
25	2024	25,687	$ 10.73	$ 4.05990	N/A	N/A	N/A		$ -

Company Name:
FORM-IRP-GAS-8

Philadelphia Gas Works (PGW)
Cost-Benefit Analysis Input

PROGRAM: Conservation Works Program

t	Year	Incentive Cost (I) $	Utility Costs (UC) $	Discount Rates: Participant (d) %	Non-Participant (d) %	Utility (1) (d) %	Escalation Rate (e) %	System Sales or Demand (S) Mcf	Sales or Demand Ratio (f) %
1	2000	$ -	$2,059,867	5.9	5.9	5.9	$ -	53,656,947	0.0091
2	2001	$ -	$ -	5.9	5.9	5.9	$ -	55,622,776	0.0087
3	2002	$ -	$ -	5.9	5.9	5.9	$ -	62,565,948	0.0078
4	2003	$ -	$ -	5.9	5.9	5.9	$ -	58,502,694	0.0083
5	2004	$ -	$ -	5.9	5.9	5.9	$ -	58,502,694	0.0083
6	2005	$ -	$ -	5.9	5.9	5.9	$ -	58,502,694	0.0083
7	2006	$ -	$ -	5.9	5.9	5.9	$ -	58,502,694	0.0083
8	2007	$ -	$ -	5.9	5.9	5.9	$ -	58,502,694	0.0083
9	2008	$ -	$ -	5.9	5.9	5.9	$ -	58,502,694	0.0083
10	2009	$ -	$ -	5.9	5.9	5.9	$ -	58,502,694	0.0083
11	2010	$ -	$ -	5.9	5.9	5.9	$ -	58,502,694	0.0083
12	2011	$ -	$ -	5.9	5.9	5.9	$ -	58,502,694	0.0083
13	2012	$ -	$ -	5.9	5.9	5.9	$ -	58,502,694	0.0083
14	2013	$ -	$ -	5.9	5.9	5.9	$ -	58,502,694	0.0083
15	2014	$ -	$ -	5.9	5.9	5.9	$ -	58,502,694	0.0083
16	2015	$ -	$ -	5.9	5.9	5.9	$ -	58,502,694	0.0088
17	2016	$ -	$ -	5.9	5.9	5.9	$ -	58,502,694	0.0088
18	2017	$ -	$ -	5.9	5.9	5.9	$ -	58,502,694	0.0088
19	2018	$ -	$ -	5.9	5.9	5.9	$ -	58,502,694	0.0088
20	2019	$ -	$ -	5.9	5.9	5.9	$ -	58,502,694	0.0088
21	2020	$ -	$ -	5.9	5.9	5.9	$ -	58,502,694	0.0088
22	2021	$ -	$ -	5.9	5.9	5.9	$ -	58,502,694	0.0088
23	2022	$ -	$ -	5.9	5.9	5.9	$ -	58,502,694	0.0088
24	2023	$ -	$ -	5.9	5.9	5.9	$ -	58,502,694	0.0088
25	2024	$ -	$ -	5.9	5.9	5.9	$ -	58,502,694	0.0088

(1) The Participant, Non-Participant and Utility discount rates are based on PGW's long-term debt and AFUDC (Allowance for Funds Used During Construction).

Section 59.81 **Forms IRP-Gas 9 - 2000 Annual Resource Summary Planning Report**

Response: *The Summary Report is included as a separate document.*

Company Name:
FORM-IRP-GAS-9

Philadelphia Gas Works (PGW)
Cost-Benefit Analysis Input

Program:

Conservation Works Program (CWP)

Period of Analysis								
Beginning Year	Ending Year	Total Utility Benefits (Bu) $	Total Utility Costs (Cu) $	Revenue Reduction Cost (Cr) $	Participant Revenue Requirement (Rp) $	Total participant Benefits (Bp) $	Total Participant Costs (Cp) $
2000	2024	$ 2,582,686	$ 2,059,867	$ 6,768,659	$ 22,708	$ 6,768,659	$ 22,708

	NET PRESENT VALUE			BENEFIT COST RATE			
Discounted Payback Period Yrs.	Participant (NPVp) $	Non-Part (NPVnp) $	Utility (NPVu) $	Participant (BCRp)	Non-Part (BCRnp)	Utility (BCRu)	Rate Impact Non-Part (RIMnp) $/Mcf
25	$ 6,745,951	(6,168,828.10)	$543,419.23	298.08	0.29	1.27	0.004

ANNUAL RESOURCE PLANNING REPORT

Summary Report

RECEIVED
MAY 31 2002
PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

Philadelphia Gas Works
Philadelphia, Pennsylvania

June 2002

BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

Philadelphia Gas Works
800 West Montgomery Avenue
Philadelphia, Pennsylvania 19122

ANNUAL RESOURCE PLANNING REPORT

June 2002

Information Submitted in Compliance with and Pursuant to Title 52
Pennsylvania Code Section 59.81

PHILADELPHIA GAS WORKS
ANNUAL RESOURCE PLANNING REPORT

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Section II Supply Forecasting Methodology and Assumptions

Section III Demand Forecasting Methodology & Assumptions

Section IV Peak Day Forecasting Methodology and Assumptions

Section V PGW Corporate Modeling System

Section VI Summary Tables

Exhibit No.	Regulation	Description
1	59.81	Forms IRP-Gas 1A, and 1B Annual and Peak Day Energy Demand (Originally Submitted March 1)
2	59.81	Forms IRP-Gas 2A, 2B, and 2C Annual and Peak Day Energy Resources, And transmission and storage contracts (Originally Submitted March 1)
3	59.81	Form IRP-Gas 3 Historical, Current and Forecast Number Of Customers
4	59.81	Forms IRP-Gas 4A and 4B Annual and Peak Day Energy Supply and Demand

Table of Contents (Continued)

5	59.82	Form IRP-Gas 5 Energy Conservation Report-Program Description
6	59.82	Form IRP-Gas 6 Energy Users 6
7	59.82	Form IRP-GAS 7 *Conservation and Load Management* Program Summary
8	59.82	Form IRP-Gas 8 Conservation and Load Management Program Cost Benefit Analysis Inputs
9	59.82	Form IRP-Gas 9 Conservation and Load Management Program Cost Benefit Analysis Results

Section 59.81: **General**

Pursuant to Section 59.81 (a), each major jurisdictional gas utility must file an annual resource planning report (ARPR) on or before June 1, 1996 and June 1 of each succeeding year, except Form 1A/2A which filing date is March 1. One (1) original and seven (7) copies of the report must be submitted to:

Secretary
Pennsylvania Public Utility Commission
P.O. Box 3265
Harrisburg, PA 17105-3265

One copy should be submitted unbound for ease of duplication.

