



RECYCLED

Philadelphia Gas Works

Pennsylvania Public Utility Commission

52 Pa. Code §53.61, et seq.

For the Twelve Months Ending August 31, 2001

Item 53.64(c) Thirty days prior to the filing of a tariff reflecting an increase or decrease in natural gas costs, each Section 1307(f) gas utility seeking recovery of purchased gas costs under that section shall provide notice to the public, under § 53.68 (relating to notice requirements), and shall file the following supporting information with the Commission, with a copy to the Consumer Advocate, Small Business Advocate and to intervenors upon request:

- (14) Analysis and data demonstrating, on an historic and projected future basis, the minimum gas entitlements needed to provide reliable and uninterrupted service to priority one customers during peak periods.

Response:

In 1997, PGW contracted with ICF Kaiser Group to review its capacity entitlements. A copy of the final report is attached.

*PGW Gas Supply Study
Final Report*

Prepared for:
Philadelphia Gas Works

Prepared by:
ICF Kaiser International, Inc.

⇒ **ICF KAISER**

July 2, 1997



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Outline of Report



- ❖ **Purpose of Study**
- ❖ **Overview of Assignment**
 - ◆ Management Review
 - ◆ Peak Day Study
 - ◆ Risk Management Study
 - ◆ LNG Liquefaction Options Study
 - ◆ Supply Optimization
- ❖ **Supply Study--Analytic Approach**
- ❖ **Findings**
- ❖ **Conclusions**

Purpose of Study

- 
- ❖ Conduct a broad assessment of PGW's gas supply operations to answer the following questions.
 - ◆ Does the PGW gas purchasing function operate in a way to minimize gas costs?
 - ◆ Does PGW over-estimate its peak requirements, leading to over commitments in delivery capacity?
 - ◆ Would implementing a risk management program reduce PGWs' gas supply costs?

Purpose of Study (contd.)



- ❖ Develop an analytic framework for assessing whether and how PGW can manage its gas pipeline, storage, and peak shaving capacity to minimize gas supply costs.
 - ◆ Has PGW over committed to pipeline or storage capacity?
 - ◆ Where can capacity reductions be made to reduce cost while maintaining delivery reliability?
 - ◆ Pipeline capacity
 - ◆ Storage
 - ◆ Peak shaving
 - ◆ How much interruption of BPS and LBS should PGW accept?
 - ◆ Would dropping the South Jersey sale allow PGW to turn back pipeline capacity and reduce costs?
 - ◆ Is the current commitment to LNG capacity excessive?

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Overview of Assignment



- ❖ ICF has conducted four related studies at PGW
 - ◆ A management review of the gas supply function
 - ◆ A review of PGW's approach to estimating peak day and peak season gas demand
 - ◆ An evaluation of a risk management strategy for PGW
 - ◆ A gas supply optimization study
- ❖ This report presents the final results of the gas supply optimization study
- ❖ In a related assignment, ICF Kaiser evaluated alternative approaches to upgrading the LNG liquefaction facilities at the Richmond plant

Management Review (Dec. 1996)



- ❖ Management recommendations were made for four areas
 - ◆ Gas Acquisition
 - ◆ Gas Control
 - ◆ Gas Planning
 - ◆ Regulatory Affairs
- ❖ Specific recommendations were made for aligning PGW's gas supply function with PGW's corporate strategy

Peak Day Study (Feb. 1997)



- ❖ Focused on estimations of design day, winter and year
- ❖ Concluded that PGW's approach yields reasonable results consistent with empirical data
- ❖ PGW's design weather estimates are not overly conservative
 - ◆ The design winter is less than the 48-year historical peak winter
 - ◆ The monthly design winter conditions are well below the 48-year peak
 - ◆ Design winter conditions lie within the 95 percent confidence interval
 - ◆ A winter as cold or colder than the design winter is likely to occur once in 16 years

Risk Management (Jan. 1997)



- ❖ The study made three findings
 - ◆ PGW and its customers have substantial exposure to market risks through the reliance on market pricing for gas supply
 - ◆ This exposure is mitigated partially by the investment in storage and LNG
 - ◆ Active risk management can further mitigate risk and provide opportunities to develop innovative products for PGW's customers
- ❖ The study recommended PGW proceed deliberately to develop a risk management function
 - ◆ PGW should use a phased approach to maximize learning about risk management
 - ◆ PGW should begin with a pilot project

LNG Liquefaction Options (June 1997)



- ❖ In a related report, ICF Kaiser in conjunction with CH-IV Corporation and MPR Engineers analyzed options for improving the 30 year old liquefaction facilities at Richmond
 - ◆ Upgrade the existing system and replace 30+ year old compressors with modern centrifugal compressors
 - ◆ Install an open expander system
 - ◆ Install a mixed refrigerant system
- ❖ New technologies can enhance reliability, provide operational flexibility, additional liquefaction capability, and reduced liquefaction costs

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Purpose of the Supply Optimization Study

- 
- ❖ Develop an analytic framework for assessing whether and how PGW can manage its gas pipeline, storage, and peak shaving capacity to minimize gas supply costs.
 - ◆ Has PGW over committed to pipeline or storage capacity?
 - ◆ Where can capacity reductions be made to reduce cost while maintaining delivery reliability?
 - ◆ Pipeline capacity
 - ◆ Storage
 - ◆ Peak shaving
 - ◆ How much interruption of BPS and LBS should PGW accept?
 - ◆ Would dropping the South Jersey sale allow PGW to turn back pipeline capacity and reduce costs?
 - ◆ Is the current commitment to LNG capacity excessive?

Analytic Approach - Optimization



- ❖ ICF Kaiser used the Gas Acquisition Strategy Model²
- ❖ GASM² optimizes across all supply and demand options
 - ◆ Pipeline capacity
 - ◆ Storage
 - ◆ Peak shaving -- LNG/Propane
 - ◆ Interruption
- ❖ The optimal solution identifies the least cost supply strategy under given assumptions
 - ◆ Multiple model runs test “What ifs”
 - ◆ Minimizes costs to PGW and customers

Analytic Approach - Optimization Inputs



- ❖ Define the period to be studied (multi-year or single year) and the detail within the period
- ❖ Provide gas requirements as load duration curve: total sendout or by customer class
- ❖ Identify and characterize gas supply options
- ❖ Identify and characterize the pipeline transportation options
- ❖ Identify and characterize storage and peak shaving options
- ❖ Integrate storage, transportation and peak capacities

Analytic Approach - Period and Term

- 
- ❖ The Study used a single year representation for PGW
 - ◆ PGW has no long-term contracts with distinctive pricing terms
 - ◆ Allows greater load detail for modeling critical winter months
 - ❖ GASM² used 36 load periods per simulation
 - ◆ November through March (20 periods total)
 - ◆ 4 periods per month: Peak, Next 3 days, Next 10 days, Remainder of the month
 - ◆ April, May, September, October (12 periods total)
 - ◆ 3 periods per month: Peak, Next 13 days, Remainder of the month
 - ◆ June (2 periods)
 - ◆ 14 highest days, Remainder of the month
 - ◆ July, August (2 periods total)

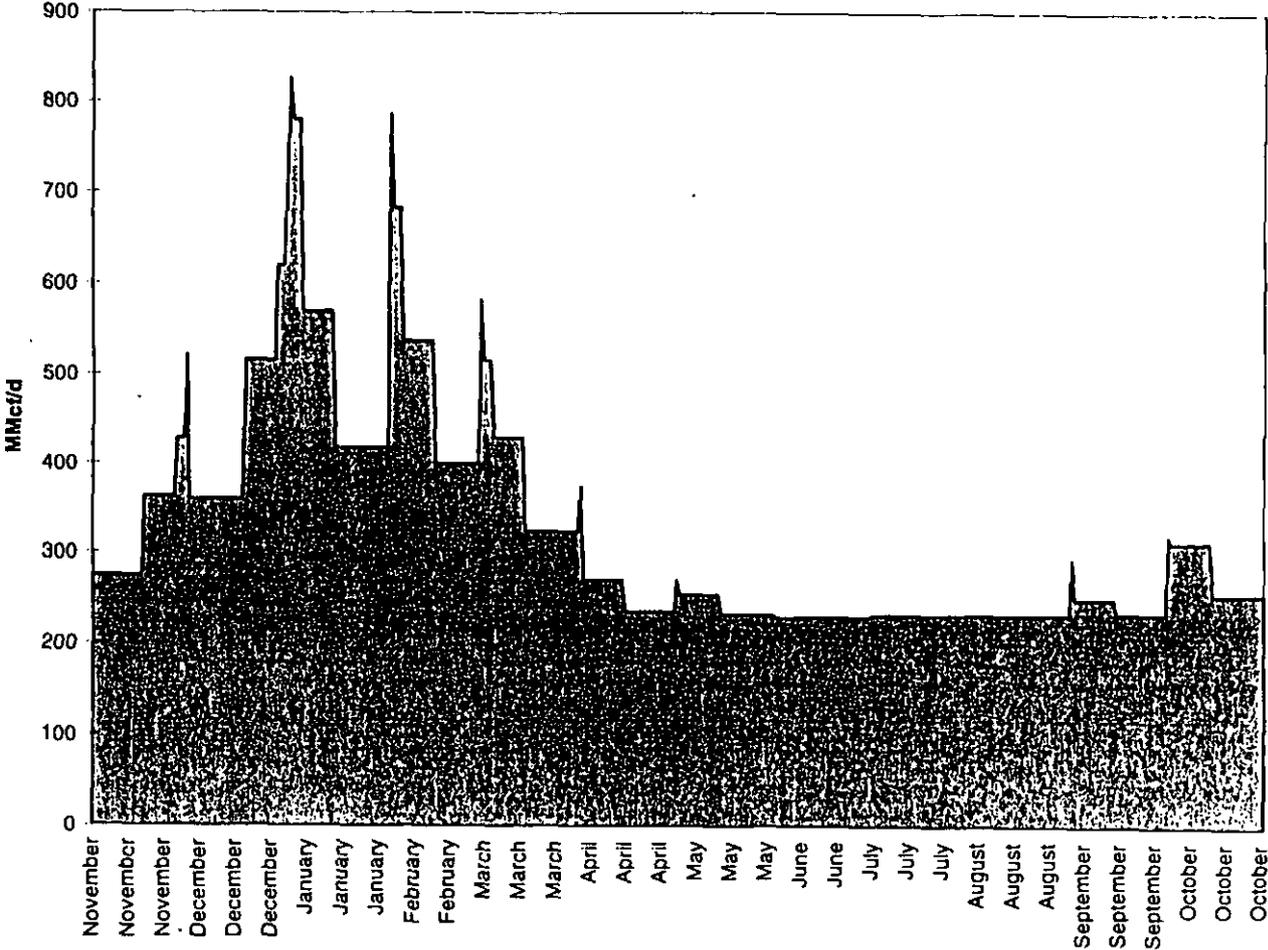
Analytic Approach - Load Characterization



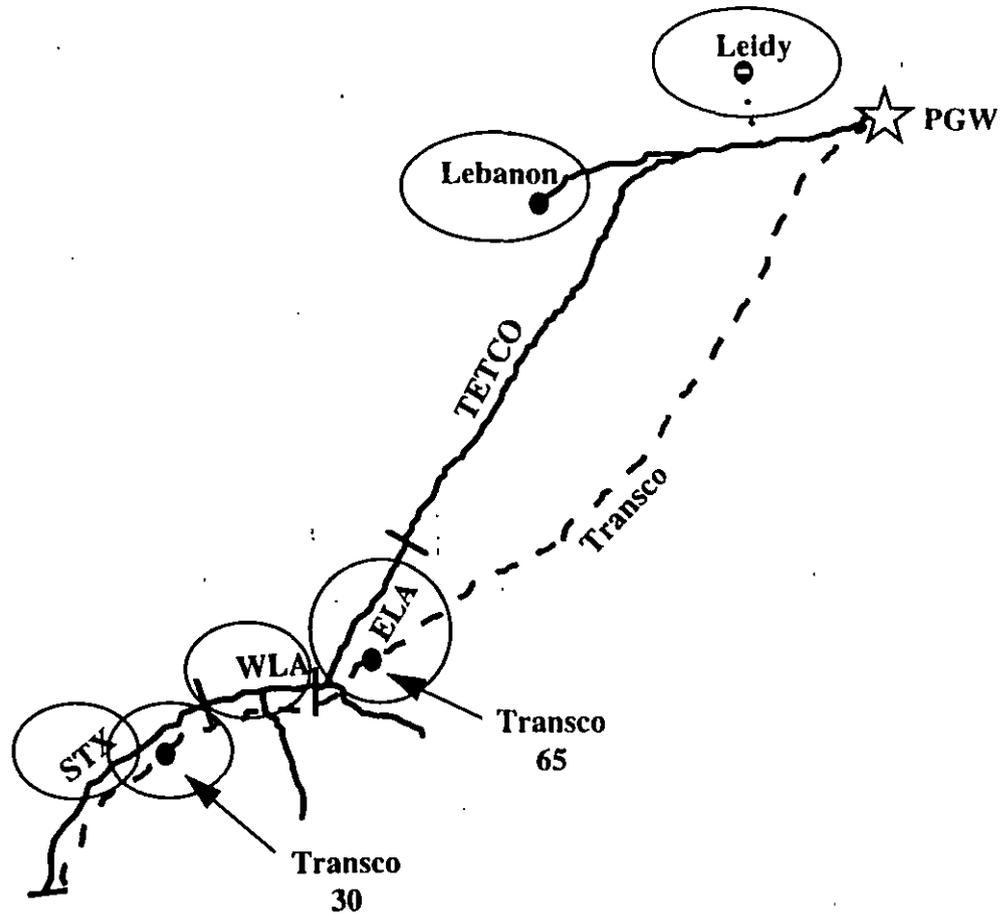
- ❖ Used PGW's load forecasting DOM/HDD method by customer class
- ❖ Used design year definitions for HDD inputs
 - ◆ Increased firm demand in January to equal all-time peak month
- ❖ Customer classes grouped into six categories
 - ◆ Residential, Commercial, Industrial (firm), Interruptible (No. 6 fuel oil), Interruptible (No. 2 fuel oil), Municipal
 - ◆ Interruption occurs when cost of serving interruptible customer exceeds alternative fuel cost
- ❖ South Jersey sales incorporated separately
 - ◆ 10 days of 25 Mmcf/day on winter peaks.