One courtesy copy should also be submitted to:

Pennsylvania Public Utility Commission
Conservation, Economics and Energy Planning
P.O. Box 3265
Harrisburg, PA 17105-3265
Attn. Calvin Birge

Also submit one (1) copy to the following:

Office of Consumer Advocate
555 Walnut Street
Forum Place, 5th Floor
Harrisburg, PA 17101-1921

Office of Small Business Advocate
Suite 1102, Commerce Building
300 N. Second Street
Harrisburg, PA 17101

Be sure to indicate the name and telephone number of at least one individual at the company who is familiar with the filing and will be available to answer any questions the Commission staff may have. You may also wish to list those individuals who are directly involved in the preparation of the various document components.

Information contained in annual resource planning reports must be utility-specific. The report should follow an outline similar to that which is contained herein, with narrative accompanying the required data. Forms may be modified to accommodate wide columns of numbers and enhance readability, but the general format should be used to maintain consistency.

This information is not generally considered confidential. Utilities are obligated to provide complete information. However, we will treat as confidential those portions of the report designated by the utility as proprietary. If a utility's proprietary claim is challenged, the Commission will direct the utility to file a petition for protective order pursuant to 52 PA Code 5.423.

All questions concerning the reporting requirements for Forms IRP Gas 1A through 9 should be addressed to Pennsylvania Public Utility Commission Bureau of Conservation, Economics and Energy Planning.

Response: An original, seven (7) copies, and one unbound copy of Forms 1A, 1B, 2A, 2B, 2C, 3, 4A, 4b, 5, 6, 7, 8 and 9 along with a general discussion of the methodologies, data sources, and assumptions are being submitted to meet the requirements of the June 1 filing. Please note that Forms 1A, 1B, 2A, 2B, 2C were already filed in the company's March 1 filing and included herein, without modification, for completeness.

All questions concerning the ARPR should be directed to Mr. William Muntzer, Director – Rates, Gas Planning, and Regulatory Affairs at (215) 684-6623. The following individual will be available to answer questions concerning each section:

Mr. Kenneth Dybalski Manager, Gas Planning at (215) 684-6317.

Introduction

By Order entered January 11, 1996, the Pennsylvania Public Utility Commission (PUC) adopted final regulations (52 PA Code §§ 59.81 - 59.84) which set forth revised requirements for filing an Annual Resource Planning Report (the Plan). The Plan submitted represents Philadelphia Gas Works' (PGW or the Company) belief that integrated resource planning (IRP) is a workable approach to utility planning.

This plan contains historical data and projections for annual, winter and peak day supply to meet projected customer requirements in a least cost manner, while ensuring adequate and reliable service. It is organized into the following 6 sections:

I. PGW's Overall Approach to Integrated Resource Planning

II. Supply Forecasting Methodology and Assumptions

III. Demand Forecasting Methodology and Assumptions

IV Peak Day Forecasting Methodology and Assumptions

V. PGW Corporate Modeling System

PGW purchase gas supplies, plans and performs accounting processes and operates on a fiscal year basis from September through August.

I. PGW's Overall Approach to Integrated Resource Planning

PGW Optimization Standard for Purchasing and Utilizing Gas Supplies

As reasonably anticipated, PGW intends meeting its contractual obligations to supply all of its current customers in its service territory on the coldest day and throughout the season. Projected customer requirements for design day and design winter conditions form the basis for capacity commitments for pipeline supply, storage, and transportation contracting.

Natural gas supplies are purchased under a portfolio approach, intending to secure the lowest overall price, consistent with the primary corporate goals of reliability and security of supply. In addition, consideration is given to maintaining a diversity of sources and types of supply, coupled with contractual and operational flexibility on both a daily and seasonal basis. Short term purchases from spot market sources are utilized to the maximum degree that they are more economical, available, and transportable.

Natural gas supplies are utilized so as to maximize net contributions subject to reliability constraints. Supply contract obligations are honored and prudent Gas Control operational requirements are assumed. Storage contracts are drawn upon so as to always maintain an inventory level sufficient for protection in the event that design temperature conditions should occur in the remaining segment of any winter season. Within the above parameters, priority is given to utilizing the most economical sources of supply first, within the context of preserving the capability of meeting seasonal and annual demands rather than the momentary daily requirements. All facilities and sources of supply, flowing, storage and LNG are available to achieve the intended end; namely, maximizing net contributions subject to reliability constraints.

II. Supply Forecasting Methodology and Assumptions
Basic Assumptions

The PGW Gas Supply Policy Committee, representing senior corporate management as well as Gas Planning, Gas Control, Gas Supply, Regulatory and Marketing departmental management, approved the aforementioned Optimization Standard for Purchasing and Utilizing Gas Supplies (Section I). All natural gas purchases continue to be made in accordance with this standard. Projected sales, revenues and natural gas expenses in this report result from this agreement, particularly in the areas of inventory valuation, priorities of gas selection and interruptible supply availability.

Incorporated into the Company's projections are additional implementation steps involved with developing a cohesive gas supply/demand strategy for the near term and the longer range. This strategy includes developing a cost relationship comparison for current resources and a review of current contract terms and alternatives for continuing, extending, modifying or eliminating contracts.

In order to achieve this strategy, while maintaining a balance between economics and security of supply, the company uses a portfolio strategy approach. This approach incorporates a menu driven selection of services which allows the company to choose only those specific services necessary to meet its requirements. This is achieved by first securing transportation capacity rights. Then sources of supply are contracted to cover the firm transport rights taking into consideration differing seasonal obligations.

Operating flexibility is sustained by variations in contract stipulations, to permit the system to swing on the most economical gas supplies available while maintaining the ability to supply rapidly fluctuating temperature requirements. Storage facilities are substituted wherever opportunity affords the ability to reduce annual expense for flowing 365 day pipeline service without damage to peak day and peak winter season delivery capability. Direct control of all storage is sought to permit PGW to minimize winter costs by injecting lower priced summer purchases and to cycle storage to balance daily take fluctuations to avoid overrun/balancing charges.

II. Supply Forecasting Methodology and Assumptions
Basic Assumptions (Continued)

PGW's supply strategy incorporates maintaining full current winter day deliverabilty with regard to transportation capacity but to convert, where possible, to storage rather than winter flowing contracts to enhance financial and operational flexibility. A variety of long term supply contracts are necessary to support pipeline transportation capacity because reliance upon best effort spot suppliers to fill wintertime capacity required to meet firm customers' demands has proven to be an unreliable alternative. As a result, longer-term contracts are utilized to support firm transportation capacity. To accomplish this end, the Company purchases winter supply contracts with daily deliverabilty equal to approximately 58% of the contractual daily transportation entitlements on its two interstate pipelines with direct connections to PGW's service territory. Additionally, these supply contracts match the contractual entitlements of the two pipelines by sourcing supply in a manner consistent with the pipeline's upstream contractual requirements. In this way, PGW not only helps ensure the security of supply by sourcing the gas from geographically diverse supply regions but also this diversity allows PGW to take advantage of the pricing basis differential inherent in these supply locations.

These contracts contain the ability to fix the price for upcoming months as well as to allow the pricing to default to an agreed upon market index when there is no market advantage in fixing a price before the month begins. PGW uses this fixed price option in conjunction with its Gas Cost Rate (GCR) filing (GCR filing includes pricing based upon the Standard and Poors' "DRI Price Forecast") by always attempting to buy under the DRI forecasted prices. Through the matching of the duration supply contracts to a seasonal demand, such as the Winter operating season, the firm rate payers benefit from not paying demand charges year-round.