(See Appendix A for key load inputs)

Analytic Approach - Chronological Load Duration Curve (includes storage injection)



Analytic Approach - Gas Supply Markets



Analytic Approach - Characterize Gas Supply Options



- ❖ Contract prices are assumed to be indexed to monthly spot prices (\$/Mcf)
 - ◆ Average Price
 - ◆ Winter
 - ◆ Spring Fall
 - ◆ Summer
 - ◆ Prices used are from DRI Summer 1996 forecast
- ❖ Contract parameters include minimum take requirements and demand charges
- ❖ Spot supplies can provide no more than 30% of gas in base case

(See Appendix A for key supply inputs)

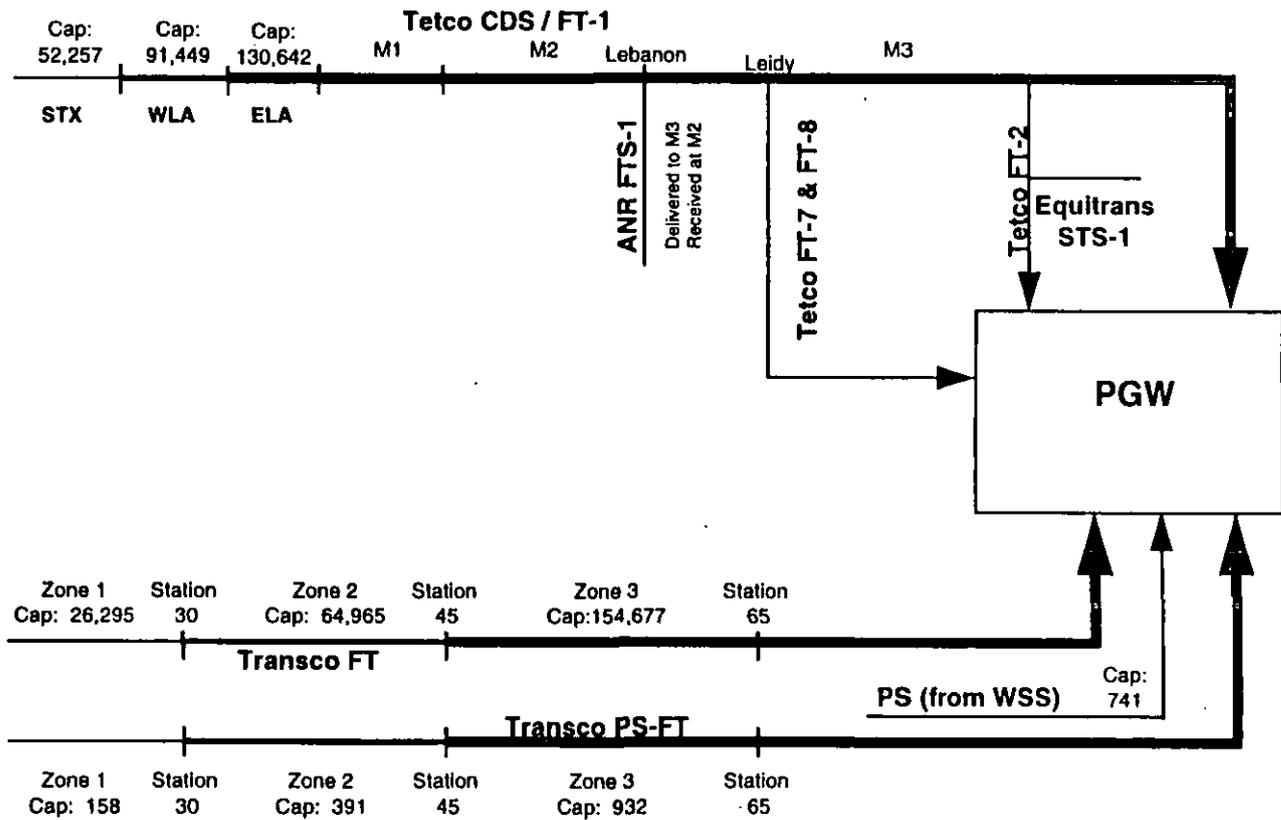
Analytic Approach - Characterize Pipeline Options



- ❖ Pipeline Name
 - ◆ Transco
 - ◆ Tetco
 - ◆ ANR
 - ◆ Equitrans
- ❖ Contract Type
- ❖ Capacity by Zone
- ❖ Expiration Date of Contract
- ❖ Distinguishing Operational Rules (i.e., winter only; tied to a given storage)

(See Appendix A for key pipeline inputs)

Analytic Approach - Characterize Pipeline Options (contd)



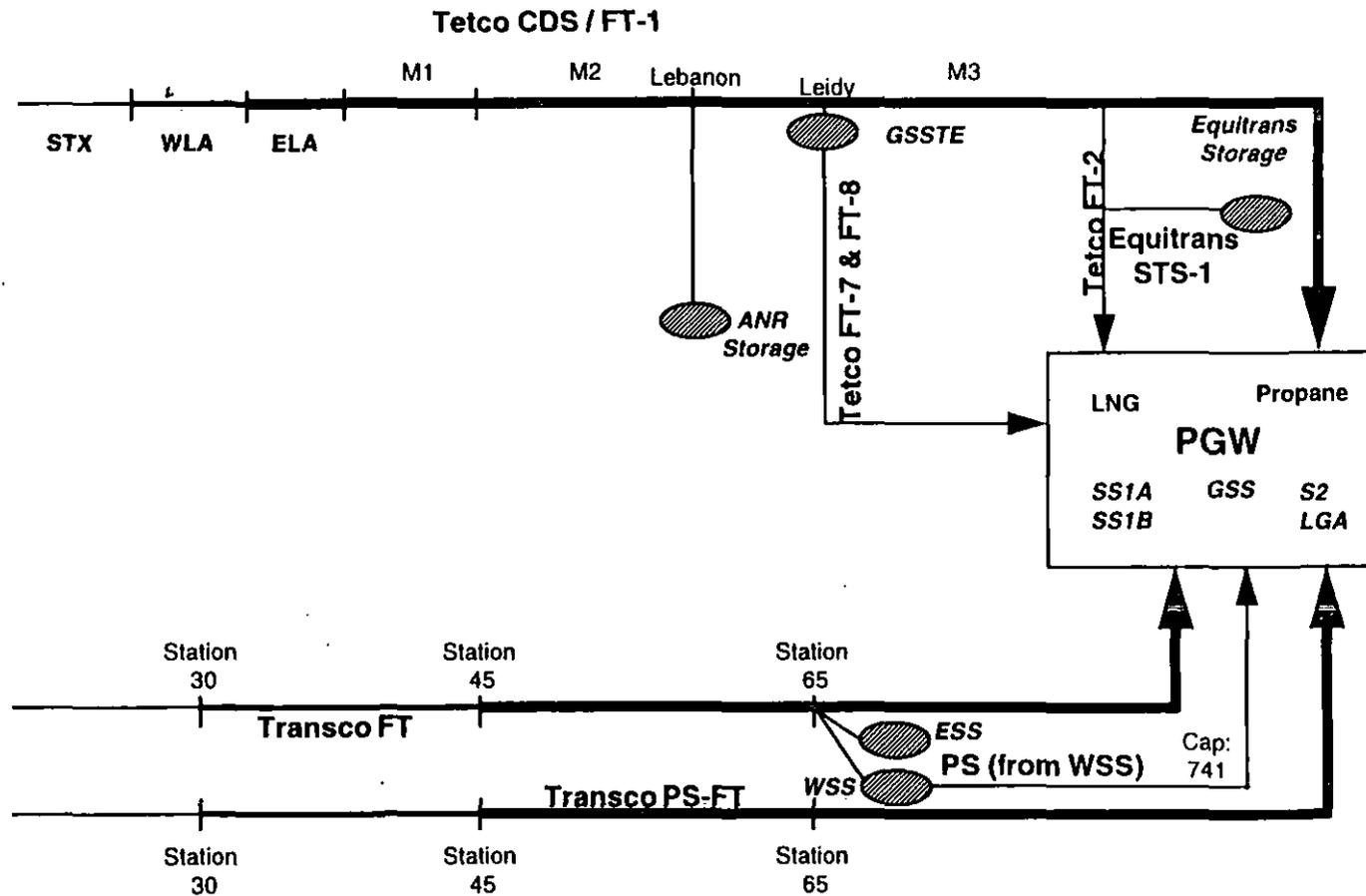
Analytic Approach - Storage and Peak Shaving Options



- ❖ Storage is matched with associated pipeline capacity
 - ◆ GSS (Transco), SS1A, SS1B, S2 and LGA storage assumed to be available at citygate
 - ◆ Equitrans and GSS (TETCO) storage associated with unbundled capacity to the city gate
 - ◆ WSS, ESS, and ANR storage treated as production area storage
- ❖ “Untouchable” gas under storage contracts is subtracted from available capacity
- ❖ LNG is assumed to have year-round minimum inventory of 750 MMcf
 - ◆ Maximum available for use equals 3,550 MMcf
- ❖ Propane is treated as a locally available, high-priced supply

(See Appendix A for key inputs)

Analytic Approach - Integration



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Findings - Three Sets of Cases Studied



- ❖ Three cases address the basic questions raised by PGW about the levels of capacity commitments
 - ◆ Base--current contract levels are fixed, approximates current operations
 - ◆ Open--all contracts can be modified; model is allowed to choose least cost mix of contract levels
 - ◆ Modified Open--only expiring contracts can be modified
- ❖ Two cases examine the implications of terminating the South Jersey contract
 - ◆ Base without South Jersey--base case with the South Jersey contract terminated
 - ◆ Modified Base without South Jersey--modified case after the South Jersey contract expires

Findings - Three Sets of Cases Studied (contd)



- ❖ Two cases examine the impact of turning back pipeline capacity if the South Jersey contract expires
 - ◆ 10,000 Mcf/d turn back
 - ◆ 20,000 Mcf/d turn back

Findings - Summary of Case Results



	Capacity Commitment			South Jersey			Turn Back		
	Base	Open	Modified Open	Base	Base No SJ	Modified Open No SJ	Base No SJ	Reduce Cap 10,000 Mcf/d No SJ	Reduce Cap 20,000 Mcf/d No SJ
Savings (\$ Change from Base)	-	6,202,600	682,200	-	(156,200)	573,000	(156,200)	(62,000)	(1,784,800)
Pipeline Load Factor (%)									
Winter	99%	98%	99%	99%	99%	99%	99%	99%	100%
Annual	81%	81%	81%	81%	81%	81%	81%	83%	85%
Storage (% of Max Contract Cap)									
Production	96%	63%	100%	96%	94%	100%	94%	99%	99%
Market	100%	98%	97%	100%	100%	97%	100%	100%	100%
LNG (% of Max Contract Cap)	100%	100%	100%	100%	100%	100%	100%	100%	100%
Interruption (Days)									
BPS	38	47	46	38	33	42	33	67	100
LBS	118	136	118	118	118	118	118	126	136
Propane (Total MMcf Equivalent)	0	0	0	0	0	0	0	0	16

Findings - Capacity Commitment



- ❖ The Base Case results are consistent with PGW's current operations
 - ◆ PGW actual use of storage, pipeline capacity, LNG, and interruption is similar to the model results for current levels of contractual commitments
- ❖ Optimizing gas supply where all of the current contracts can be redetermined will lead to the elimination of some commitments
 - ◆ ANR, Eminence and Transco LGA storage would not be needed
 - ◆ Production area storage (ANR and Eminence) is more economic when the difference between summer and winter prices widens
 - ◆ Transco LGA storage suffers from high variable costs

Findings - Capacity Commitment (contd)



- ❖ Under the optimal Open case additional interruption would occur, however
 - ◆ 9 more days for BPS customers
 - ◆ 18 more days for LBS customers
- ❖ Under the optimal strategy, PGW's current commitments to LNG and pipeline capacity would be unchanged
- ❖ If only the expiring storage contracts can be modified, PGW should
 - ◆ Reduce the Transco S2 contract by 1/3rd
 - ◆ Eliminate the LGA contract
- ❖ These reductions would be offset by 9 additional days of BPS interruption

Findings - Eliminating the South Jersey Contract



- ❖ The expiration of the South Jersey contract would cost PGW approximately \$150,000 relative to the base case
 - ◆ Contract elimination would allow PGW to reduce S-2 storage levels and BPS interruption
 - ◆ Resulting cost decreases would not offset the \$1.25 million in lost revenue from South Jersey
- ❖ The expiration of the South Jersey contract would reduce the savings gained under the modified open case
 - ◆ Like above, there would be less interruption of BPS customers
- ❖ PGW's service to South Jersey contributes more than it costs

Findings - Capacity Turn Back



- ❖ Turning back 10,000 Mcf/d of TETCO CDS capacity would cost PGW and its customers over \$60,000 per year
 - ◆ Interruption of BPS would double and LBS increase by 8 days
 - ◆ More expensive storage would have to be used
- ❖ Turning back 20,000 Mcf/d of pipeline capacity would be extremely costly
 - ◆ Costs would increase by almost \$1.8 million
 - ◆ BPS customers would be interrupted 100 days and LBS customers for 136 days
 - ◆ This is the only case where PGW would have to use propane

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Conclusions



- ❖ PGW has the right mix of pipeline capacity
 - ◆ Under all of the cases studied, the current levels of pipeline capacity were fully utilized in winter
 - ◆ Turn back of pipeline capacity would lead to higher costs by forcing the use of more expensive supply options and greater levels of interruption
- ❖ PGW's LNG capacity is fully utilized under all cases
 - ◆ LNG is an important element of PGW's capacity mix, providing peak day reliability and winter capacity at reasonable cost
 - ◆ LNG capacity in conjunction with pipeline capacity may provide greater opportunities for on-and off-system services

Conclusions (contd)



- ❖ PGW can reduce costs by eliminating several storage contracts-- ANR, Eminence and Transco LGA and reduce its capacity under Transco S-2
 - ◆ Under the Open case, the optimal mix of supply could meet demand without using these services
- ❖ PGW can reduce costs, where the opportunity to reduce capacity commitments is limited to expiring contracts, by eliminating the LGA storage and cutting back S-2 storage
- ❖ PGW should not terminate the South Jersey contract
 - ◆ South Jersey contributes more than it costs to serve
 - ◆ Termination would not allow PGW to reduce pipeline capacity commitments and save money

Conclusions (contd)

- 
- ❖ PGW's interruptible customers are on the margin in most cases
 - ◆ Reductions in capacity commitments increase the interruption of BPS and LBS customers
 - ◆ PGW should consider innovative Btu-services for these customers
 - ❖ PGW should consider ways to maximize the value of existing assets by developing new services for on- and off-system customers
 - ◆ PGW should examine regional market opportunities for leveraging LNG and other assets
 - ◆ PGW should develop a capability to enhance offerings using risk management tools

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Missing.

Key Gas Supply Inputs



Market Location	Year	Average Price \$/Mcf	Winter \$/Mcf	Price		
				Spring/Fall \$/Mcf	Summer \$/Mcf	
Transco 30	1996-97	2.18	2.44	2.25	1.78	
Transco 65	1996-97	2.23	2.49	2.30	1.83	
Tetco South Texas (STX)	1996-97	2.05	2.24	2.11	1.74	
Tetco Louisiana (ELA)	1996-97	2.21	2.48	2.27	1.81	
Tetco Louisiana (WLA)	1996-97	2.21	2.48	2.27	1.81	
CNG Leidy	1996-97	2.31	2.51	2.37	1.98	
ANR Lebanon	1996-97	2.31	2.51	2.37	1.98	

Key Load Inputs



Customer Class	Number of Customers	Peak Day Demand (MMcf)	Peak Month Demand (MMcf)	Annual Demand (MMcf)
Residential	500,655	589.7	11,255.4	56,304.9
Commercial	23,661	90.0	1,757.0	9,532.5
Industrial Firm	1,034	20.8	474.1	3,756.5
Municipal	742	20.2	377.1	1,722.3
Total Firm	526,092	720.7	13,863.6	71,316.2
Interruptible #2	410	48.5	1101.3	7,585.4
Interruptible #6	50	15.6	383.1	3,023.4
Total Interruptible	460	64.1	1,484.1	10,608.8
South Jersey	1	25.0	100.0	250.0
Grey's Ferry	1	0.0	0.0	8,388.0
Total Other	2	25.0	100.0	8,638.0
Total	526,554	809.8	15,448.1	90,563.0

Key Pipeline Inputs



Company	Contract	Capacity	Expiration Date	Notes
Transco	FT	27,100 (Zone 1) 67,000 (Zone 2) 159,600 (Zone 3)	31-Mar-2005	
Transco	PS-FT	158 (Zone 1) 233 (Zone 2) 541 (Zone 3) 741 (Zone 4)	31-Jul-2011	Winter Only
TETCO	CDS	72,674	31-Oct-2003	
TETCO	FT-1	57,967	31-Oct-2003	
TETCO	FT-2	5,227	31-Mar-2002	Formerly bundled with Equitrans storage.
TETCO	FT-7	7,238	15-Apr-2006	Formerly bundled with CNG storage
TETCO	FT-8	24,905	31-Mar-2006	Formerly bundled with CNG storage.
ANR	FTS-1	13,168 (Summer) 9,329 (Winter)	31-Mar-2013	Delivers gas to TETCO at Lebanon.
Equitrans	STS-1	4,843	1-Apr-2002	Delivers gas to TETCO FT-2.

Key Storage and Peak Shaving Inputs



Company	Contract	Expiration Date	Injection Period	Withdrawal Period	Storage Capacity	Max. Withdrawal Capacity	Ratchet	Injection Capacity	Notes:
Transco	WSS	31-Mar-1998	Year Round	Year Round	3,232,470	38,029	Y	15,105	
Transco	ESS	31-Oct-2013	Year Round	Year Round	79,700	10,230	N	682	Capacity will increase with expiration of Transco FS sales volumes.
Transco	S-2	11/15/1974*	4/16 - 11/15	11/16 - 4/15	452,087	5,032	N	2,324	Service may be canceled with 12 months prior notice.
Transco	GSS	Pending	Year Round	Year Round	3,893,346	59,658	Y	19,563	Storage capacity reduced 7% to account for base volumes. Monthly extraction 87.5% of daily total.
Transco	LGA	31-Oct-1991	4/1 - 10/31	11/1 - 3/31	50,848	10,171	N	254	
TETCO	SS-1A	30-Apr-2012	Year Round	Year Round	2,570,000	42,750	Y	13,184	Storage capacity reduced 4% to account for base volumes.
TETCO	SS-1B	30-Apr-2012	Year Round	Year Round	2,390,344	20,201	Y	12,264	Storage capacity reduced 4% to account for base volumes.
CNG	GSS	31-Mar-2006	Year Round	Year Round	3,531,631	32,991	Y	21,097	Storage capacity reduced 7% to account for base volumes. Monthly extraction 87.5% of daily total.
Equitrans	SS-3	1-Apr-2002	Year Round	Year Round	506,298	4,843	Y	2,529	Typical injection period is 4/1 - 10/31; withdrawal period is 11/1 - 3/31
ANR	FSS	1-Jan-2003	4/1 - 10/31	11/1 - 3/31	1,843,400	13,429	N	9,200	
LNG			4/1 - 10/31	11/1 - 3/31	3,985,000	450,000		23,500	All costs other than fuel assumed to be fixed

Appendix B



Summary of Cases (Base/Scenarios)



- ❖ Case 1: Base - All contracts are considered fixed
- ❖ Case 2: Open - No contracts are considered fixed
- ❖ Case 3: Modified Open - Capacities on expiring contracts are variable
- ❖ Case 4: Base, No South Jersey
- ❖ Case 5: Modified Open, No South Jersey
- ❖ Case 6: Pipeline Capacity Turn Back 10,000 Mcf/d (No South Jersey)
- ❖ Case 7: Pipeline Capacity Turn Back 20,000 Mcf/d (No South Jersey)

Case summary outline (Case 1 Base)



- ❖ All contracts are considered fixed
 - ◆ Capacities and capacity charges cannot change
 - ◆ Fixed costs are sunk for decisionmaking purposes

Case 1 Base: Sources of Supply



- ❖ Purchases - Range (incl. pipeline fuel): 230-355 MMcf
- ❖ Production area storage (including ANR)
 - ◆ Transco storage (ESS and WSS) used at over 98% of capacity
 - ◆ ANR storage used at 90% capacity
 - ◆ Peak day withdrawal: 39 MMcf
- ❖ Market area storage
 - ◆ Maximum storage capacity except LGA (high variable cost)
 - ◆ Peak day withdrawal: 165 MMcf

Case 1 Base: Sources of Supply (cont.)



- ❖ LNG
 - ◆ All capacity is used
 - ◆ Maximum withdrawal: 290 MMcf
- ❖ No propane is used
- ❖ Interruption
 - ◆ 2.96 Bcf of demand total
 - ◆ On PGW peak day: 64.1 MMcf (all BPS and LBS customers)
 - ◆ BPS customers are interrupted for 38 days
 - ◆ LBS customers are interrupted for 118 days

Case 1 Base: Capacity Use

❖ Pipeline load factors

Pipeline	Winter	Total
Transco FT	100%	88%
TETCO FT-1	99%	80%
TETCO CDS	96%	67%

*Winter = Nov 1 - Mar 31

Case 1 Base: Capacity Use (cont.)



❖ Storage Capacity Use

Storage	Contract Max.	Capacity Use
Production Area	5,156	4,942
<i>Transco WSS</i>	<i>3,233</i>	<i>3,187</i>
<i>Transco ESS</i>	<i>80</i>	<i>80</i>
<i>ANR FSS</i>	<i>1,843</i>	<i>1,675</i>
Market Area	13,395	13,384
<i>Transco S2</i>	<i>452</i>	<i>452</i>
<i>Transco GSS</i>	<i>3,893</i>	<i>3,893</i>
<i>Transco LGA</i>	<i>51</i>	<i>41</i>
<i>TETCO SS1A</i>	<i>2,570</i>	<i>2,570</i>
<i>TETCO SS1B</i>	<i>2,390</i>	<i>2,390</i>
<i>CNG GSST</i>	<i>3,532</i>	<i>3,532</i>
<i>Equitrans SS3</i>	<i>506</i>	<i>506</i>

Case summary outline (Case 2 Open)



- ❖ *No contracts are considered fixed*
 - ◆ All fixed costs are avoidable
 - ◆ Capacities represented in portfolio are available
 - ◆ In the "capacity store"

Case 2 Open: Sources of Supply



- ❖ Purchases - Range (incl. pipeline fuel): 210-354 MMcf
- ❖ Production area storage (including ANR)
 - ◆ All available WSS capacity is purchased; no ANR or ESS
 - ◆ Peak day withdrawal: 24 MMcf
- ❖ Market area storage
 - ◆ Some reductions from base case
 - ◆ TETCO SS-1 and CNG are used at 95% capacity; S2 at 85%
 - ◆ LGA eliminated
 - ◆ Peak day withdrawal: 152 MMcf

Case 2 Open: Sources of Supply (cont.)



❖ LNG

- ◆ Maximum available capacity is used
- ◆ Maximum withdrawal: 301 MMcf

❖ No propane is used

❖ Interruption

- ◆ 3.47 Bcf of demand total
- ◆ On PGW peak day: 64.1 MMcf (all BPS and LBS customers)
- ◆ BPS customers are interrupted for 47 days
- ◆ LBS customers are interrupted for 136 days

Case 2 Open: Capacity Use



❖ Pipeline load factors

Pipeline	Winter	Total
Transco FT	100%	78%
TETCO FT-1	90%	55%
TETCO CDS	97%	99%

*Winter = Nov 1 - Mar 31

Case 2 Open: Capacity Use (cont.)



❖ Storage Capacity Use

Storage	Contract Max.	Capacity Use
Production Area	5,156	3,236
<i>Transco WSS</i>	<i>3,233</i>	<i>3,233</i>
<i>Transco ESS</i>	<i>80</i>	<i>0</i>
<i>ANR FSS</i>	<i>1843</i>	<i>3</i>
Market Area	13,395	13,078
<i>Transco S2</i>	<i>452</i>	<i>381</i>
<i>Transco GSS</i>	<i>3,893</i>	<i>3,893</i>
<i>Transco LGA</i>	<i>51</i>	<i>0</i>
<i>TETCO SS1A</i>	<i>2,570</i>	<i>2,507</i>
<i>TETCO SS1B</i>	<i>2,390</i>	<i>2,277</i>
<i>CNG GSST</i>	<i>3,532</i>	<i>3,532</i>
<i>Equitrans SS3</i>	<i>506</i>	<i>506</i>

Case summary outline (Case 3 Modified Open)



- ❖ Capacities on contracts that have or are about to expire are considered variable for decisionmaking purposes
 - ◆ Transco WSS storage
 - ◆ Transco S-2 storage
 - ◆ Transco GSS storage
 - ◆ Transco LGA storage

Case 3 Modified Open: Sources of Supply



- ❖ Purchases - Range (incl. pipeline fuel): 223-356 MMcf
- ❖ Production area storage (including ANR)
 - ◆ All production area storage is used to capacity
 - ◆ Peak day withdrawal: 38 MMcf
- ❖ Market area storage
 - ◆ Most storage used to full capacity
 - ◆ LGA is eliminated; S2 is used at 33% of contract maximum
 - ◆ Peak day withdrawal: 155 MMcf

Case 3 Modified Open: Sources of Supply (cont.)



- ❖ LNG
 - ◆ All capacity is used
 - ◆ Maximum withdrawal: 300 MMcf
- ❖ No propane is used
- ❖ Interruption
 - ◆ 3.26 Bcf of demand total
 - ◆ On PGW peak day: 64.1 MMcf (all BPS and LBS customers)
 - ◆ BPS customers are interrupted for 46 days
 - ◆ LBS customers are interrupted for 118 days

Case 3 Modified Open: Capacity Use



❖ Pipeline load factors

Pipeline	Winter	Total
Transco FT	100%	88%
TETCO FT-1	98%	77%
TETCO CDS	96%	67%

*Winter = Nov 1 - Mar 31

Case 3 Modified Open: Capacity Use (cont.)



❖ Storage Capacity Use

Storage	Contract Max.	Capacity Use
Production Area	5,156	5,156
<i>Transco WSS</i>	<i>3,233</i>	<i>3,233</i>
<i>Transco ESS</i>	<i>80</i>	<i>80</i>
<i>ANR FSS</i>	<i>1843</i>	<i>1,483</i>
Market Area	13,395	13,041
<i>Transco S2</i>	<i>452</i>	<i>150</i>
<i>Transco GSS</i>	<i>3,893</i>	<i>3,893</i>
<i>Transco LGA</i>	<i>51</i>	<i>0</i>
<i>TETCO SS1A</i>	<i>2,570</i>	<i>2,570</i>
<i>TETCO SS1B</i>	<i>2,390</i>	<i>2,390</i>
<i>CNG GSST</i>	<i>3,532</i>	<i>3,532</i>
<i>Equitrans SS3</i>	<i>506</i>	<i>506</i>

Case summary outline (Case 4 Base, No South Jersey)



- ❖ All contracts are considered fixed
 - ◆ Capacities and capacity charges cannot change
 - ◆ Fixed costs are sunk for decisionmaking purposes
- ❖ PGW does not supply gas to South Jersey
 - ◆ 2,500 Mcf/d for 10 days
 - ◆ Contract expires winter 97-98

Case 4 Base, No South Jersey: Sources of Supply



- ❖ Purchases - Range (incl. pipeline fuel): 231-356 MMcf
- ❖ Production area storage (including ANR)
 - ◆ Similar to the base case, with a slight reduction in use of ANR
 - ◆ Peak day withdrawal: 38 MMcf
- ❖ Market area storage
 - ◆ Maximum storage capacity is used for all except LGA and Equitrans
 - ◆ Peak day withdrawal: 165 MMcf

Case 4 Base, No South Jersey: Sources of Supply (cont.)



- ❖ LNG
 - ◆ All capacity is used
 - ◆ Maximum withdrawal: 313 MMcf
- ❖ No propane is used
- ❖ Interruption
 - ◆ 2.74 Bcf of demand total
 - ◆ On PGW peak day: 15.6 MMcf (LBS customers)
 - ◆ BPS customers are interrupted for 33 days
 - ◆ LBS customers are interrupted for 118 days

Case 4 Base, No South Jersey: Capacity Use



❖ Pipeline load factors

Pipeline	Winter	Total
Transco FT	100%	87%
TETCO FT-1	99%	81%
TETCO CDS	96%	66%

*Winter = Nov 1 - Mar 31

Case 4 Base, No South Jersey: Capacity Use (cont.)



❖ Storage Capacity Use

Storage	Contract Max.	Capacity Use
Production Area	5,156	4,863
<i>Transco WSS</i>	<i>3,233</i>	<i>3,187</i>
<i>Transco ESS</i>	<i>80</i>	<i>80</i>
<i>ANR FSS</i>	<i>1843</i>	<i>1,596</i>
Market Area	13,395	13,368
<i>Transco S2</i>	<i>452</i>	<i>452</i>
<i>Transco GSS</i>	<i>3,893</i>	<i>3,893</i>
<i>Transco LGA</i>	<i>51</i>	<i>41</i>
<i>TETCO SS1A</i>	<i>2,570</i>	<i>2,570</i>
<i>TETCO SS1B</i>	<i>2,390</i>	<i>2,390</i>
<i>CNG GSST</i>	<i>3,532</i>	<i>3,532</i>
<i>Equitrans SS3</i>	<i>506</i>	<i>506</i>

Case summary outline (Case 5 Modified Open, No South Jersey)



- ❖ Capacities on contracts that have or are about to expire are considered variable for decisionmaking purposes
 - ◆ Transco WSS storage
 - ◆ Transco S-2 storage
 - ◆ Transco GSS storage
 - ◆ Transco LGA storage
- ❖ PGW does not supply gas to South Jersey
 - ◆ 2,500 Mcf/d for 10 days
 - ◆ Contract expires winter 97-98

Case 5 Modified Open, No South Jersey: Sources of Supply



- ❖ Purchases - Range (incl. pipeline fuel): 223-356 MMcf
- ❖ Production area storage (including ANR) is virtually identical to Case 3
 - ◆ All production area storage is used to capacity
 - ◆ Peak day withdrawal: 38 MMcf
- ❖ Market area storage
 - ◆ Most storage used to full capacity
 - ◆ LGA is eliminated
 - ◆ S2 now used at 19% of contract maximum
 - ◆ Peak day withdrawal: 153 MMcf

Case 5 Modified Open, No South Jersey: Sources of Supply (cont.)



- ❖ LNG
 - ◆ All capacity is used
 - ◆ Maximum withdrawal: 300 MMcf
- ❖ No propane is used
- ❖ Interruption
 - ◆ 3.10 Bcf of demand total
 - ◆ On PGW peak day: 64.1 MMcf (all BPS and LBS customers)
 - ◆ BPS customers are interrupted for 42 days
 - ◆ LBS customers are interrupted for 118 days

Case 5 Modified Open, No South Jersey: Capacity Use



❖ Pipeline load factors are the same as Case 3

Pipeline	Winter	Total
Transco FT	100%	88%
TETCO FT-1	98%	77%
TETCO CDS	96%	67%

*Winter = Nov 1 - Mar 31

Case 5 Modified Open, No South Jersey: Capacity Use (cont.)



❖ Storage Capacity Use

Storage	Contract Max.	Capacity Use
Production Area	5,156	5,156
<i>Transco WSS</i>	<i>3,233</i>	<i>3,233</i>
<i>Transco ESS</i>	<i>80</i>	<i>80</i>
<i>ANR FSS</i>	<i>1,843</i>	<i>1,483</i>
Market Area	13,395	12,975
<i>Transco S2</i>	<i>452</i>	<i>84</i>
<i>Transco GSS</i>	<i>3,893</i>	<i>3,893</i>
<i>Transco LGA</i>	<i>51</i>	<i>0</i>
<i>TETCO SS1A</i>	<i>2,570</i>	<i>2,570</i>
<i>TETCO SS1B</i>	<i>2,390</i>	<i>2,390</i>
<i>CNG GSST</i>	<i>3,532</i>	<i>3,532</i>
<i>Equitrans SS3</i>	<i>506</i>	<i>506</i>

Case summary outline (Case 6 Pipeline Capacity Turn Back 10,000 Mcf/d (No South Jersey))



- ❖ Delivery capacity to PGW is reduced by 10,000 Mcf/d on TETCO CDS
- ❖ PGW does not supply gas to South Jersey
 - ◆ 25,000 Mcf/d for 10 days
 - ◆ Contract expires winter 97-98

Case 6 Pipeline Capacity Turn Back 10,000 Mcf/d (No South Jersey): Sources of Supply



- ❖ Purchases - Range (incl. pipeline fuel): 231-345 MMcf
- ❖ Production area storage (including ANR)
 - ◆ ANR and ESS are used to full capacity
 - ◆ WSS is used at 99% capacity
 - ◆ Peak day withdrawal: 40 MMcf
- ❖ Market area storage
 - ◆ Maximum storage capacity is used for all except LGA
 - ◆ Peak day withdrawal: 165 MMcf

Case 6 Pipeline Capacity Turn Back 10,000 Mcf/d (No South Jersey): Sources of Supply (cont.)