II. Supply Forecasting Methodology and Assumptions
Basic Assumptions (Continued)

A second component of PGW's supply portfolio, or a volume equal to 32% of pipeline capacity, is purchased gas based on a first-of-the-month index pricing methodology, with contracts that allow for daily change in volumetric take. This allows the Company to effectively shut-off higher priced supply, replacing such supply with daily cheaper spot priced gases.

Under assumed normal winter conditions, PGW utilizes certain storage fields (ANR, Equitrans, Eminence and Washington), in a manner similar to third party supply. Specifically, these storage contracts do not contain bundled transportation to the PGW city gate. Therefore, storages must flow within PGW's contractual upstream capacity rights on TETCO and TGPL. Typical daily delivery from these fields utilizes approximately 10% of the daily TETCO and TGPL capacity rights to the Philadelphia city gates. These storage fields also act as a physical fixed price counter to winter price conditions since the WACOG usually reflects a winter/summer pricing differential. PGW's summer purchasing strategy also incorporates a portfolio approach to the purchase of system supply and storage refill. The GCR filing, with its Standard and Poors' based pricing, is again used as a yardstick in purchasing supply for both system supply and storage refill. PGW attempts to always purchase a portion of its supply needs below the projected GCR cost estimate with a portion of the portfolio purchased at default, first-of-the-month pricing. These first of the month pricing option contracts, in most instances, allow PGW to evaluate daily spot prices and provide for a turn-off of first-of-the-month index priced supply in favor of the purchase of more advantageous daily spot purchases.

Operating conditions permitting, the Company enters into the FERC approved capacity release market to offset demand charges it pays for its firm transportation and/or the incremental off-systems sales market when it is economically advantageous for the firm rate payer. In both instances, these opportunities are sought only when firm customer needs are satisfied. Additionally, PGW's bundled storages and LNG can be utilized as a substitute

for higher price gas supply based on market pricing conditions and the results of PGW's weekly status report. Effectively, the Gas Supply Group is at all times studying the market for any economic advantage it can bring to the firm rate payer.

III. Demand Forecasting Methodology and Assumptions

Basic Assumptions

PGW uses a combination of four basic methods to develop demand projections. They are:

1) Customer Survey - Information as gathered by PGW's Marketing Department and used for annual projections by month and year.
2) Relative End Use - Projections via Marketing methods of customer load sizing by appliance type, maximum input, maximum summer and winter full load hour (FLH) calculations which are used to develop yearly and monthly demand requirements.
3) Historical Data - Data showing long-term demand trends, conservation and utilization patterns by the various classes of customers - Residential, Commercial, Industrial and Interruptible.
4) Judgement - Experienced opinion as applied to the evaluation of the combination of all data to develop the basic demand requirements.

Customer Demand

The total system-wide demand is a function of the projected gas demand per customer and the anticipated number of customers in each class. In determining customer demand, consideration is given to projecting current customer usage, augmented by significant gains or losses in each of 49 homogeneous groups for the period being projected. The Gas Planning Department attempts to determine, for each customer class, the level of demand reliable to experienced temperature and the component of demand that is apparently not affected by changes in temperature. Within each class the most recent summer and winter usage patterns are established from historical records. Summer data provides an insight into each class of customer's non-temperature sensitive load requirements, baseload, which can be expressed in terms of thousands of cubic feet (Mcf) per day, per customer. Similarly, winter data, after removal of the daily baseload level, reveals the temperature sensitive load requirements for each class of customer.

III. Demand Forecasting Methodology and Assumptions
Basic Assumptions (Continued)

This usage primarily reflects space heating, but also includes such other temperature sensitive needs as water heating attributable to colder ground water inlet temperatures and similar process variations, as well as supplementary range heating. This overall heating requirement can be expressed in terms of the cubic feet of gas utilized per degree of temperature change on a per customer basis for each separate customer classification.

In addition, consideration must be given to the variation of customer utilization patterns, for space heating over the year, recognizing the transitional fall start-up of heaters, the deep winter period needs and the tapering off and shut-down which occurs in the spring. These usage patterns, taken in conjunction with anticipated customer counts and appropriate temperature patterns, form the basis of determining class and total system demands. Due to the inconsistencies of weather and weather forecasting techniques, no attempt is made to predict the specific daily temperatures of the projection period. Instead, PGW has developed a normal monthly temperature pattern by analyzing statistical records of actual temperature patterns over a 30-year period. This pattern reflects 4555 degree days annually distributed in a stylized pattern preserving the monthly range of colder to warmer daily temperatures experienced, but without regard to calendar date.

The term "degree days" quantifies the number of degrees of temperature below a base level of 65 degrees Fahrenheit as a tool to measure space heating requirements (i.e., on a day experiencing an average temperature of 40 degrees F. there would be counted 25 degree days). The annual 4555 degree days, which compose the PGW normal monthly temperature patterns, form the basis of the calculation of the temperature sensitive component of demand. The application of the above described baseload and space heating factors and customer counts, when applied to a calendar based daily temperature pattern, produces a daily statement of total customer requirements identified as sendout. It should be noted that there is a difference between sendout volume and sales volume. Sendout represents those

III. Demand Forecasting Methodology and Assumptions
Basic Assumptions (Continued)

volumes that left the plant initially to supply customers' requirements, while sales are those volumes reported on customer meters. The variation between sendout and sales is that portion which is lost and unaccounted for in the PGW distribution system. In addition, they differ on a monthly basis in the distribution pattern. For the convenience of distributing meter reading and billing efforts uniformly over the available number of working days in a month, the majority of PGW customers are divided into 20 individual groups or cycles, containing residential, commercial and industrial accounts within a specific geographic area.

When these cycle customers are billed each month, they reflect meter reading usage not for the calendar month being billed, but for the number of days and temperature pattern of degree-days experienced during their specific interval between readings. For example, assume the month of January contained 900 degree-days. The customers in cycle 10 being billed for the month of January might have had meter readings taken on December 15 and again on January 17. Sales billed and reported in company records for these customers would have reflected the number of days and degree days between these reading dates rather than the 900 degree days of the month. Similarly, cycle 1 customers that might have had meter readings taken on December 1 and January 2 would reflect principally the December temperature experience, while cycle 20 customers, with meter readings taken possibly December 28 and January 29, would reflect principally the January temperature experience.

An average of the 20 cycles (Average Cycle Degree-Days) is used as the temperature pattern upon which to project the potential volume of sales in the estimation period. Both projections of sales and sendouts represent the full potential demand for that period from both firm and interruptible customers.