❖ LNG

- ◆ All capacity is used
- ◆ Maximum withdrawal: 275 MMcf

❖ Propane is not used

❖ Interruption

- ◆ 4.00 Bcf of demand total
- ◆ On PGW peak day: 64.1 MMcf (all BPS and LBS customers)
- ◆ BPS customers are interrupted for 67 days
- ◆ LBS customers are interrupted for 126 days

Case 6 Pipeline Capacity Turn Back 10,000 Mcf/d (No South Jersey): Capacity Use



❖ Pipeline load factors

Pipeline	Winter	Total
Transco FT	100%	88%
TETCO FT-1	99%	79%
TETCO CDS	97%	71%

*Winter = Nov 1 - Mar 31

Case 6 Pipeline Capacity Turn Back 10,000 Mcf/d (No South Jersey): Capacity Use (cont.)



❖ Storage Capacity Use

Storage	Contract Max.	Capacity Use
Production Area	5,156	5,110
<i>Transco WSS</i>	<i>3,233</i>	<i>3,187</i>
<i>Transco ESS</i>	<i>80</i>	<i>80</i>
<i>ANR FSS</i>	<i>1843</i>	<i>1,843</i>
Market Area	13,395	13,384
<i>Transco S2</i>	<i>452</i>	<i>452</i>
<i>Transco GSS</i>	<i>3,893</i>	<i>3,893</i>
<i>Transco LGA</i>	<i>51</i>	<i>41</i>
<i>TETCO SS1A</i>	<i>2,570</i>	<i>2,570</i>
<i>TETCO SS1B</i>	<i>2,390</i>	<i>2,390</i>
<i>CNG GSST</i>	<i>3,532</i>	<i>3,532</i>
<i>Equitrans SS3</i>	<i>506</i>	<i>506</i>

Case summary outline (Case 7 Pipeline Capacity Turn Back 20,000 Mcf/d (No South Jersey))



- ❖ Delivery capacity to PGW is reduced by 20,000 Mcf/d on TETCO CDS
- ❖ PGW does not supply gas to South Jersey
 - ◆ 25,000 Mcf/d for 10 days
 - ◆ Contract expires winter 97-98

Case 7 Pipeline Capacity Turn Back 20,000 Mcf/d (No South Jersey): Sources of Supply



- ❖ Purchases - Range (incl. pipeline fuel): 226-334 MMcf
- ❖ Production area storage (including ANR)
 - ◆ ANR and ESS are used to full capacity
 - ◆ WSS is used at 99% capacity
 - ◆ Peak day withdrawal: 39 MMcf
- ❖ Market area storage
 - ◆ Maximum storage capacity is used for all except LGA
 - ◆ Peak day withdrawal: 165 MMcf

Case 7 Pipeline Capacity Turn Back 20,000 Mcf/d (No South Jersey): Sources of Supply (cont.)

❖ LNG

- ◆ All capacity is used
- ◆ Maximum withdrawal: 283 MMcf

❖ Propane is used at maximum capacity (16 MMcf equivalent)

❖ Interruption

- ◆ 5.08 Bcf of demand total
- ◆ On PGW peak day: 64.1 MMcf (all BPS and LBS customers)
- ◆ BPS customers are interrupted for 100 days
- ◆ LBS customers are interrupted for 136 days

Case 7 Pipeline Capacity Turn Back 20,000 Mcf/d (No South Jersey): Capacity Use



❖ Pipeline load factors

Pipeline	Winter	Total
Transco FT	100%	88%
TETCO FT-1	100%	80%
TETCO CDS	98%	77%

*Winter = Nov 1 - Mar 31

Case 7 Pipeline Capacity Turn Back 20,000 Mcf/d (No South Jersey): Capacity Use (cont.)



❖ Storage Capacity Use

Storage	Contract Max.	Capacity Use
Production Area	5,156	5,110
<i>Transco WSS</i>	<i>3,233</i>	<i>3,187</i>
<i>Transco ESS</i>	<i>80</i>	<i>80</i>
<i>ANR FSS</i>	<i>1,843</i>	<i>1,843</i>
Market Area	13,395	13,384
<i>Transco S2</i>	<i>452</i>	<i>452</i>
<i>Transco GSS</i>	<i>3,893</i>	<i>3,893</i>
<i>Transco LGA</i>	<i>51</i>	<i>41</i>
<i>TETCO SS1A</i>	<i>2,570</i>	<i>2,570</i>
<i>TETCO SS1B</i>	<i>2,390</i>	<i>2,390</i>
<i>CNG GSST</i>	<i>3,532</i>	<i>3,532</i>
<i>Equitrans SS3</i>	<i>506</i>	<i>506</i>



RECYCLED

Docket No. R-01XXX

Item 53.65 (1)

Philadelphia Gas Works

Pennsylvania Public Utility Commission

52 Pa. Code §53.61, et seq.

For the Twelve Months Ending August 31, 2001

Item 53.65 (1)

The costs of the affiliated gas, transportation or storage as compared to the average market price of other gas, transportation or storage and the price of other sources of gas, transportation and storage.

Response:

PGW has no affiliates.



Docket No. R-01XXX

Item 53.65 (2)

Philadelphia Gas Works

Pennsylvania Public Utilities Commission

52 Pa. Code §53.61, et seq.

For the Twelve Months Ending August 31, 2001

Item 53.65 (2)

Estimates of the quantity of gas, transportation or storage available to the utility from all sources.

Response:

Schedule 1 - Summary of all transport, storage and LNG capacity.

PROPRIETARY INFORMATION

Docket Number R-00016378

Name of Document Philadelphia Gas Works
Gas Supply Group - Supply and Transportation
Abstract of Natural Gas Contracts

Date Document Received 8-8-2001

DOCUMENT CONTAINS

PROPRIETARY INFORMATION

RECYCLED

Docket No. R-01XXX

Item 53.65 (3)

Philadelphia Gas Works

Pennsylvania Public Utility Commission

52 Pa. Code §53.61, et seq.

For the Twelve Months Ending August 31, 2001

Item 53.65 (3)

Efforts made by the utility to obtain gas, transportation or storage from nonaffiliated interests.

Response:

PGW has no affiliates, therefore, all gas purchases were made from non-affiliated interests.



RECYCLED

Docket No. R-01XXX
Item 53.65 (4)

Philadelphia Gas Works

Pennsylvania Public Utility Commission
52 Pa. Code §53.61, et seq.
For the Twelve Months Ending August 31, 2001

Item 53.65 (4)

The specific reasons why the utility has purchased gas, transportation or storage from an affiliated interest and demonstration that the purchases are consistent with a least cost fuel procurement policy.

Response:

PGW has no affiliates, therefore, all gas purchases were made from non-affiliated interests.



REC-CLED

Philadelphia Gas Works

Pennsylvania Public Utility Commission

52 Pa. Code §53.61, et seq.

For the Twelve Months Ending August 31, 2001

Item 53.65 (5)

The sources and amounts of gas, transportation or storage which have been withheld from the market by the utility or affiliated interest and the reasons why the gas, transportation or storage has been withheld.

Response:

PGW operates two LNG peak shaving facilities with a total usable storage capacity of 3.9 Bcf. This is 16.7 percent of PGW's total storage capacity. When pipeline and storage deliveries are insufficient to meet load requirements, LNG storage withdrawals will be considered. These withdrawals are based upon incremental costs, weather forecasts, time of day, day of week, time of season, inventory balances, distribution system requirements and other variables such as plant maintenance, operating requirements and liquefaction injection rates for the refill period.

PGW used a total of 2.65 Bcf (68% of usable inventory) to meet sendout requirements in the winter of 2000-2001.



Philadelphia Gas Works

Pennsylvania Public Utility Commission

52 Pa. Code §53.61, et seq.

For the Twelve Months Ending August 31, 2001

Item 1317 (a)(1)

General rule.--In every rate proceeding instituted by a natural gas distribution utility, pursuant to section 1307(f) (relating to sliding scale of rates; adjustments), each such utility shall be required to supply to the commission such information, to be established by commission regulation within 120 days of the passage of this section, that will permit the commission to make specific findings as to whether the utility is pursuing a least cost fuel procurement policy, consistent with the utility's obligation to provide safe, adequate and reliable service to its customers. Such information shall include, but need not be limited to, information, data and statements regarding:

(1) The utility's participation in rate proceedings before the Federal Energy Regulatory Commission which affect the utility's gas costs.

Response:

Please refer to Item 53.64(c)(4) contained in this filing.



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Philadelphia Gas Works

Pennsylvania Public Utility Commission
52 Pa. Code §53.61, et seq.
For the Twelve Months Ending August 31, 2001

Item 1317 (a)(2)

General rule.--In every rate proceeding instituted by a natural gas distribution utility, pursuant to section 1307(f) (relating to sliding scale of rates; adjustments), each such utility shall be required to supply to the commission such information, to be established by commission regulation within 120 days of the passage of this section, that will permit the commission to make specific findings as to whether the utility is pursuing a least cost fuel procurement policy, consistent with the utility's obligation to provide safe, adequate and reliable service to its customers. Such information shall include, but need not be limited to, information, data and statements regarding:

(2) The utility's efforts to negotiate favorable contracts with gas suppliers and to renegotiate existing contracts with gas suppliers or take legal actions necessary to relieve the utility from existing contract terms which are or may be adverse to the interests of the utility's ratepayers.

Response:

Please refer to Item 53.64(c)(1) contained in this filing.



RECYCLED

Philadelphia Gas Works

Pennsylvania Public Utility Commission
52 Pa. Code §53.61, et seq.
For the Twelve Months Ending August 31, 2001

Item 1317 (a)(3)

General rule.--In every rate proceeding instituted by a natural gas distribution utility, pursuant to section 1307(f) (relating to sliding scale of rates; adjustments), each such utility shall be required to supply to the commission such information, to be established by commission regulation within 120 days of the passage of this section, that will permit the commission to make specific findings as to whether the utility is pursuing a least cost fuel procurement policy, consistent with the utility's obligation to provide safe, adequate and reliable service to its customers. Such information shall include, but need not be limited to, information, data and statements regarding:

(3) The utility's efforts to secure lower cost gas supplies both within and outside of the Commonwealth, including the use of transportation arrangements with pipelines and other gas distribution companies.

Response:

Please refer to Item 53.64(c)(1) contained in this filing.



RECYCLED

Docket No. R-01XXX

Item 1317 (a)(4)

Philadelphia Gas Works

Pennsylvania Public Utility Commission
52 Pa. Code §53.61, et seq.
For the Twelve Months Ending August 31, 2001

Item 1317 (a)(4)

General rule.--In every rate proceeding instituted by a natural gas distribution utility, pursuant to section 1307(f) (relating to sliding scale of rates; adjustments), each such utility shall be required to supply to the commission such information, to be established by commission regulation within 120 days of the passage of this section, that will permit the commission to make specific findings as to whether the utility is pursuing a least cost fuel procurement policy, consistent with the utility's obligation to provide safe, adequate and reliable service to its customers. Such information shall include, but need not be limited to, information, data and statements regarding:

(4) The sources and amounts of all gas supplies which have been withheld or have been caused to be withheld from the market by the utility and the reasons why such gas is not to be utilized.

Response:

Please refer to Item 53.65 (5) contained in this filing.



SECRET

Philadelphia Gas Works

Pennsylvania Public Utility Commission
52 Pa. Code §53.61, et seq.
For the Twelve Months Ending August 31, 2001

Item 1317 (b)(1)

Integrated gas companies.--In the case of a natural gas distribution utility which purchases all or part of its gas supplies from an affiliated interest, as that term is defined in section 2101 (relating to definition of affiliated interest), such utility shall, in addition to the materials required in subsection (a), be required to provide to the commission such information, to be established by commission regulation within 120 days of the passage of this section, that will permit the commission to make specific findings as to whether any purchases of gas from an affiliated interest are consistent with a least cost fuel procurement policy, consistent with the utility's obligation to provide safe, adequate and reliable service to its customers. Such information shall include, but need not be limited to, statements regarding:

(1) Efforts made by the utility to obtain gas supplies from nonaffiliated interests.

Response:

Please refer to Item 53.65 (3) contained in this filing.



RECYCLED

Philadelphia Gas Works

Pennsylvania Public Utility Commission
52 Pa. Code §53.61, et seq.
For the Twelve Months Ending August 31, 2001

Item 1317 (b)(2)

Integrated gas companies.--In the case of a natural gas distribution utility which purchases all or part of its gas supplies from an affiliated interest, as that term is defined in section 2101 (relating to definition of affiliated interest), such utility shall, in addition to the materials required in subsection (a), be required to provide to the commission such information, to be established by commission regulation within 120 days of the passage of this section, that will permit the commission to make specific findings as to whether any purchases of gas from an affiliated interest are consistent with a least cost fuel procurement policy, consistent with the utility's obligation to provide safe, adequate and reliable service to its customers. Such information shall include, but need not be limited to, statements regarding:

(2) The specific reasons why the utility has purchased gas supplies from an affiliated interest and demonstration that such purchases are consistent with a least cost fuel procurement policy.

Response:

Please refer to Item 53.65 (4) contained in this filing.



Philadelphia Gas Works

Pennsylvania Public Utility Commission

52 Pa. Code §53.61, et seq.

For the Twelve Months Ending August 31, 2001

Item 1317 (b)(3)

Integrated gas companies.--In the case of a natural gas distribution utility which purchases all or part of its gas supplies from an affiliated interest, as that term is defined in section 2101 (relating to definition of affiliated interest), such utility shall, in addition to the materials required in subsection (a), be required to provide to the commission such information, to be established by commission regulation within 120 days of the passage of this section, that will permit the commission to make specific findings as to whether any purchases of gas from an affiliated interest are consistent with a least cost fuel procurement policy, consistent with the utility's obligation to provide safe, adequate and reliable service to its customers. Such information shall include, but need not be limited to, statements regarding:

(3) The sources and amounts of all gas supplies which have been withheld from the market by the utility or any affiliated interest and the reasons why such gas is not being utilized.

Response:

Please refer to Item 53.65 (5) contained in this filing.



RECYCLED

Philadelphia Gas Works

Pennsylvania Public Utility Commission
52 Pa. Code §53.61, et seq.
For the Twelve Months Ending August 31, 2001

Item 1317 (c)(1)

Reliability plans.--As part of its filing under section 1307(f) or if it is not required to make such a filing on an annual basis, a natural gas distribution company, as defined in section 2202 (relating to definitions), shall file a proposed reliability plan with the commission which shall, at a minimum, identify the following:

(1) The projected peak day and seasonal requirements of the firm customers utilizing the distribution system of the natural gas distribution company during the 12-month projected period specified in section 1307(f)(1). Where operationally required, the design peak day requirements shall be specified for discrete segments of each natural gas distribution system.

Response:

Please refer to Item 53.64(c)(13) contained in this filing.



Philadelphia Gas Works

Pennsylvania Public Utility Commission
52 Pa. Code §53.61, et seq.
For the Twelve Months Ending August 31, 2001

Item 1317 (c)(2)

Reliability plans.--As part of its filing under section 1307(f) or if it is not required to make such a filing on an annual basis, a natural gas distribution company, as defined in section 2202 (relating to definitions), shall file a proposed reliability plan with the commission which shall, at a minimum, identify the following:

(2) The transportation capacity, storage, peaking or on-system production that ensures deliverability of the natural gas supplies necessary to meet such projected period peak day and seasonal requirements.

Response:

PGW does not maintain a specific document entitled a Reliability Plan; however, all of the components that would be contained in such a document are prepared by PGW and are contained in this filing in Items 53.64 (c)(1), 53.64 (c)(3), 53.64 (c)(5), 53.64 (c)(6), 53.64 (c)(10), 53.64 (c)(12), 53.64 (c)(13), 53.64 (c)(14), 53.65 (2) and 53.65 (5).



RECYCLED

Docket No. R-01XXX

Item 1317 (d)

Philadelphia Gas Works

Pennsylvania Public Utility Commission

52 Pa. Code §53.61, et seq.

For the Twelve Months Ending August 31, 2001

Item 1317 (d)

Supply plans.--As part of its filing under section 1307(f), a natural gas distribution company shall file a proposed plan with the commission for acquisition or receipt of natural gas supplies.

Response:

Please refer to Items 53.64(c)(1) and 53.65 (2) contained in this filing.



Philadelphia Gas Works

Pennsylvania Public Utility Commission
52 Pa. Code §53.61, et seq.
For the Twelve Months Ending August 31, 2001

Item 1318 (a)(1)

General rule.--In establishing just and reasonable rates for those natural gas distribution companies, as defined in section 2202 (relating to definitions), with gross intrastate operating revenues in excess of \$40,000,000 under section 1307(f) (relating to sliding scale of rates; adjustments) or 1308(d) (relating to voluntary changes in rates) or any other rate proceeding, the commission shall consider the materials provided by the utilities pursuant to section 1317 (relating to regulation of natural gas costs). No rates for a natural gas distribution utility shall be deemed just and reasonable unless the commission finds that the utility is pursuing a least cost fuel procurement policy, consistent with the utility's obligation to provide safe, adequate and reliable service to its customers. In making such a determination, the commission shall be required to make specific findings which shall include, but need not be limited to, findings that:

(1) The utility has fully and vigorously represented the interests of its ratepayers in proceedings before the Federal Energy Regulatory Commission.

Response:

Please refer to Items 53.64(c)(4) contained in this filing.



RECYCLED

Philadelphia Gas Works

Pennsylvania Public Utility Commission
52 Pa. Code §53.61, et seq.
For the Twelve Months Ending August 31, 2001

Item 1318 (a)(2)

General rule.--In establishing just and reasonable rates for those natural gas distribution companies, as defined in section 2202 (relating to definitions), with gross intrastate operating revenues in excess of \$40,000,000 under section 1307(f) (relating to sliding scale of rates; adjustments) or 1308(d) (relating to voluntary changes in rates) or any other rate proceeding, the commission shall consider the materials provided by the utilities pursuant to section 1317 (relating to regulation of natural gas costs). No rates for a natural gas distribution utility shall be deemed just and reasonable unless the commission finds that the utility is pursuing a least cost fuel procurement policy, consistent with the utility's obligation to provide safe, adequate and reliable service to its customers. In making such a determination, the commission shall be required to make specific findings which shall include, but need not be limited to, findings that:

(2) The utility has taken all prudent steps necessary to negotiate favorable gas supply contracts and to relieve the utility from terms in existing contracts with its gas suppliers which are or may be adverse to the interests of the utility's ratepayers.

Response:

Please refer to Item 53.64(c)(1) contained in this filing.



RECYCLED

Philadelphia Gas Works

Pennsylvania Public Utility Commission
52 Pa. Code §53.61, et seq.
For the Twelve Months Ending August 31, 2001

Item 1318 (a)(3)

General rule.--In establishing just and reasonable rates for those natural gas distribution companies, as defined in section 2202 (relating to definitions), with gross intrastate operating revenues in excess of \$40,000,000 under section 1307(f) (relating to sliding scale of rates; adjustments) or 1308(d) (relating to voluntary changes in rates) or any other rate proceeding, the commission shall consider the materials provided by the utilities pursuant to section 1317 (relating to regulation of natural gas costs). No rates for a natural gas distribution utility shall be deemed just and reasonable unless the commission finds that the utility is pursuing a least cost fuel procurement policy, consistent with the utility's obligation to provide safe, adequate and reliable service to its customers. In making such a determination, the commission shall be required to make specific findings which shall include, but need not be limited to, findings that:

(3) The utility has taken all prudent steps necessary to obtain lower cost gas supplies on both short-term and long-term bases both within and outside the Commonwealth, including the use of gas transportation arrangements with pipelines and other distribution companies.

Response:

Please refer to Item 53.64(c)(1) contained in this filing.



RECYCLED

Philadelphia Gas Works

Pennsylvania Public Utility Commission
52 Pa. Code §53.61, et seq.
For the Twelve Months Ending August 31, 2001

Item 1318 (a)(4)

General rule.--In establishing just and reasonable rates for those natural gas distribution companies, as defined in section 2202 (relating to definitions), with gross intrastate operating revenues in excess of \$40,000,000 under section 1307(f) (relating to sliding scale of rates; adjustments) or 1308(d) (relating to voluntary changes in rates) or any other rate proceeding, the commission shall consider the materials provided by the utilities pursuant to section 1317 (relating to regulation of natural gas costs). No rates for a natural gas distribution utility shall be deemed just and reasonable unless the commission finds that the utility is pursuing a least cost fuel procurement policy, consistent with the utility's obligation to provide safe, adequate and reliable service to its customers. In making such a determination, the commission shall be required to make specific findings which shall include, but need not be limited to, findings that:

(4) The utility has not withheld from the market or caused to be withheld from the market any gas supplies which should have been utilized as part of a least cost fuel procurement policy.

Response:

Please refer to Item 53.65 (5) contained in this filing.



RECYCLED

Philadelphia Gas Works

Pennsylvania Public Utility Commission

52 Pa. Code §53.61, et seq.

For the Twelve Months Ending August 31, 2001

Item 1318 (b)(1)

Limitation on gas purchased from affiliates.--In any instance in which a natural gas distribution company purchases all or part of its gas supplies from an affiliated interest, as that term is defined in section 2101 (relating to definition of affiliated interest), the commission, in addition to the determinations and findings set forth in subsection (a), shall be required to make specific findings with regard to the justness and reasonableness of all such purchases. Such findings shall include, but not be limited to findings:

(1) That the utility has fully and vigorously attempted to obtain less costly gas supplies on both short-term and long-term bases from nonaffiliated interests.

Response:

Please refer to Item 53.65 (3) contained in this filing.



RECYCLED

Docket No. R-01XXX

Item 1318 (b)(2)

Philadelphia Gas Works

Pennsylvania Public Utility Commission

52 Pa. Code §53.61, et seq.

For the Twelve Months Ending August 31, 2001

Item 1318 (b)(2)

Limitation on gas purchased from affiliates.--In any instance in which a natural gas distribution company purchases all or part of its gas supplies from an affiliated interest, as that term is defined in section 2101 (relating to definition of affiliated interest), the commission, in addition to the determinations and findings set forth in subsection (a), shall be required to make specific findings with regard to the justness and reasonableness of all such purchases. Such findings shall include, but not be limited to findings:

(2) That each contract for the purchase of gas from its affiliated interest is consistent with a least cost fuel procurement policy.

Response:

Please refer to Item 53.65 (4) contained in this filing.



Philadelphia Gas Works

Pennsylvania Public Utility Commission
52 Pa. Code §53.61, et seq.
For the Twelve Months Ending August 31, 2001

Item 1318 (b)(3)

Limitation on gas purchased from affiliates.--In any instance in which a natural gas distribution company purchases all or part of its gas supplies from an affiliated interest, as that term is defined in section 2101 (relating to definition of affiliated interest), the commission, in addition to the determinations and findings set forth in subsection (a), shall be required to make specific findings with regard to the justness and reasonableness of all such purchases. Such findings shall include, but not be limited to findings:

(3) That neither the utility nor its affiliated interest has withheld from the market any gas supplies which should have been utilized as part of a least cost fuel procurement policy.

Response:

Please refer to Item 53.65 (5) contained in this filing.



RECYCLED

Docket No. R-01XXX

Item 1318 (c)

Philadelphia Gas Works

Pennsylvania Public Utility Commission

52 Pa. Code §53.61, et seq.

For the Twelve Months Ending August 31, 2001

Item 1318 (c)

Shut-in gas; special rule.--In determining whether a gas utility has purchased the least costly natural gas available, the commission shall consider as available to the utility any gas supplies that reasonably could have been brought to market during the relevant period but which were voluntarily withheld from the market by the utility or an affiliated interest of the utility.

Response:

Please refer to Item 53.65 (5) contained in this filing.



PGW ST. 1

R-00016378

8/8/01

Phb, PD

RS

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

DIRECT TESTIMONY OF

PATRICK H. DURKIN

DOCKETED

AUG 14 2001

ON BEHALF OF

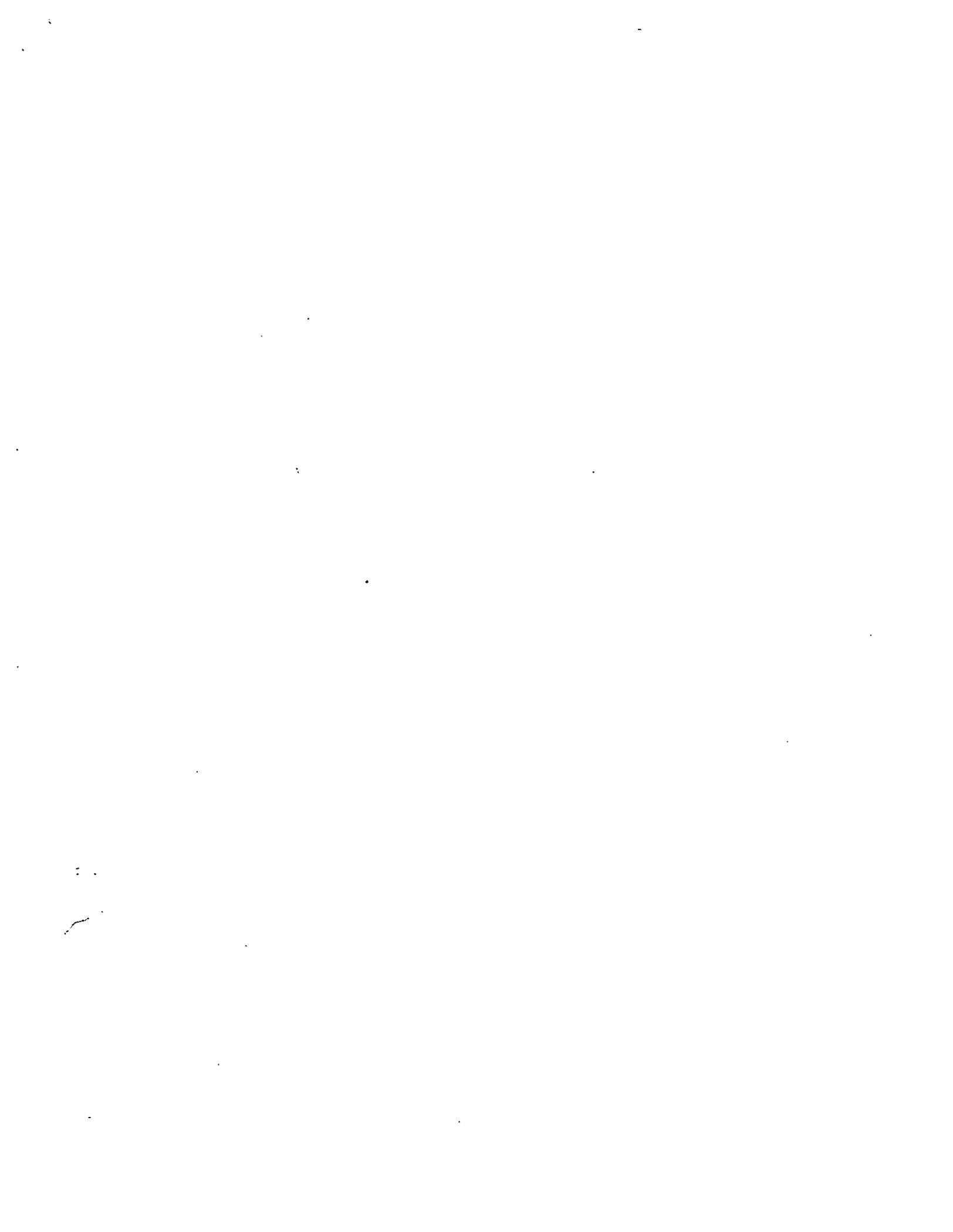
PHILADELPHIA GAS WORKS

RECEIVED
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P. H. DURKIN
SECRETARY'S BUREAU

RE: ANNUAL PURCHASED GAS COSTS

JUNE 1, 2001 GCR Filing

DOCUMENT
FOLDER



1 Q. Please state your name and business address.

2

3 A. Patrick H. Durkin, 800 W. Montgomery Ave., Philadelphia, Pennsylvania.

4

5 Q. By whom are you employed, and in what capacity?

6

7 A. I am employed by Philadelphia Gas Works ("PGW") as Director, Supply
8 Service Strategies.

9

10 Q. What is your educational background?

11

12 A. I received a Bachelor of Science degree in Industrial Relations from Saint
13 Joseph's University in 1987 and a Masters of Business Administration from
14 LaSalle University in 1994.

15

16 Q. Describe your work experience.

17

18 A. I have been employed by PGW since 1970 in various positions including
19 Distribution Workman, Service Technician in Field Services, and Gas
20 Controller. In 1989, I was hired as the Market and Transportation Coordinator
21 in the Federal Regulatory Affairs Department. I am currently Director, Supply
22 Service Strategies, responsible for ensuring, on a daily basis, that PGW's
23 customers' supply requirements are met in a reliable and least cost manner
24 through the utilization of all available supply assets in the context of current
25 market opportunities.

26

27 Q. Please identify your current job responsibilities.

28

29 A. I am currently responsible for developing, implementing, and assessing
30 strategies regarding both gas supply and supply-related assets. This

1 responsibility entails balancing the system's load requirements under all
2 conditions in the context of both current and future market opportunities in an
3 attempt to optimize transportation, storage, and peak shaving capacities to
4 provide reliable least cost supply to the PGW customers.

5
6 Q. What is the purpose of your testimony in this proceeding?

7
8 A. My testimony will explain PGW's current gas procurement and purchasing
9 policies and strategies applicable to the current filing period September 2001-
10 August 2002.

11
12 Q. Please provide a general description of PGW's gas distribution system.

13
14 A. PGW's gas distribution system is located in Southeastern Pennsylvania in the
15 City and County of Philadelphia. Since this is not a gas-producing area, PGW
16 and its natural gas customers are dependent upon the interstate natural gas
17 pipeline system to deliver natural gas into the PGW gas distribution system.
18 This dependency applies to all natural gas supply, storage, and transportation
19 services, except for PGW's own on-system peak shaving facilities. During
20 Fiscal Year 2000, PGW delivered approximately 64.2 billion cubic feet ("Bcf")
21 to its residential, commercial, and industrial customers, and transported 14 Bcf
22 of gas for end-users. The total number of all classes of customers at year-end
23 totaled 512,423.

24
25 Q. Please identify PGW's current interstate suppliers.