III. Demand Forecasting Methodology and Assumptions
Basic Assumptions (Continued)

Methodology Used to Develop Monthly Estimates

A trial domestic factor is developed by class of customer from sales reported for the previous year's summer months. This average factor is then utilized in the sendout formula with the customer counts for the months of July, August and September. A comparison between what the formula calculates and the actual experienced for those three months is ascertained and the trial domestic factors are finalized to replicate the total sendout experienced. The finalized domestic factors (DOMs) are then utilized in conjunction with the actual sales and customer counts for the months of December, January and February to determine the average Mcf per degree day for each of the individual months for the remaining temperature sensitive load. The results are weighted by degree-days to give an average value which is utilized as a trial value for the heating factor.

The finalized domestic factor and the trial heating factor are then applied in the sendout calculations, together with customer counts for the months of December, January and February, the peak winter cold period, to project an estimated sendout for each of these months. The projected sendout is then compared with the actual sendout experienced. Any variation between the projected and actual is adjusted to force the replication of the actual sendout experience, thus resulting in the determination of a finalized heating factor.

To project the number of customers for each individual rate class, the following categories of customers are reviewed and accumulated individually: current customers are ascertained from the number of billings data available from sales and revenue actually experienced immediately prior to the commencement of a budget run. Declines are projected for anticipated losses to electric and other fuels or demolitions and from transfers to other rates. Direct transfers from a non-heating to a heating account, as a result of a current customer's conversion to gas heat, moves the domestic load to the new category. Projected additional customers are developed within the Marketing Department, where staff dealing with individual classes of customers and having the most direct knowledge of conditions within

III. Demand Forecasting Methodology and Assumptions
Basic Assumptions (Continued)

their sphere, project annual load additions which are translated into count based upon typical customer usage for that individual customer class. The approximate month of turn-on is also developed to permit reflection of the effective portion of the load addition within the fiscal period under study. Interruptible class customers, as well as other large special accounts, are detailed individually incorporating expected gains and losses as direct contact has indicated.

The base revenue projections for both firm and interruptible customer groups are derived as the product of the projected sales volumes and the present tariff rate for each individual customer class within each group. The GCR revenue projections are derived as the product of the GCR factor and the projected sales volumes to the non-interruptible customers.

Finally, incremental Marketing efforts are concentrated on Air Conditioning and Co-generation opportunities. Rate design has been implemented fostering off-peak increase in utilization of current supply resources in an air conditioning discount, an interruptible Co-generation Rate and a Natural Gas Vehicle (NGV) Service. It is intended to limit on-peak expansion to acceptable interruptible availability of current resources rather than allowing the creation of new peak demands, prospective load management.

IV. Peak Day Forecasting Methodology and Assumptions

Each year, a six year estimate of Peak Day requirements anticipated under design peak day operating conditions is prepared to ensure that adequate resources are under contract and to further ensure that PGW can fulfil its utility obligation to its firm customer requirements on the design peak day and design peak hour.

The projected demands for design day, as delineated on Form 1B (attached), is developed utilizing previous winter period data, for all weekdays where the temperature average for the

day is 32 degrees Fahrenheit or below. The total sendout for these days as recorded under actual conditions is reduced to base sendout by removal of the interruptible load. A computer generated linear regression procedure is utilized to develop a calculated sendout versus the actual sendout from which the necessary constants (factors) required to have the calculated sendout match, within a reasonable percent of error to the actual sendout are developed. The process is repeated in a quadratic regression and a cubic regression procedure. This approach produces a curvilinear regression method, the results of which are analyzed by statistical significance testing and the best-fit curve is selected for use in developing the design day sendouts. The factors derived from the curve selected are used to calculate current load requirements for a 0 degrees F day and a -5 degrees F hour. PGW's Marketing Department's load projections for present and future years are then applied to these requirements to develop design day and design hour present and future load requirements. This is achieved by the addition of the projected marketing load growth expectations on an annual basis (by day) to the derived base-year design day requirements.

V. PGW Corporate Modeling System

General Description

The corporate model system is a tool used by PGW management to project sales, revenues and expenses, as well as to examine key planning strategies and evaluate their effects on company operations. The system provides the ability to determine the results of alternate plans and scenarios, while at the same time allowing for responses to "what if" type situations quantifying revenue and expenses. The system is totally interactive in that it combines the power of the computer with the experience of management to develop both short and long range projections based upon experienced historical data for sales and sendout volumes, raw material expenses and sale revenues. The corporate model system is composed of five separate models. Each model operates independently, but requires substantial external data inputs as well as data output results from one or more of the other models in the system.

V. PGW Corporate Modeling System (Continued)

Gas Demand Model

The gas demand model is used to forecast total requirements for gas based upon current customer usage experience with adjustments for projected gains and losses. Input data includes domestic and space heating usage factors, customer counts by rate classifications, temperature patterns and results in projections of sales and sendout volumes. Detail and summary reports include average usage per customer and demands by rate classification. This data is transferred to the supply model.

Gas Supply Model

The supply model is used to dispatch the various supply sources in accordance with contract availability limitations. It develops the necessary balance between supply and demand, which reflects plant fuel and storage re-injection requirements as well as customer demands, by identifying the availability of interruptible load balancing sales. Detail and summary reports include daily and monthly load requirements, the volumes taken from each source by pipeline contract, storage balances, supplemental fuel requirements, etc. Data is transferred to both the cost model and the revenue model downstream.

Gas Cost Model

The gas cost model is used to determine natural gas and other raw material costs dispatched. The model tracks the various cost components of each contract including the demand, capacity, commodity, injection and withdrawal charges while providing monthly and annual details and summary information, including inventory valuations and expenses for supplemental LPG and LNG supplies. It transfers these expenses to the Gas Cost Rate Model.

V. PGW Corporate Modeling System (Continued)

Gas Cost Rate Model

The gas cost rate model is used to develop a base fuel charge and a fuel adjustment factor known as the Gas Cost Rate (GCR). It ascribes responsibility for the raw material costs, to firm and interruptible classes in accordance with PGW's tariff requirements, assigning cost on an as-used basis to customer classes applicable to such charges, and compensates for natural gas refunds and previous over or under billing of fuel expenses. Detail summary reports include specifics of raw material adjustment, statements of reconciliation, and determination of applicable sales and expenses, transferring its results to the revenue model.

Revenue Model

The revenue model is used to project billed revenue by rate classification in accordance with PGW's rate tariffs. It prepares both base non-fuel and base fuel revenue statements, GCR revenues, senior citizen discounts, and cycle and budget billing information, all detailed by rate classification. The detail and summary reports provided by this model are directed to the accounting and financial departments for inclusion in various financial reviews.

Summary

The corporate model system allows PGW management to effectively address supply/demand balancing, supply facilities planning, projected sales, cost, revenues, and sendout volumes in a timely manner. Results assist in the development of PGW's annual Operating Budget and filings before the PA PUC (Commission). The model allows the evaluation of future winter requirements on both normal and design temperature patterns and the extrapolation of current years based upon the experience to date and an assumption of temperatures anticipated for the remaining period of the year, this latter acting as a guide for both financial cash flow planning and winter operations.

Section 59.81 **Forms IRP-Gas 1A, and 1B – Annual and Peak Day Demand**

The load growth projections shall reflect the effects of price elasticity, market induced conservation, building and appliance efficiency standards, and the effects of the utility's existing and planned conservation and load management activities.