26
27 A. Texas Eastern Transmission Corporation (Texas Eastern) and Transcontinental
28 Gas Pipe Line Corporation (Transco) comprise the two interstate natural gas
29 pipelines that deliver gas to PGW's city gates. In addition, Dominion
30 Transmission Inc. (DTI) (formerly CNG Transmission Corporation (CNG)),

1 Equitrans, Inc. (Equitrans), and ANR Pipe Line Company (ANR) provide
2 natural gas storage services that PGW uses to meet winter peak requirements.
3 These storage services require intermediate transportation services from Texas
4 Eastern to deliver storage withdrawals to the PGW gas distribution system.
5

6 **PGW GCR Filing FY 2002**
7

8 Q. Does PGW pursue a least-cost procurement policy?
9

10 A. Yes.
11

12 Q. Please describe PGW's least-cost procurement policy.
13

14 A. PGW's current strategy for meeting the system's supply requirements is to use
15 a portfolio approach in both contract structure and pricing. The Company's gas
16 supply portfolio is divided into three distinct categories. First, approximately
17 thirty percent (30%) of PGW's portfolio is purchased at "first of the month
18 index" pricing. These contracts give the Company the flexibility to increase or
19 decrease volume during the month, therefore allowing PGW to take advantage
20 of opportunities in the natural gas spot market.
21

22 Second, the Company utilizes two pipeline storage fields, which act as an
23 additional source of supply. These contracts do not contain bundled
24 transportation and, therefore, move to PGW City gates within PGW's firm
25 interstate pipeline capacity. These services represent ten percent (10%) of
26 supply and also act as a physical fixed price counter to market conditions.
27

28 Last but most significantly, the Company enters into winter-only supply
29 contracts. These winter-only supply arrangements provide gas supply, which
30 fills approximately sixty percent (60%) of PGW's daily firm transportation

1 entitlements on Texas Eastern and Transco. The Texas Eastern and Transco
2 pipelines represent the only interstate pipeline facilities with physical
3 connections to the PGW service territory. These supply contracts also
4 recognize pipeline receipt and delivery rights. These contracts all contain the
5 ability to “lock up” the price for upcoming months, or to have the pricing
6 default to an agreed-upon market index if there is no market advantage in
7 fixing a price before the month begins. Therefore, by sourcing supply in this
8 manner, PGW not only ensures security of supply from the pipelines, but also
9 can take advantage of varying basis differentiated pricing in the market.
10

11 Q. What do you mean by “basis differentiated pricing”?

12
13 A. Basis differentiated pricing simply refers to the fact that all shippers of natural
14 gas receive their gas at varying locations along the pipeline. Generally
15 speaking, gas located nearest to the market area is more expensive than gas
16 obtained in the production area due to the fact that shippers will incur lower
17 transportation costs for short haul as opposed to long haul transactions. PGW
18 uses a city-gate delivered price in comparing the various alternatives available.
19

20 Q. Other than these three categories -- winter-only supply contracts, “first of the
21 month index” priced contracts, and pipeline storage contracts, are there any
22 other gas procurement and purchasing strategies the Company uses to meet
23 operational requirements and to reduce costs?
24

25 A. Yes. PGW utilizes bundled storage and LNG to meet operational
26 requirements and to accomplish other cost saving initiatives. Specifically,
27 once design winter sendout requirements are ensured, the Company may
28 utilize bundled storage and LNG as a substitute for higher priced gases based
29 on market conditions including anticipated storage refill pricing. PGW’s
30 summer policy uses a similar approach to address system supply and storage

1 refill. The Gas Supply area uses the GCR filing pricing as a benchmark to
2 purchase gas volumes for both system supply and storage refill below the
3 projected cost, where possible, on a proportional basis while leaving a portion
4 of its needs to default to “first of the month” pricing. PGW seeks to recoup
5 demand charges for its firm transportation through the FERC approved
6 capacity release mechanism. The Company also enters into the incremental
7 off-systems sales market to generate additional revenue when it is
8 economically advantageous to do so. Further, the Company continues to
9 periodically participate in LNG arrangements that generate margins, which
10 reduce GCR applicable expenses. At all times the Company is studying the
11 market for any economic advantage that can be derived in support of the firm
12 ratepayer. This can take the form of caps and collars on pricing, puts to the
13 system, and short term lending from the system to supplier/marketers. This
14 policy is designed to assure system supply reliability.

15
16 Q. Please explain how that policy is implemented in actual practice.

17
18 A. In the context of the above response, PGW Supply Services Department looks
19 to effectuate savings following its portfolio approach on a daily basis with
20 security of supply and price consideration being equally paramount. The
21 utilization of PGW’s existing contract structure allows the Department to enter
22 into the daily spot market when advantageous, and to consider both purchases
23 and sales which should result in decreased cost to the ratepayer.

24
25 Q. Please explain how this strategy is designed to assure system reliability.

26
27 A. PGW addresses the issues of system reliability in three ways. First, in
28 contracting for supply, PGW requires that all suppliers keep the Company
29 whole for any additional cost, which it incurs due to the suppliers’ failure to
30 perform.

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Second, PGW physically sources the gas in accordance with its firm pipeline paths. This practice has the effect of mitigating the impact of potential supply region disruptions, such as natural and man-made disasters.

Third, during the operating season PGW's Gas Planning Department runs a weekly supply status model which recognizes normal and design winter conditions and the latest actual balance of gas in all storage facilities. PGW's Supply Services Department utilizes the output of this model to make recommendations or changes in its supply operating strategy to ensure that peak day needs and design winter conditions can be met from that point forward.

Q. Does PGW retain a portion of net proceeds from off-system sales?

A. No, PGW does not retain any proceeds from off-system sales. All revenues generated from off-system sales are used to offset gas costs to PGW's firm customers and credited through PGW's GCR mechanism.

Q. Does PGW propose to modify the sharing mechanism in this proceeding?

A. No.

Q. Does PGW retain any portion from its capacity release credits?

A. No, PGW does not retain any of the credits for capacity release. All credits generated from capacity release are used to offset gas costs to PGW's firm customers.

Q. Does PGW purchase gas from any affiliated interest?

1

2 A. No.

3

4 Q. Has PGW re-negotiated any of its existing contracts to obtain more favorable
5 terms for its customers?

6

7 A. Yes. PGW reviews each of its existing contracts on a regular basis to ensure
8 that none are adverse to its customers' interest. Where appropriate, PGW
9 initiates re-negotiations (where the contract permits) to change the terms. For
10 example, in 2000, PGW re-negotiated the terms of one of its two long-term
11 supply purchase agreements. This re-negotiation reduced the supplier demand
12 charges by an average of \$1.2 million from 2001 through 2003.

13

14 **DESIGN DAY REQUIREMENT**

15

16 Q. Please provide an overview of the design day requirement.

17

18 A. Details of PGW's design day methodology and an account of the 2001/2002
19 winter design day requirement can be found in the information provided in the
20 responses to item 53.64 (c)(13) and item 53.64(c)(14) in PGW's May 1, 2001
21 GCR Filing.

22

23 Q. Does this complete your testimony?

24

25 A. Yes, it does.

8/8/01 Phil PD
015

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

DIRECT TESTIMONY OF

CRAIG WHITE

RECEIVED
01 AUG 13 PM 1:22
P.A.P.U.C.
SECRETARY'S BUREAU

ON BEHALF OF
PHILADELPHIA GAS WORKS

Issues Addressed: *Evidence in Support of PGW's GCR Decrease
Reasonableness of Projected Gas Costs
PGW's Least-Cost Gas Strategy
Requested Waiver of Section 11.2 and 11.3
of Tariff*

DOCKETED

AUG 14 2001

DOCKET NO. R-00016378

Philadelphia Gas Works
Proposed 2001-2002 Gas Cost Rate

JUNE, 2001

DOCUMENT
FOLDER

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

2 A. My name is Craig White. My position is Senior Vice President - Marketing and Supply
3 Services.

4
5 **Q. HOW LONG HAVE YOU HELD THIS POSITION?**

6 A. I assumed the position of Vice President Marketing/Economic and New Business
7 Development on November 1, 1998 and was promoted to Senior Vice President,
8 Marketing & Supply Services in November 1999.

9
10 **Q. WHAT ARE YOUR JOB RESPONSIBILITIES?**

11 A. My formal responsibilities include the oversight of the following functions: Sales,
12 Marketing, Business Development, Rates, Federal Regulatory Affairs, Gas Acquisition,
13 Gas Accounting, Gas Control and Energy Planning & Forecasting.

14
15 **Q. PLEASE SUMMARIZE YOUR WORK EXPERIENCE.**

16 A. I have held the following positions at PGW: Accounting Specialist, Office of VP,
17 Finance; Demand Analyst, Energy Planning & Forecasting; Planning Analyst, Corporate
18 Planning & Analysis; Federal Regulatory Specialist and Administrator, Federal
19 Regulatory Affairs, Gas Acquisitions & Federal Regulatory Affairs; Manager-Energy
20 Planning & Federal Regulatory Affairs; and Vice President, Marketing/Economic and
21 New Business Development.

22
23 **Q. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND.**

24 A. I received a Bachelor's Degree in Business from Kutztown University and a Master's
25 Degree in Finance/Management from Drexel University.

1 **Q. HAVE YOU EVER PROVIDED TESTIMONY TO A REGULATORY**
2 **COMMISSION BEFORE, AND IN WHAT CAPACITY?**

3 A. Yes. I have previously provided written and oral testimony to the Philadelphia Gas
4 Commission (“PGC”) pertaining to PGW’s GCR filings, operating budgets and forecasts,
5 and various tariff changes. In addition, I have provided testimony regarding the
6 PGW/Grays Ferry/Trigen/Sun contracts. I have also submitted testimony before the PUC
7 in PGW’s interim and base rate proceedings (R-00005654 and R-00006042, respectively)
8 and in PGW’s current approved GCR before the PUC (R-00005619).

9
10
11 **Q. HOW IS YOUR TESTIMONY STRUCTURED?**

12 A. My testimony has been prepared in three sections. First, I will summarize the evidence
13 that PGW is submitting in support of its proposed decrease in its GCR. Second, I will
14 explain why PGW’s projected gas costs are reasonable and the product of a least cost gas
15 procurement strategy. Finally, I will explain a proposed change in the GCR portion of
16 PGW’s Tariff that will accommodate the significant price volatility that PGW and all gas
17 companies are experiencing. Such price volatility makes it prudent to keep a larger
18 portion of gas costs in our GCR rather than in base rates.

19
20 **I. SUMMARY OF PGW GCR SUPPORTING DATA**

21
22 **Q. PLEASE SUMMARIZE THE EVIDENCE THAT PGW IS SUBMITTING IN**
23 **SUPPORT OF ITS REQUESTED DECREASE IN PGW’S GCR.**

24 A. On May 1st and 2nd and June 1st of this year, PGW filed its first annual Computation of
25 Purchased Gas Costs filing before the PUC (“GCR Filing”) including all supporting
26 schedules. The supporting schedules show the calculations used to derive PGW’s
27 proposed GCR decrease from its March 1, 2001 effective rate of \$6.6959 to \$5.5958 to
28 be effective September 1, 2001. All data required by the PUC’s regulations was

1 submitted either May 1 or 2 or June 1. PGW has also responded to interrogatories from
2 OTS that were also served on all Intervenors in this proceeding.

3
4 **Q. PLEASE PROVIDE A GENERAL DESCRIPTION OF PGW'S RATE DESIGN**
5 **AND GCR CALCULATION METHODOLOGY.**

6 A. The rates charged to PGW's customers include two elements. The first of these is the base
7 rate, which is published in the PGW Tariff, and contains an element of natural gas and
8 raw material expense built into the base rates. The second element of the rate is the Gas
9 Cost Rate or GCR factor. This charge is a mechanism used to flow through increases or
10 decreases in natural gas costs and the cost of other raw materials in a prompt and
11 equitable manner and, as such, is to be distinguished from the gas and other raw material
12 costs embedded in the base rate. The specific elements of PGW's GCR are set forth in
13 Section 11 of PGW's Tariff.

14
15 The cost of gas purchased to serve the requirements of PGW's customers constitutes the
16 largest single item in the ultimate delivered price of gas. In the past, gas costs were
17 stable and all costs were recovered through base rates. However as a result of the
18 worldwide energy crisis, gas prices became unstable and escalated dramatically. To
19 combat this instability and prevent the economic harm to all parties caused by regulatory
20 lag in reflecting these price fluctuations in base rates, PGW and other LDCs created fuel
21 adjustment surcharge mechanisms. This mechanism provides the flexibility to reflect
22 recent changes in and adjust to current market conditions without the time delay inherent
23 in full-scale base rate alteration. The fuel costs were reconciled (or "trued-up" annually
24 by State and local regulators.

1 PGW Tariff, Section 11 (see Attachment 1), identifies the appropriate formula for such a
2 balance and the limited charges that may be recovered through this mechanism. Only
3 charges for natural gas and other raw materials used to manufacture supplemental gas
4 supplies, low-income conservation programs and the revenue shortfall associated with
5 PGW's Customer Responsibility Program ("CRP") and the Senior Citizen Discount (in
6 the manner explained below) are included in the GCR.¹ No labor, stored supply, local
7 transportation, production or profit component is added by PGW. The ultimate balance
8 represents the direct pass-through of actual costs incurred (or revenues foregone).

9
10 Only costs incurred to purchase and deliver gas immediately used to meet customer send-
11 out requirements, including associated plant fuel and purchased electric, may
12 appropriately be considered a fuel expense for GCR purposes. Purchases diverted into
13 storage become an expense only when withdrawn for customer delivery. Similarly, costs
14 associated with purchases made to supply interruptible customers and firm gas air
15 conditioning customers are excluded from the total Applicable Expenses used to calculate
16 the GCR.

17
18 Various adjustments are then made to the total fuel expenses eligible for GCR treatment.
19 Natural gas refunds from out-of-period payments that have been judged by FERC or
20 court decisions to be in excess of allowable limits are credited in the calculation of the
21 GCR in the fiscal year received. An additional adjustment is made to correct for any over

¹While PGW's collection of costs associated with the various low-income programs through the GCR is unusual in Pennsylvania, there are programs such as CAP and LIURP which address similar issues.

1 or under collections during the previous fiscal year² resulting from differences between
2 values used to project the prior year's GCR and those actually experienced.

3
4 The next step in the calculation is to subtract the level of fuel charges collected through
5 base rates from the total projected Applicable Expenses. Currently, the amount of fuel
6 charges reflected in base rates is \$3.18/Mcf. The difference between fuel charges
7 collected in base rates and the total Applicable Expenses represent the level to be
8 surcharged through the GCR. This surcharge may be either negative or positive as
9 required to achieve the necessary balance.

10
11 To determine the unit level of this surcharge, the remaining net charges must be divided
12 by the sum of the volumes over which they can be effectively distributed, known as the
13 Applicable Sales volume. In determining Applicable Sales, total sales are reduced by
14 those volumes attributable to interruptible customers whose fuel expenses were also
15 excluded above. In addition, 20% of the volumes utilized by senior citizens are excluded
16 pursuant to the discount afforded senior citizens under the Senior Citizen Assistance
17 Program created by act of the Philadelphia City Council. This 20% adjustment serves the
18 purpose of redistributing a portion of the Senior Citizen fuel costs to all firm customers.

19
20 The influence of the bill cycling process is also recognized in the development of the
21 GCR. Assuming a change in base rates that takes effect as of the first of the month,
22 Applicable Sales volumes will, in reality, reflect the usage of cycle billed customers
23 occurring half in the month of the rate change and half in the prior month. In this

²Normally adjustments for over or under collection are made in the following fiscal year. However, in periods of extreme volatility the PGW tariff permits adjustments on a quarterly or more frequent basis if the change deviates above or below the tariff threshold.

1 situation, these customers' bills will be prorated so that the volume utilized in the period
2 before the date of the authorized rate change is charged at the previous rate level.

3 Therefore, PGW's GCR computation assumes half of September's applicable sales are
4 billed at the current rate while the remaining 11-1/2 months of applicable sales are billed
5 at the proposed rate.

6
7 Historically, the GCR for the fiscal year September 1 through August 31 was set through
8 a filing before the Philadelphia Gas Commission (PGC) in the beginning of August in
9 accordance with Section 11.4 of PGW's Tariff. PGW filed quarterly updates of its GCR
10 in which it provided actual cost and sales data. The Company revises the factor based
11 upon these actual data if the projected over or under recovery, as of August 31 of the
12 applicable GCR fiscal year, exceeds the tariff threshold and only for the period ending
13 August 31 of the then current fiscal year.

14
15 **Q. YOU MENTIONED THAT CERTAIN SOCIAL COSTS SUCH AS THE**
16 **CUSTOMER RESPONSIBILITY PROGRAM AND THE SENIOR CITIZEN**
17 **DISCOUNT ARE INCLUDED IN THE GCR. PLEASE EXPLAIN.**

18 **A.** PGW's Tariff specifically authorizes PGW to include non-gas costs in the GCR factor.
19 Historically, PGW has included the cost of its low-income conservation programs and the
20 revenue shortfall associated with PGW's Customer Responsibility Program ("CRP") and
21 the Senior Citizen Discount in the calculation of the factor. The recovery of these social
22 program costs (in the case of CWP) and discounts (in the case of CRP and Senior Citizen
23 Discount) in the GCR has been specifically approved by the PGC on numerous
24 occasions. These social programs were created by an act of the Philadelphia City
25 Council and, as such, is a matter of City Ordinance that can only be changed by the

1 City's legislative process. Further, while PGW understands that most LDCs have
2 traditionally recovered these discounts in their base rates or in a separate surcharge, the
3 advantage of including them in the GCR is that it assures that PGW recovers the
4 discounts on a dollar-for-dollar basis only. If sales are lower than projected, customers
5 will receive a refund in the subsequent reconciliation. A detailed breakdown of the levels
6 of these non-gas cost recoveries is provided below.