Response: Please see the attached documentation and forms.

FORM-IRP-GAS-1A: ANNUAL GAS REQUIREMENTS
REPORTING UTILITY: PHILADELPHIA GAS WORKS
(VOLUMES IN MMcF)

	Historical Data		Current Year	Three Year Forecast		
Index Year	-2	-1	0	1	2	3
Actual Year	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005
Firm Sales:						
Retail Residential	40,988	46,228	39,578	45,686	45,103	43,318
Retail Commercial	12,238	12,931	11,283	12,620	12,613	12,114
Retail Industrial	1,299	1,521	1,299	1,640	1,682	1,616
Electric Power Generation						-
Exchanges with Other Utilies						-
Unaccounted For Gas	2,339	1,791	2,117	2,522	3,094	2,971
Company Use	69	107	86	93	93	89
Other (Off-system/Unbilled Estimate)	1,098	(1,073)	2,040			-
Subtotal Firm Sales	58,030	61,506	56,403	62,561	62,584	60,109
Interruptible Sales:						
Retail	8,407	5,865	8,235	7,942	7,030	6,752
Electric Power Generation	208	123	163	149	126	121
Company's Own Plant	316	290	792	505	536	515
Unaccounted For Gas	250	215	192	583	645	619
Subtotal Interruptible Sales	9,181	6,492	9,382	9,180	8,338	8,008
SUBTOTAL FIRM AND INTERRUPTIBLE SALES:	67,211	67,999	65,785	71,741	70,922	68,117
Transportation:						
Firm Residential						
Firm Commercial						
Firm Industrial			-	-	-	-
Interruptible Residential						
Interruptible Commercial	153	-	-	-	-	-
Interruptible Industrial	14,383	7,833	9,295	8,954	12,130	14,884
Electric Power Generation						
Subtotal Tranportation	14,536	7,833	9,295	8,954	12,130	14,884
TOTAL GAS REQUIREMENTS	81,748	75,832	75,081	80,695	83,053	83,001
Increase (Decrease)	na	(5,916)	(751)	5,614	2,357	(52)
Percent Change (%)	na	-7.24%	-0.99%	7.48%	2.92%	-0.06%

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FORM-IRP-GAS-1B:PEAK DAY REQUIREMENTS
REPORTING UTILITY: PHILADELPHIA GAS WORKS
(VOLUMES IN MMcF)

	Historical Data		Current Year	Three Year Forecast		
Index Year	-2	-1	0	1	2	3
Actual Year	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005
Firm Sales:						
Retail Residential	415	386	305	537	529	546
Retail Commercial	124	108	87	148	148	153
Retail Industrial	13	13	10	19	20	20
Electric Power Generation	0	0	0	0	0	0
Exchanges with Other Utilies	0	0	0	0	0	0
Unaccounted For Gas	24	15	16	30	36	37
Company Use	1	1	1	1	1	1
Other (Off-system/Unbilled Estimate)	11	-9	0	0	0	0
Subtotal Firm Sales	588	514	434	735	734	757
Interruptible Sales:						
Retail	49	4	23	0	0	0
Electric Power Generation	0	0	0	0	0	0
Company's Own Plant	2	1	1	3	0	0
Unaccounted For Gas	0	0	1	0	0	0
Subtotal Interruptible Sales	52	5	25	3	0	0
SUBTOTAL FIRM AND INTERRUPTIBLE SALES:	640	519	459	738	734	757
Transportation:						
Firm Residential	0	0	0	0	0	0
Firm Commercial	0	0	0	0	0	0
Firm Industrial	0	0	0	0	0	0
Interruptible Residential	0	0	0	0	0	0
Interruptible Commercial	0	0	0	0	0	0
Interruptible Industrial	0	1	0	0	0	0
Electric Power Generation	0	0	0	0	0	0
Subtotal Tranportation	0	1	0	0	0	0
TOTAL GAS REQUIREMENTS	640	520	460	738	734	757
Increase (Decrease)	na	(120)	(60)	279	(4)	23
Percent Change (%)	na	-18.72%	-11.63%	60.68%	-0.55%	3.13%

March 2002

Section 59.81

Forms IRP-Gas 2A, 2B and 2C - Annual and Peak Day Energy Resources, Transmission and Storage Contracts

The forecast of energy sources shall indicate sources of all presently available and new supplies which the utility estimates will become available, displayed by component parts.

Response:

Please see the attached documentation and forms.

FORM-IRP-GAS-2A: NATURAL GAS SUPPLY
TABLE : PEAK DAY SUPPLY
REPORTING UTILITY: PHILADELPHIA GAS WORKS
(Volumes in MMcf)

	Historical Data		Current Year	Three Year Forcast		
Index Year	-2	-1	0	1	2	3
Actual Year	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005
Gas Supply for Sales Service						
TETCO	-	-			-	-
TRANSCO	67	53	1	55	55	55
Spot Purchases	221	220	252	233	235	244
Storage Withdraws	147	123	195	188	181	186
LNG/SNG/Propane Purchases	205	123	11	262	263	271
Company Production						
Local Purchases						
Exchanges with other LDCs						
Other						
Total Gas Supply for Sales	640	519	459	738	734	757
Total Transportation Services						
TOTAL SALES, GAS SUPPLY AND *TRANPORTATION SERVICE*	640	519	459	738	734	757
Deductions						
Curtailments						
Underground Storage Injections	-		-			
LNG Liquefactions						
Sales to other LDC's					-	
Total Deductions	-		-			
NET GAS SUPPLY	640	519	459	738	734	757

conversion @ 1030 Btu

2000-2001 Due to operational emergency deliverablity reduced.

March 2002

FORM-IRP-GAS-2B: NATURAL GAS TRANSPORTATION
REPORTING UTILITY: PHILADELPHIA GAS WORKS
(volumes in Mmcf)

	Historical Data				Current Year		Three Year Forcast					
Index Year	-2		-1		0		1		2		3	
Actual year	1999-2000		2000-2001		2001-2002		2002-2003		2003-2004		2004-2005	
	Annual	Peak	Annual	Peak	Annual	Peak	Annual	Peak	Annual	Peak	Annual	Peak
City Gate Transportation Contracts:												
CONSOLIDATED	3,723	52	3,723	52	3,723	52	3,723	52	3,723	52	3,723	52
TETCO	2,570	43	2,570	43	2,570	43	2,570	43	2,570	43	2,570	43
TETCO	2,390	20	2,390	20	2,390	20	2,390	20	2,390	20	2,390	20
CONSOLIDATED	453	4	453	4	453	4	453	4	453	4	453	4
Total	9,137	120	9,137	120	9,137	120	9,137	120	9,137	120	9,137	120
Upstream Transportation Contracts:												
TRANSCO	58,546	160	58,546	160	58,546	160	58,546	160	58,546	160	58,546	160
TETCO	26,578	73	26,578	73	26,578	73	26,578	73	26,578	73	26,578	73
TETCO	8,442	23	8,442	23	8,442	23	8,442	23	8,442	23	8,442	23
TETCO	2,359	17	2,359	17	2,359	17	2,359	17	2,359	17	2,359	17
TETCO	2,359	17	2,359	17	2,359	17	2,359	17	2,359	17	2,359	17
TRANSCO	172	2	172	2	172	2	172	2	172	2	172	2
Total	98,456	293	98,456	293	98,456	293	98,456	293	98,456	293	98,456	293
Storage-Related Transportation Contracts:												
CONSOLIDATED	9,110	22	9,110	22	9,110	22	9,110	22	9,110	22	9,110	22
CONSOLIDATED	2,760	7	2,760	7	2,760	7	2,760	7	2,760	7	2,760	7
EQUITABLE	1,911	5	1,911	5	1,911	-	1,911	5	1,911	5	1,911	5
Total	13,781	33	13,781	33	13,781	28	13,781	33	13,781	33	13,781	33