7
8 **Q. PLEASE DESCRIBE PGW's 2001-2002 GCR FILING.**

9 A. PGW's June 1st filing proposes to reduce its GCR factor from its present level of
10 \$6.6959 to \$5.5958 per Mcf. (See PGW's response to Section 53.64(a), Schedule 1 of
11 PGW's June 1st filing for the calculation of the proposed GCR surcharge.)

12
13 The total proposed GCR rate is calculated by adding \$3.18 per Mcf (base fuel portion)
14 plus \$5.5958 (GCR factor portion) for a total proposed GCR factor of \$8.7758 per Mcf
15 effective September 1, 2002.

16
17 **Social Program Costs**

18
19 Of the total proposed GCR rate of \$8.7758, social program costs make up \$0.9305 cents
20 per Mcf or approximately 10.6% of the total GCR factor. The \$0.9305 calculation is as
21 follows:

22
23 The table below identifies the costs incurred by PGW for the Senior Citizen's Program,
24 Conservation Works Program (CWP) and Customer Responsibility Program (CRP).

Social Program Category	Expense	Applicable Sales Mcf	Unit Cost Per Mcf
Senior Citizen Program	\$13,969,643	57,888,620	\$0.2413
Low-income Conservation Works Program	\$2,200,000	57,888,620	\$0.0380
Customer Responsibility Program (CRP)	\$37,696,008	57,888,620	\$0.6512
Total	\$53,865,561	57,888,620	\$0.9305

Applicable Sales

Section 53.64(a), Schedule 2 of the June 1st filing reflects PGW's calculation of GCR applicable sales volumes. This section identifies total billed sales and reductions for non GCR applicable sales such as interruptible sales and Senior Citizen discounted sales to arrive at total GCR applicable sales. Also, no transportation (GTS) volumes are included in applicable sales.

Determination of Projected Natural Gas Prices for PGW

Projected natural gas prices for PGW's planning purposes is derived from forecasted pricing data produced specifically for PGW by Standard and Poor's Fuel Price Service. DRI is a nationally recognized provider of forecast information and is part of McGraw Hill Publications. This is the same data service used by PGW for filings before the PGC for many years. Calculations in PGW's June 1st filing were obtained from the March, 2001 Standard and Poor's forecast. The prices provided by DRI reflect the current market cost estimates at the time of publication.

1 **Prior Years' Reconciliations**

2 PGW's response to Section 53.64(a), Schedules 6, 7 and 8 are statements of
3 reconciliation for the fully estimated 2001-2002 fiscal year, the 2000-2001
4 actual/estimated fiscal year and the fully actual fiscal year 1999-2000, respectively.

5
6 **Rate Schedule**

7 PGW's response to 53.64(a), Schedule 9 identifies the proposed rates for fiscal year
8 2001-2002.

9
10 **II. REASONABLENESS OF PGW'S PROJECTED GAS COSTS**

11
12 **Q. BASED UPON THE ABOVE SUPPORTING DATA, DO YOU BELIEVE THAT**
13 **PGW'S CLAIMED GCR RATE AND GAS COSTS ARE REASONABLE?**

14 A. Yes. PGW's GCR is calculated in accordance with its Tariff, Section 11 and consists
15 only of the pass-through of fuel costs, including any offsets for off-system sales and
16 capacity release, and, as discussed above, certain non-gas costs that were previously
17 approved by the PGC.

18
19 PGW has always pursued a "least cost procurement policy" in attempting to keep charges
20 to customers as low as possible. PGW has been innovative in utilizing its LNG facilities,
21 as well as in the utilization of hedging strategies, to obtain lower prices and reduce price
22 volatility. Indeed, the witness for the Philadelphia Public Advocate, Mr. Lelash, has
23 testified in previous PGC operating budget proceedings that PGW's hedging activity in
24 1999-2000 reduced gas costs — and saved PGW ratepayers — about \$27.5 million.³

³Testimony of Richard W. Lelash Before the Philadelphia Gas Commission. In
re: PGW Proposed 2000-01 Operating and Capital Budget at 27-29.

1 **Q. ON WHAT BASIS ARE YOU SUBMITTING YOUR REQUESTED GCR**
2 **REVISION?**

3 A. PGW's Tariff, Section 11, sets forth the process by which PGW's GCR is calculated. In
4 accordance with 66 Pa. C.S. § 2212(d), PGW is basing its filing on the process in its
5 Tariff. Consistent with its acceptance of the conditions in the Commission's November
6 22, 2000 Order (Docket No. R-00005619), PGW's filing also conforms with statutory
7 requirements in the Public Utility Code and the conditions in the Commission's
8 November 22, 2000 Order. PGW's filing further meets the substantive review standard
9 that was previously applied by the Philadelphia Gas Commission which requires PGW's
10 GCR to be set to recover its total projected level of gas costs plus authorized non-gas
11 costs.

12
13 **III. REQUESTED MODIFICATION TO TARIFF**

14 **Q. ARE YOU PROPOSING ANY MODIFICATION OR WAIVER TO THE GCR**
15 **PORTION OF PGW'S TARIFF?**
16

17 A. Yes. As we noted in our filing, PGW is requesting the same waiver to Section 11.2.b.
18 and 11.3 of PGW Gas Service Tariff Number 1 that the Commission previously granted
19 PGW in connection with the Company's 2000-2001 GCR Filing. (See November 22,
20 2000 Order (Docket No. R-00005619), Ordering Paragraph 8.) Section 11.2 of PGW's
21 tariff provides that the GCR may be revised on an interim basis if it is determined that the
22 effective rates will result in over-billing or under-billings in excess of 5% of Factor C if
23 not revised. Section 11.3 provides that PGW's "base cost of gas" (the portion of its total
24 "experienced gas rates" that is in base rates) should be adjusted so that it is 90% of the
25 total.
26

1 In today's volatile gas market environment, PGW does not believe that it makes sense to
2 follow this provision. If PGW were to comply with that provision for this GCR it would
3 have to increase the present gas cost in base rates with a corresponding reduction in the
4 actual GCR factor. Yet, if gas costs were to moderate in the future, PGW might well
5 have to make a corresponding downward change in base rates, and undergo an additional,
6 costly and unnecessary proceeding. For these reasons, over the last several years, PGW
7 has asked the PGC to waive this provision and the PGC has authorized such a waiver.
8 (Indeed, OCA witness Lelash supported the waiver of this tariff provision before the
9 PGC.)

10
11 More importantly, in previously granting the same waiver, the Commission found that
12 "the threshold level contained in Section 11.2 unreasonably restricts the Company from
13 modifying its rates to reflect current gas costs . . . [and in particular] decreased gas costs
14 in consumers' rates." (November 22, 2000 Order (Docket No. R-00005619), Ordering
15 Paragraph 8). The Commission also found the waiver of Section 11.3 to be similarly
16 reasonable. (November 22, 2000 Order (Docket No. R-00005619), Ordering Paragraph
17 8.)

18
19 PGW asks the PUC to grant the Company the same identical waiver. PGW would file a
20 proposed tariff modification with the PUC to be effective on one day's notice reflecting
21 this change.
22

23 **Q. DOES THAT CONCLUDE YOUR DIRECT TESTIMONY?**

24 **A. Yes it does.**

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

PGW EXHIBIT CW-1

(ATTACHED AS AN EXHIBIT TO THE
DIRECT TESTIMONY OF CRAIG WHITE ON BEHALF
OF PHILADELPHIA GAS WORKS)

DOCKET NO. R-00016378

Philadelphia Gas Works
Proposed 2001-2002 Gas Cost Rate

JUNE, 2001

PHILADELPHIA GAS WORKS

GAS SERVICE TARIFF



Issued by: Les A. Fyock
Vice President
Regulatory Affairs
PHILADELPHIA GAS WORKS
800 West Montgomery Avenue
Philadelphia, PA 19122

11. GAS COST RATE CLAUSE

11.1 PROVISION FOR ADJUSTMENT

The Gas Cost Rate shall be applied to each Mcf (1,000 cubic feet) of gas supplied under Rates Schedules GS, MS, PHA, and NGVS-Firm, except for gas usage under the Special Provisions - Air Conditioning of those rates.

11.2 COMPUTATION OF GAS COST RATE

- a. The Gas Cost Rate shall be computed to the nearest one-hundredth cent (0.01¢) in accordance with the formula set forth below:

$$GCR = ((C - E) \div S) - B$$

- b. Each Gas Cost Rate so computed shall be applied to Customers' bills for twelve monthly billing periods commencing with September; provided, however, that for the 2000-2001 GCR period, that such rate may be revised on an interim basis subject to the following procedures: If there is known and measurable change in gas cost during the effective period of the Gas Cost Rate and the change would result in an increase or decrease in the Gas Cost Rate of 2% or more, PGW shall file a proposed revision to its Gas Cost Rate incorporating the recalculated rate which, revision shall become effective on one's days notice. Such filing shall be made in accordance with applicable provisions of 52 Pa Code § 53.64 (i)(5).

The currently effective Gas Cost Rate is \$ 6.6959, for service on or after March 1, 2001.

(1)

11.3 DEFINITIONS

GCR - Gas Cost Rate determined to the nearest one-hundredth cent (0.01¢) to be applied to each Mcf of gas supplied under Rate Schedules GS, MS, PHA, and NGVS-Firm, except for gas usage under the Special Provisions - Air Conditioning of those rates

C - the current cost of natural gas and other raw materials determined as follows: (a) for all types of gas, project the cost for each purchase (adjusted for net current gas stored) for the computation year plus (b) the arithmetical sum of (1) the projected book value of non-current gas at the beginning of the computation year minus (2) the projected book value of non-current gas at the end of the computation year.

E - experienced net over billings (or under billing) of the cost of natural gas and other raw materials as of the end of the computation year.

Additionally, supplier refunds received prior to the end of the August billing period will be included in the factor "E". Commencing with the Fiscal Year 1991-92 GCR calculation, supplier refunds anticipated to be received within the computation year will be included in Factor "E".

I - Increase

B - base cost in \$ per Mcf of Applicable Sales. The base cost is the portion of natural gas and other raw material costs included in the base rate charges of Rate Schedules GS, MS, PHA, and NGVS-Firm. The current base cost is \$3.180/Mcf.

The base cost shall be adjusted at the time of the annual Gas Cost Rate filing to include at least ninety percent (90%) of the Company's experienced gas rates in effect as of the end of the August billing period, plus such portion of the projected gas costs as the Commission shall permit, except that, for the 2000-2001 GCR period this requirement shall be waived. (C)

S - projected applicable Mcf of gas to be billed to Customers during the computation year.

Computation Year - the fiscal year from September through August.

Natural Gas or Gas - the volumes of gas purchased or manufactured by the Company that is delivered to the Company's Customers, plus such portion of the Company-used and unaccounted-for gas as the Commission permits, including, but not limited to, natural gas, liquefied natural gas, synthetic gas, liquefied propane and naphtha. (C)

11.4 REPORTING REQUIREMENTS

- a. The Company shall file quarterly reports within thirty (30) days following the conclusion of each quarter of the computation year. These reports will be in such form as the Commission shall have prescribed. The third quarterly report shall be accompanied by a tentative estimate of the Gas Cost Rate for the next computation year.
- b. The filing of the Company's annual Gas Cost Rate effective during the billing period of September through August shall be submitted to the Commission by August 1 of each year.
- c. The application of the Gas Cost Rate shall be subject to review and audit by the Commission at such intervals as the Commission shall determine.
- d. If it shall be determined, from audit by the Commission, by final order entered after notice and hearing, that the application of this clause has resulted in the collection of excess funds, then Company shall apply such excess funds as a credit against future gas cost rates.

11.5 PROVISION FOR INCLUSION OF SPECIFIC NON-GAS EXPENSES

The computation of the Gas Cost Rate may include such Non-Gas expenses as may be authorized by this tariff and annually authorized by the Commission. Non-gas expenses currently authorized for recovery through the GCR are expenses associated with Low-Income Conservation and Marketing Incentive Programs and the revenue shortfall associated with the Customer Responsibility Program. These expenses would be added to Factor "C" and individually reconciled in the development Factor "E".

(C) - Change

PGW St. 2.1

8/8/01

Phila. PD

AS

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

REBUTTAL TESTIMONY OF

CRAIG WHITE

ON BEHALF OF
PHILADELPHIA GAS WORKS

PHILADELPHIA GAS WORKS
PROPOSED 2001-2002 GAS COST RATE

DOCKET NO. R-00016378

JULY 30, 2001

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1 Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

2 A. The purpose of my testimony is to respond to the testimony of other parties in this
3 proceeding.

4 RESPONSE TO MR. LELASH

5
6 Q. DO YOU HAVE A RESPONSE TO MR. LELASH'S STATEMENT THAT HIS
7 RECOMMENDED GCR FACTOR OF \$4.4061 PER MCF SHOULD BE
8 CONSIDERED PRELIMINARY PENDING THE COMPANY'S UPDATE TO ITS
9 GCR BASED ON A JULY DRI WHOLESALE GAS PRICE FORECAST?

10 A. Yes. First, it is true that Mr. LeLash's estimated GCR factor predates PGW's July
11 update. As such, it necessarily does not incorporate the many changing variables that
12 must be considered and included in a GCR factor update. Second, although Mr.
13 LeLash's update, in my opinion, only considers natural gas prices at a point in time and
14 does not consider such variables as the impact of changing prices on the dispatch of gas
15 or the volume and the price of locked-in supply, it nevertheless may, with the higher gas
16 prices assumed in his recommendation, more accurately reflect the current direction of
17 prices. This is because the extreme price volatility currently inherent in the natural gas
18 market so significantly impacts the GCR factor level that Mr. LeLash's preliminary
19 estimate, which trends upward from the July forecast, may well be right on target.

20
21 Q. CAN YOU DESCRIBE THE BASIC PRICING ASSUMPTIONS IN THE
22 COMPANY'S LATEST JULY UPDATE?

1 A. The Company has updated its GCR based on the July DRI Forecast with the caveat that
2 because of the substantial volatility in the markets, DRI projections were supplemented
3 with the then latest NYMEX June 29, 2001 futures closing price data for the months of
4 September 2001 through January 2002.

5
6 Q. WHY DID YOU CHOSE TO SUPPLEMENT THE DRI PROJECTIONS WITH
7 NYMEX FUTURES DATA?

8 A. I included NYMEX data because of the extreme variation between the then current
9 market and the July, DRI forecast prices. Exhibit CW R-1 is a comparison of the June
10 29, 2001 NYMEX close versus the July DRI for the upcoming GCR period. This exhibit
11 shows a \$0.578 per unit average difference for the period September 2001 -- January
12 2002. This difference softens February 2002 through August 2002 to a simple average of
13 \$0.157 per unit. Notwithstanding a continued average differential of \$0.157, PGW chose
14 to apply the July 2001 DRI prices for the remaining months of February 2002 through
15 August 2002.

16
17 Q. BASED ON YOUR REVISIONS, HAVE YOU ARRIVED AT A NEW GCR FACTOR?

18 A. Yes. Based on our initial analysis, the GCR factor reduces from \$5.5958/Mcf to
19 \$3.0542/Mcf or a reduction of \$2.5416/Mcf.

20
21 Q. IS THIS YOUR FINAL POSITION ON NATURAL GAS PRICING FOR THE
22 UPCOMING GCR PERIOD?