Conversion @ 1030 Btu

March 2002

FORM-IRP-GAS-2C: NATURAL GAS STORAGE [1]
REPORTING UTILITY: PHILADELPHIA GAS WORKS
(volumes in Mmcf)

	Historical Data				Current Year		Three Year Forcast					
Index Year	-2		-1		0		1		2		3	
Actual year	2000		2001		2002		2003		2004		2005	
	Annual	Peak	Annual	Peak	Annual	Peak	Annual	Peak	Annual	Peak	Annual	Peak
Transcontinental Transmission Corp.	3,723	52	3,723	52	3,723	52	3,723	52	3,723	52	3,723	52
Dominion Transmission Inc.	3,481	28	3,481	28	3,481	28	3,481	28	3,481	28	3,481	28
Transcontinental Transmission Corp.	3,086	36	3,086	36	3,086	36	3,086	36	3,086	36	3,086	36
Texas Eastern Transmission Corp.	2,467	43	2,467	43	2,467	43	2,467	43	2,467	43	2,467	43
Texas Eastern Transmission Corp.	2,219	20	2,219	20	2,219	20	2,219	20	2,219	20	2,219	20
ANR	1,824	13	1,824	13	1,824	13	1,824	13	1,824	13	1,824	13
Equitrans	507	5	507	5	507	5	507	5	507	5	507	5
Transcontinental Transmission Corp.	453	4	453	4	453	4	453	4	453	4	453	4
Transcontinental Transmission Corp.	165	16	165	16	165	16	165	16	165	16	165	16
Total	17,925	218	17,925	218	17,925	218	17,925	218	17,925	218	17,925	218

1 Rank contracts in order of magnitude for the current year, noting the transportation provided and termination date for each contract reported
Reporting should proceed along rank ordering until 75% of total is accounted for, or until ten contracts have been listed, whichever occurs first.

Conversions at 1030 Btu

	Contract Expiration Date [2]
Transcontinental Transmission Corp.	3/31/13
Dominion Transmission Inc.	3/31/06
Transcontinental Transmission Corp.	Evergreen
Texas Eastern Transmission Corp.	4/30/12
Texas Eastern Transmission Corp.	4/30/12
ANR	3/31/13
Equitrans	3/31/03
Transcontinental Transmission Corp.	4/15/03
Transcontinental Transmission Corp.	10/31/13

2 For purposes of this report, contracts due to expire are assumed renewed for the forecast years.

Section 59.81 **Forms IRP-Gas 3 - Historical, Current and Forecast Number of Customers**

Provide the number of year end customers displayed by component parts.

Response: Please see the attached form.

FORM-IRP-GAS-3: NUMBER OF CUSTOMERS
REPORTING UTILUTY: PHILADELPHIA GAS WORKS

	Historical Data		Current Year	Three Year Forcast		
Index Year	-2	-1	0	1	2	3
Fiscal Year	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005
Firm Customers						-
Retail Residential	485,061	498,292	491,247	487,831	481,145	472,772
Retail Commercial	24,858	27,508	26,875	27,319	26,993	25,681
Retail Industrial	1,095	1,127	1,072	1,262	1,235	1,193
Other						-
Subtotal Sales Service	511,014	526,927	519,194	516,411	509,373	499,646
Electric Power Generation	3	3	4	4	4	4
Transportation Service	8	8	7	20	10,129	19,915
CUSTOMER TOTAL	511,025	526,938	519,205	516,435	519,506	519,565
Increase (Decrease)	na	15,913	(7,733)	(2,770)	3,071	59
Percent Change (%)	na	3.11%	-1.47%	-1%	0.59%	0.01%

Note: FY 1999-2000 customer count is based on the legacy system meter count. All other years are based on the average number of billings over the course of the year. Accurate information on the number of billings from the new BCCS system is not available for FY 1999-2000.

Section 59.81 **Forms IRP-Gas 4A and 4B - Annual and Peak Day Energy Supply and Demand**

Response: Please see the attached forms.

FORM-IRP-GAS-4A: ANNUAL SUPPLY AND REQUIREMENTS SUMMARY
REPORTING UTILITY: PHILADELPHIA GAS WORKS
(Volumes in MMcf)

	Historical Data		Current Year	Three Year Forcast		
Index Year	-2	-1	0	1	2	3
Actual Year	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005
Gas Supply:						
Supply Contracts	13,485	9,521	15,037	8,141	10,655	11,324
LNG	3,653	3,612	1,779	3,798	3,768	4,004
Storage Withdrawal	16,907	17,233	10,077	13,524	9,790	10,404
Spot Purchases	57,630	54,431	59,690	63,117	60,307	64,093
Subtotal Gas Supply	91,676	84,797	86,583	88,580	84,520	89,826
Transportation	14,536	7,833	9,295	8,954	12,130	14,884
TOTAL GAS SUPPLY	106,212	92,629	95,878	97,534	96,650	104,710
Requirements:						
Firm Requirements	58,030	61,506	56,403	62,561	62,584	60,109
Liqufaction	4,084	3,109	2,585	3,590	3,907	3,709
Interruptible Requirements	9,181	6,492	9,382	9,180	8,338	8,008
Storage Injections	19,697	12,855	18,212	13,250	9,690	18,000
Sales to other LDC's	684	834	-	-	-	-
Subtotal Firm & Interruptible	91,676	84,796	86,583	88,580	84,520	89,826
Transportation	14,536	7,833	9,295	8,954	12,130	14,884
Load Reductions						
TOTAL GAS REQUIREMENTS	106,212	92,629	95,878	97,535	96,650	104,710
Surplus (Deficiency)	(0)	0	0	(0)	0	-

March 2002

FORM-IRP-GAS-4B: PEAK DAY SUPPLY AND REQUIREMENTS SUMMARY
REPORTING UTILITY: PHILADELPHIA GAS WORKS
(Volumes in MMcf)

	Historical Data		Current Year	Three Year Forcast		
Index Year	-2	-1	0	1	2	3
Actual Year	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005
Gas Supply:						
Supply Contracts	288	273	253	289	291	300
Storage Withdraws	147	123	195	188	181	186
LNG	205	123	11	262	263	271
Spot Purchases	-	-	-	-	-	-
Subtotal Gas Supply	640	519	459	738	734	757
Transportation	-	1	0	-	-	-
TOTAL GAS SUPPLY	640	520	460	738	734	757
Requirements:						
Firm Requirements [1]	588	514	434	735	734	757
Interruptible Requirements	52	5	25	3	0	-
Subtotal Firm & Interruptible	640	519	459	738	734	757
Transportation	-	1	0	-	-	-
Load Reductions	-	-	-	-	-	-
TOTAL GAS REQUIREMENTS	640	520	460	738	734	757
Surplus (Deficiency)	0.0	0.0	(0.0)	0.00	0.00	0.00

[1] Firm requirements for the forecast years include plant use.

March 2002

Section 59.82 **Forms IRP-Gas 5 - Energy Conservation Report-Program Description**

Response: Please see the attached forms.

FORM-IRP-GAS-5 PROGRAM DESCRIPTION

Company: Philadelphia Gas Works (PGW)

Program: Conservation Works Program (CWP)

Existing [X] Proposed [ ]

Contact Person: Cristina Coltro
(215) 684-6785

Objective: To reduce energy usage, therefore, making bills more affordable for low-income customers whose usage is average or above average and who are participants in the Customer Responsibility Program.

Details of Activity and Implementation Schedule:

Eligible customers are targeted for program participation. For each participating household, PGW's contractors will perform an energy diagnostic audit, energy education, and conservation treatments such as home repairs, automatic clock thermostat, insulation, etc.

Actual and/or Anticipated Results:

			Energy Savings		
Year	Peak Load Reduction Mcf	Electic Mwh	Gas Mcf	Oil Gallons	Other Results
1999 (1)			13.45		3717 Homes w/ Treatment
2000 (1)			12.5		4087 Homes w/ Treatment
2001 (2)			13		3419 Homes w/ Treatment

Monetary and Personal Resources:

	Categorized program Expenses			
Year	Personnel Est. Hrs. (4)	Outside Services	Admin. (PGW Internal)	Total
1999 (1)	40,887	$1,909,267	$60,000	$1,969,267
2000 (1)	44,957	$1,999,867	$60,000	$2,059,867
2001 (2)	37,609	$1,999,972	$41,000	$2,040,972

(1) Actual
(2) Actual number of participants, actual expenditure, estimated energy savings
(3) Personnel hours were estimated by multiplying the number of homes by 11, the average number of hours spent per home.

C. Coltro
05/22/02

Section 59.82 **Forms IRP-Gas 6 - Energy Users**

Response: Please see the attached forms.

FORM-IRP-GAS-6
ENERGY USERS
COMPANY: PHILADELPHIA GAS WORKS

Fiscal Year Ending August 31, 2001

Firm:	Number of Customers	Sales (Mcf)
Residential		
Heating	430,387	44,616,351
Non-heating	67,905	2,167,083
Commercial	27,508	12,375,660
Industrial	1,127	1,521,029
Sub-total Firm	526,927	60,680,123
Interruptible		
Commercial & Industrial	468	5,987,795
Transportation	8	7,630,886
Totals	527,403	74,298,804

Section 59.82 **Forms IRP-Gas 7 - Conservation and Load Management Program Cost Benefit Analysis Inputs**

Response: Please see the attached forms.

FORM-IRP-GAS-7 PROGRAM SUMMARY

Company: Philadelphia Gas Works (PGW)

Program Name	Peak Load Reduction (Mcf)	Energy Use Change (Mcf)	Personnel Est. Hrs (4)	Categorized Program Expenses		
				Outside Services	Adm.	Total
Conservation Works Program (CWP) - 1999 (1)	NA	13.45	40,887	$1,909,267	$60,000	$1,969,267
Conservation Works Program (CWP) - 2000 (1)	NA	12.5	44,957	$1,999,867	$60,000	$2,059,867
Conservation Works Program (CWP) - 2001 (2)	NA	13	37,609	$1,999,972	$60,000	$2,059,972

(1) Actual
(2) Actual figures except for Energy Savings
(4) Personnel hours were estimated by multiplying the number of homes by 11, the average number of hours spent per home

Section 59.82 **Forms IRP-Gas 8 - Conservation and Load Management Program Cost Benefit Analysis Results**

Response: Please see the attached forms.

Company Name:
FORM-IRP-GAS-8

Philadelphia Gas Works (PGW)
Cost-Benefit Analysis Input

PROGRAM: Conservation Works Program

t	Year	Energy Savings (E) Mcf	Average Energy Cost (ACE) $ per Mcf	Avoided Enegy Cost (MCE) $ per Mcf	Participant Demand Savings (D) Mcf	Utility Capacity Savings (G) Mcf	Average Demand Costs (ACD) $/Mcf	Avoided Demand Costs (MCD) $/Mcf	Participant Costs (PC) $
1	2000	52,908	$ 8.50	$ 4.64830	N/A	N/A	N/A		$ -
2	2001	52,908	$ 12.85	$ 4.12410	N/A	N/A	N/A		$ -
3	2002	52,908	$ 10.46	$ 4.00330	N/A	N/A	N/A		$ -
4	2003	52,908	$ 10.97	$ 4.00610	N/A	N/A	N/A		$ -
5	2004	52,908	$ 10.60	$ 3.82820	N/A	N/A	N/A		$ -
6	2005	52,908	$ 10.78	$ 3.90200	N/A	N/A	N/A		$ -
7	2006	52,908	$ 10.64	$ 4.05990	N/A	N/A	N/A		$ -
8	2007	52,908	$ 10.77	$ 4.05990	N/A	N/A	N/A		$ -
9	2008	52,908	$ 10.70	$ 4.05990	N/A	N/A	N/A		$ -
10	2009	52,908	$ 10.71	$ 4.05990	N/A	N/A	N/A		$ -
11	2010	52,908	$ 10.71	$ 4.05990	N/A	N/A	N/A		$ -
12	2011	52,908	$ 10.72	$ 4.05990	N/A	N/A	N/A		$ -
13	2012	52,908	$ 10.72	$ 4.05990	N/A	N/A	N/A		$ -
14	2013	52,908	$ 10.73	$ 4.05990	N/A	N/A	N/A		$ -
15	2014	52,908	$ 10.73	$ 4.05990	N/A	N/A	N/A		$ -
16	2015	25,687	$ 10.73	$ 4.05990	N/A	N/A	N/A		$ -
17	2016	25,687	$ 10.73	$ 4.05990	N/A	N/A	N/A		$ -
18	2017	25,687	$ 10.73	$ 4.05990	N/A	N/A	N/A		$ -
19	2018	25,687	$ 10.73	$ 4.05990	N/A	N/A	N/A		$ -
20	2019	25,687	$ 10.73	$ 4.05990	N/A	N/A	N/A		$ -
21	2020	25,687	$ 10.73	$ 4.05990	N/A	N/A	N/A		$ -
22	2021	25,687	$ 10.73	$ 4.05990	N/A	N/A	N/A		$ -
23	2022	25,687	$ 10.73	$ 4.05990	N/A	N/A	N/A		$ -
24	2023	25,687	$ 10.73	$ 4.05990	N/A	N/A	N/A		$ -
25	2024	25,687	$ 10.73	$ 4.05990	N/A	N/A	N/A		$ -

Company Name:
FORM-IRP-GAS-8

Philadelphia Gas Works (PGW)
Cost-Benefit Analysis Input

PROGRAM: Conservation Works Program

t	Year	Incentive Cost (I) $	Utility Costs (UC) $	Discount Rates: Participant (d) %	Non-Participant (d) %	Utility (1) (d) %	Escalation Rate (e) %	System Sales or Demand (S) Mcf	Sales or Demand Ratio (f) %
1	2000	$ -	$2,059,867	5.9	5.9	5.9	$ -	53,656,947	0.0091
2	2001	$ -	$ -	5.9	5.9	5.9	$ -	55,622,776	0.0087
3	2002	$ -	$ -	5.9	5.9	5.9	$ -	62,565,948	0.0078
4	2003	$ -	$ -	5.9	5.9	5.9	$ -	58,502,694	0.0083
5	2004	$ -	$ -	5.9	5.9	5.9	$ -	58,502,694	0.0083
6	2005	$ -	$ -	5.9	5.9	5.9	$ -	58,502,694	0.0083
7	2006	$ -	$ -	5.9	5.9	5.9	$ -	58,502,694	0.0083
8	2007	$ -	$ -	5.9	5.9	5.9	$ -	58,502,694	0.0083
9	2008	$ -	$ -	5.9	5.9	5.9	$ -	58,502,694	0.0083
10	2009	$ -	$ -	5.9	5.9	5.9	$ -	58,502,694	0.0083
11	2010	$ -	$ -	5.9	5.9	5.9	$ -	58,502,694	0.0083
12	2011	$ -	$ -	5.9	5.9	5.9	$ -	58,502,694	0.0083
13	2012	$ -	$ -	5.9	5.9	5.9	$ -	58,502,694	0.0083
14	2013	$ -	$ -	5.9	5.9	5.9	$ -	58,502,694	0.0083
15	2014	$ -	$ -	5.9	5.9	5.9	$ -	58,502,694	0.0083
16	2015	$ -	$ -	5.9	5.9	5.9	$ -	58,502,694	0.0088
17	2016	$ -	$ -	5.9	5.9	5.9	$ -	58,502,694	0.0088
18	2017	$ -	$ -	5.9	5.9	5.9	$ -	58,502,694	0.0088
19	2018	$ -	$ -	5.9	5.9	5.9	$ -	58,502,694	0.0088
20	2019	$ -	$ -	5.9	5.9	5.9	$ -	58,502,694	0.0088
21	2020	$ -	$ -	5.9	5.9	5.9	$ -	58,502,694	0.0088
22	2021	$ -	$ -	5.9	5.9	5.9	$ -	58,502,694	0.0088
23	2022	$ -	$ -	5.9	5.9	5.9	$ -	58,502,694	0.0088
24	2023	$ -	$ -	5.9	5.9	5.9	$ -	58,502,694	0.0088
25	2024	$ -	$ -	5.9	5.9	5.9	$ -	58,502,694	0.0088

(1) The Participant, Non-Participant and Utility discount rates are based on PGW's long-term debt and AFUDC (Allowance for Funds Used During Construction).

Section 59.81 **Forms IRP-Gas 9 - 2000 Annual Resource Summary Planning Report**

Response: The Summary Report is included as a separate document.

Company Name:
FORM-IRP-GAS-9

Philadelphia Gas Works (PGW)
Cost-Benefit Analysis Input

Program:

Conservation Works Program (CWP)

Period of Analysis								
Beginning Year	Ending Year	Total Utility Benefits (Bu) $	Total Utility Costs (Cu) $	Revenue Reduction Cost (Cr) $	Participant Revenue Requirement (Rp) $	Total participant Benefits (Bp) $	Total Participant Costs (Cp) $
2000	2024	$ 2,582,686	$ 2,059,867	$ 6,768,659	$ 22,708	$ 6,768,659	$ 22,708

	NET PRESENT VALUE			BENEFIT COST RATE			
Discounted Payback Period Yrs.	Participant (NPVp) $	Non-Part (NPVnp) $	Utility (NPVu) $	Participant (BCRp)	Non-Part (BCRnp)	Utility (BCRu)	Rate Impact Non-Part (RIMnp) $/Mcf
25	$ 6,745,951	(6,168,828.10)	$543,419.23	298.08	0.29	1.27	0.004

Philadelphia Gas Works

PGW

800 W. Montgomery Avenue, Philadelphia, PA 19122
Telephone (215) 236-0500

ORIGINAL

June 18, 2002

RECEIVED

JUN 18 2002

PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

James McNulty, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
2nd Floor, 1 North
400 North Street
Harrisburg, PA 17120

RE: Philadelphia Gas Works
Annual Resource Planning Report

Dear Secretary McNulty, IRP-125042

Enclosed for filing please find the original and seven copies of Philadelphia Gas Works' Annual Resource Planning Report, Form IRP-2A that was inadvertently omitted from the filing on May 31, 2002.

If you have any questions regarding this filing, please contact me directly at 215-684-6631.

Sincerely,

Margaret Flores, Esq.

Enclosures

cc: Calvin Birge, Bureau of Conservation, Economics and Energy Planning (w/enc)
Office of the Consumer Advocate (w/enc)
Office of the Small Business Advocate (w/enc)
Office of Trial Staff (w/enc)

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RECEIVED
JUN 18 2002
PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

FORM-IRP-GAS-2A: NATURAL GAS SUPPLY
TABLE 1: ANNUAL SUPPLY
REPORTING UTILITY: PHILADELPHIA GAS WORKS
(Volumes in MMcf)

	Historical Data		Current Year	Three Year Forcast		
Index Year	-2	-1	0	1	2	3
Actual Year	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Gas Supply for Sales Service						
TETCO	-					
TRANSCO	13,485	9,521	15,037	8,141	10,655	11,324
Spot Purchases	57,630	54,431	59,690	63,117	60,307	64,093
Storage Withdraws	16,907	17,233	10,077	13,524	9,790	10,404
LNG/SNG/Propane Purchases	3,653	3,612	1,779	3,798	3,768	4,004
Company Production	-					
Local Purchases	-					
Exchanges with other LDCs	-					
Other	-					
Total Gas Supply for Sales	91,676	84,797	86,583	88,580	84,520	89,826
Total Transportation Services	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
TOTAL SALES, GAS SUPPLY AND TRANPORTATION SERVICE	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Deductions						
Curtailments	-					
Underground Storage Injections	19,697	12,855	18,212	13,250	9,690	18,000
LNG Liquefactions	4,084	3,109	2,585	3,590	3,907	3,709
Sales to other LDC's	684	834	-			
Total Deductions	24,464	16,798	20,797	16,839	13,597	21,709
NET GAS SUPPLY	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!