1 A. Not necessarily. Because of continued volatility in the market, PGW is still considering a
2 revised filing position. For example, our "hybrid" NYMEX/DRI twelve-month strip
3 results in a simple average of \$3.42 per unit. However, since the establishment and
4 utilization of this estimate, prices have again moved significantly. A comparison of the
5 September 2001 through August 2002 NYMEX strip was \$3.5149 per MMBtu. Since
6 this point, the NYMEX has steadily increased to a peak on July 12, 2001 of \$3.8133 per
7 MMBtu. This represents a greater than 11 percent increase in the simple average twelve-
8 month strip in less than two weeks, not considering the larger pricing differentials and
9 volumes occurring during the winter operating season.

10
11 Mr. LeLash indicated in his testimony that, based on a more recent June DRI forecast,
12 average prices for the 2001-2002 period results in a \$1.83 per Mcf lower gas cost. Mr.
13 LeLash further explained that this price differential multiplied by forecasted volumes
14 equates to a \$105.9 million gas cost reduction. Based on our use of the aforementioned
15 NYMEX/DRI forecast, GCR applicable Net Natural Gas Expense decreased from
16 \$455,116,479 from our initial 1307(f) filing to \$337,125,675 or approximately \$118
17 million dollars.

18
19 Q. DO YOU AGREE WITH MR. LELASH'S CONTENTION THAT LOWER
20 WHOLESALE GAS COSTS WILL REDUCE THE UNDER RECOVERY BY \$10.0
21 MILLION AND THE CRP EXPENSE BY \$5.0 MILLION?

22 A. I generally agree that lower wholesale gas costs should reduce our CRP expense.
23 However, we cannot ignore the continued volatility of the market; consequently, we may

1 revise our filing. The CRP discount is expected to decrease from \$37.7 million to \$29.9
2 million or approximately \$7.8 million.

3
4 Q. DO YOU AGREE WITH MR. LELASH THAT HIS TESTIMONY SHOULD BE
5 SUPPLEMENTED OR UPDATED BASED ON A PRICE FORECAST REVISION?

6 A. Yes, as should PGW's testimonial position. If gas prices continue on their upward course
7 (in comparison to the July update), PGW will have to consider the need to file a request
8 to supplement the record and revise its claim either during the hearings scheduled in
9 August or prior to the time that the PUC makes its final decision. PGW's current
10 financial status, and particularly, its cash flow position is so precarious that it is not in a
11 position to absorb even small disparities in gas costs prices and recoveries for very long.
12 That is why we believe that we must continue to monitor and react to the gas cost trends.

13
14 Q. ASSUMING THAT PGW'S FINAL GCR FACTOR REFLECTS ITS JULY UPDATE,
15 HOW WILL CUSTOMER BILLS BE AFFECTED?

16 A. The reductions that would result, effective September 1, 2001, on the average monthly
17 residential heating customer bill as well as for other classes are shown in Exhibit CW R-
18 4. I should add that if the PUC's Order approving our new rate comes after September 1,
19 2001, we will include an adjustment factor in our compliance filing so that customers will
20 pay no more than the new amount authorized by the Commission.

21

1 Q. IS MR. LELASH CORRECT IN HIS ASSERTION THAT FIRM DEMAND FROM
2 THE NEAR-NORMAL 2000-01 PERIOD IS 7.4 BCF BELOW WHAT IS
3 FORECASTED FOR THE NORMALIZED UPCOMING 2001-02 PERIOD?

4 A. No. For the 2000-01 actual estimated period, PGW estimated firm sales to be 60.6 Bcf.
5 (This differs from Mr. LeLash's 59.5 Bcf, which he took off of OCA 1-24. OCA 1-24
6 was incorrectly labeled as 2000-01 A/E when, in fact, they are FY 2002 forecasted
7 figures.) Regardless, if you compare forecasted firm sales for 2001-02 of 59.5 Bcf to
8 estimated firm sales for FY 2001, the difference is only 1.1 Bcf. (60.6 Bcf - 59.5 Bcf =
9 1.1 Bcf). Mr. LeLash incorrectly uses total sales of 66.9 Bcf for FY 2002 when making
10 his comparison (59.5 Bcf - 66.9 Bcf = 7.4 Bcf).

11
12 Q. ARE YOU IN AGREEMENT THAT PGW HAS EXCESS DESIGN DAY CAPACITY
13 RESERVE OF SOME 210.0 MMCF OR 26.6%, AS IMPLIED ON PAGES 11 AND 25-
14 27 OF MR. LELASH'S TESTIMONY AND AS SUPPORTED ON SCHEDULE 6,
15 PAGE 2 OF HIS TESTIMONY?

16 A. No, I am not. Turning first to Mr. LeLash's Schedule 6, Page 2, I need to point out that
17 the Transco, Texas Eastern and Total Available figures under column 2001-02 are
18 dekatherm numbers. For this reason, the figures should read 219.0 MMcf, 227.3 MMcf
19 and 446.3 MMcf, respectively. Further, PGW's answer to OCA 1-36 indicates that the
20 planning capacity for LNG is 395.0 MMcf/day, not 540.0 MMcf/day as identified by Mr.
21 LeLash. Using this corrected set of figures, Total Supply is 841.3 MMcf/day, not 999.7
22 MMcf/day as Mr. LeLash indicated. Additionally, assuming a Firm Demand of 780.8
23 MMcf (latest FY 2002 design day firm requirement), Supply Reserve is 60.5 MMcf, not

1 210.0 MMcf or 26.6%. Finally, the LNG Design Requirement increases from 330.0 to
2 334.5 MMcf and LNG % of Capacity increases from 61.7% to 84.7%. Applying 7.7% to
3 the above 446.3 MMcf pipeline capacity equals only 34.0 MMcf. Please refer to Exhibit
4 CW R-2.

5
6 Also, the peak day analysis volumes assume no reduced capability of storage withdrawal
7 due to the imposition of contractual ratchets on the peak day. If storage volumes are at
8 reduced withdrawal levels on the actual peak day, the excesses discussed above would be
9 reduced. My conclusion and recommendation in this regard are to do what has been past
10 practice, i.e., continually evaluate supply/demand requirements, prospectively, and effect
11 capacity contracts accordingly. While there may be opportunities to reduce pipeline
12 demand contracts, PGW does not have the over 20% excess design day capacity from
13 which to work as Mr. LeLash has suggested.

14
15 Q. DO YOU AGREE WITH MR. LELASH'S ASSUMPTION THAT THE SHARP
16 INCREASE IN THE LOSS PERCENTAGE IN 1999-2000 [7.3%] WAS ASSOCIATED
17 WITH UNBILLED REVENUE?

18 A. No. While I disagree with his methodology, I do agree that unbilled revenues did
19 contribute to the increase in the Company's unaccounted-for calculation for this same
20 period.

21
22 For the 1999-2000 period, the unaccounted for gas percentage was 6.3%, as shown on
23 Exhibit CW R-3. You'll note on Exhibit CW R-3 that the calculation involves arriving at

1 an accounted for sendout figure and an accounted for sales figure. The difference
2 between the accounted for sendout and the accounted for sales equals the unaccounted-
3 for gas calculation. (This difference divided by the accounted-for sendout then equals the
4 final reported percentage.) In arriving at his figure of 7.3%, Mr. LeLash chose to use
5 PGW's data for the previous nine years using this above described standard calculation.
6 However, for the 1999-2000 year, he used the Company's year-end "A-2" report. The A-
7 2 Report, as well as other selected pieces of Company data, serves as raw information in
8 the preparation of the aforementioned analysis.

9
10 In using the A-2 Report only, Mr. LeLash incorrectly treats sales as sendout. In his
11 example, he starts with total gas sales of 63,129,374, less interruptible sales of 8,604,133,
12 plus an unaccounted-for figure of 4,268,000 (PGW cannot identify the source of this
13 figure) to arrive at firm sendout of 58,793,000.

14
15 The appropriate way to make this calculation is to begin using the 6.3% unaccounted-for
16 figure as supported by past precedent and Exhibit CW R-3. With that said, I would like
17 to address Mr. LeLash's assertion that the sharp increase in the loss percentage is
18 associated with unbilled revenue. The 6.3% calculation does not consider unbilled sales,
19 estimated at the time to be in the neighborhood of 1.1 Bcf. In other words, this volume is
20 part of sendout but is not included in sales. The addition of the 1.1 Bcf would serve to
21 reduce the unaccounted-for percentage from 6.3% to 5.2%. When rolled into a five-year
22 average, the presently used unaccounted-for rate of 4.2% would decrease to 3.9%.

23

1 My recommendation is that we leave the aforementioned 6.3% (4.2% five year average)
2 calculation as is for the 1999-2000 year with the assumption that unbilled sales from the
3 1999-2000 year will be billed in the 2000-2001 year, thereby offsetting each other. We
4 are prepared to do the same analysis as shown in Exhibit CW R-3 at the conclusion of FY
5 2001 to determine and, if need be, revise the unaccounted-for factor in the GCR
6 prospectively.

7
8 Q. DO YOU AGREE WITH MR. LELASH THAT A REASONABLE TARGET FOR OFF
9 SYSTEM SALES SHOULD BE \$2.0 MILLION.

10 A. PGW again believes that off-system sales are speculative, at best. The \$2.3 million average
11 that Mr. LeLash is referencing is PGW's total credit to the GCR. It is imperative to
12 recognize that this total credit is the total revenue from off-system sales calculated by
13 multiplying the sales price by the volume sold, not merely the margin net of delivered gas
14 costs and profit sharing. At present, PGW credits the GCR with actual total revenue. In
15 other jurisdictions, the total credit to the GCR is based on the following formula: GCR Credit
16 = Net Revenue ((Total Revenue - Gas Cost)-Company's approved sharing mechanism). This
17 observation is based on the review of 1307(f) pre-filing of other Companies.

18
19 Q. DO YOU SEE A NEED, AS MR. LELASH POINTS OUT, TO ANALYZE AND, IF
20 NECESSARY, INITIATE REMEDIAL EFFORTS TO CONTROL THE
21 UNACCOUNTED FOR GAS?

22 A. It is difficult to estimate PGW's true level of unaccounted-for gas that does not relate to
23 the new billing system. With the system now stable, it would be appropriate to perform

1 the unaccounted-for calculation at the conclusion of this fiscal year and, as I suspect will
2 be necessary, revise the unaccounted-for factor prospectively. Finally, PGW's
3 unaccounted for gas has eclipsed 4% in four of the last ten years. To my knowledge, Mr.
4 LeLash has not specifically identified a 4% line of demarcation for further analysis of
5 PGW's unaccounted for gas in any of the last ten years in which he has participated in
6 PGW proceedings. PGW assesses the components of unaccounted for gas annually and
7 will continue to do so. Without more comparative information, a special study on the
8 reasons for PGW's level of unaccounted for gas would not appear to be justified.

9
10 Q. MR. LELASH STATES THAT FOR THE PAST TWO YEARS THE COMPANY HAS
11 RECOVERED LNG TRANSPORTATION COSTS WITHIN THE GCR. DO YOU
12 CONCUR WITH HIS FINDING?

13 A. Yes. For fiscal years ending August 31, 1999 and August 31, 2000, LNG transportation
14 costs of \$16,936 and \$154,010, respectively, were recovered through the GCR. This
15 event did not occur in FY 2001.

16
17 Q. ARE THESE COSTS APPROPRIATELY RECOVERED IN THE GCR?

18 A. I believe so. I understand that PGW has voluntarily agreed to abide by the standards
19 established in the Public Utility Code for evaluating the reasonableness of its gas costs
20 and gas procurement policies. LNG transportation costs clearly fit within the new
21 definition of "natural gas costs" added to the law by the Gas Choice Act. (See 66 Pa.
22 C.S. § 1307(h)). Therefore, these costs should be included unless they have been
23 recovered in PGW's base rates which, I can verify, they have not.

1

2 Q. DO YOU AGREE WITH MR. LELASH THAT A REASONABLE TARGET FOR
3 CAPACITY RELEASE CREDIT SHOULD BE \$1.9 MILLION VERSUS THE \$0.8
4 MILLION PRESENTLY FORECASTED?

5 A. No. I do not. Mr. LeLash bases his capacity release target on a recent historical average.
6 However, he fails to recognize that demand for capacity is shrinking. Specifically,
7 natural gas prices are declining, indicative of a reduced demand for supply. With a
8 reduced demand for supply comes a reduced demand for capacity. This supply/demand
9 reality in conjunction with significantly reduced market prices for capacity undergirds
10 PGW's estimate.

11

12 Q. HOW DOES PGW CURRENTLY REVIEW ITS CONTRACTS FOR INTERSTATE
13 PIPELINE CAPACITY?

14 A. PGW has previously provided schedules which reflect the staggered expiration of its
15 contracts. As part of the supply/demand balance procedure each year, PGW reviews
16 those contracts that are up for renewal in the forthcoming years. If the contract (capacity)
17 is projected to be required to meet the design day and design winter requirements, the
18 contract (capacity) is only kept to the extent that a more economical replacement for
19 service cannot be found.

20

21 Q. MR. LELASH HAS MADE SEVERAL COMMENTS ABOUT THE COMPANY'S
22 RISK MANAGEMENT STRATEGY. FIRST, DO YOU AGREE WITH MR. LELASH
23 THAT THE LEVEL OF GAS PRICE HEDGING THAT BENEFITED RATEPAYERS

1 DURING THE 2000-01 GCR PERIOD WILL RESULT IN HIGHER INVENTORY
2 COSTS ASSOCIATED WITH THE FY2002 GCR?

3 A. No. The price of gas injected during the current injection season is higher than gas
4 injected during the 2001 injection season. Gas injected during the 2000 injection season
5 resulted in a significant savings to ratepayers when this storage gas was utilized during
6 the 2000-2001 winter operating season. Since the 2001-2002 winter operating season has
7 yet to occur, it cannot be determined the degree to which the current storage gas will
8 impact customers. Mr. LeLash indicates as much on page 23, line 13, of his testimony
9 when he states “. . . since the gas will not be used until the winter of 2001-2002, these
10 transactions could still have a net favorable price impact”.

11
12 Q. MR. LELASH STATES THAT, OPERATIONALLY, PGW MUST GAIN
13 FLEXIBILITY BY SHORTENING THE DURATION OF ITS SUPPLY AND
14 CAPACITY CONTRACTS BY STAGGERING CONTRACT EXPIRATIONS TO
15 BEST MATCH SUPPLY AND DEMAND IN AN UNBUNDLED GAS MARKET. DO
16 YOU HAVE A COMMENT REGARDING THIS STATEMENT?

17 A. Yes. PGW has previously provided schedules that reflect the staggered expiration of its
18 contracts. As part of the supply demand balance procedure each year, PGW reviews
19 those contracts that are up for notice in the forthcoming years. If the contract (capacity)
20 is required to meet the design day requirements, the contract (capacity) is only kept to the
21 extent that a more economical replacement for service cannot be found.

22

1 Q. MR. LELASH HAS ALSO CALLED ON THE COMMISSION TO REQUIRE PGW TO
2 FULLY DEFINE THE SCOPE, CONTROL AND FINANCIAL EXPOSURE ASPECTS
3 OF ITS PROSPECTIVE RISK MANAGEMENT INITIATIVES, INCLUDING
4 HEDGING. DO YOU HAVE A RESPONSE?

5 A. While Mr. LeLash recognized PGW's physical hedging activities have produced benefits
6 for ratepayers, he did not recognize that the Company's efforts are consistent with a
7 clearly articulated hedging policy which, over the years, has produced lower overall total
8 costs to customers. A summary of that strategy is set forth in Appendix "A" to this
9 testimony. There is no reason for further PUC action or "approval" of this strategy. If
10 PGW does not implement this strategy in a reasonable manner that is consistent with least
11 cost fuel procurement practices, the PUC will be able to review the Company's actions in
12 future GCR proceedings.

13
14 Q. MR. LELASH RECOMMENDS THAT THE GCR FACTOR THAT THE
15 COMMISSION ADOPTS IN THIS PROCEEDING BE SUBJECT OF ASSOCIATED
16 COSTS ALLOCATIONS THAT THE COMMISSION ORDERS IN PGW'S PENDING
17 BASE RATE CASE. DO YOU AGREE?

18 A. These policy issues involved here have been fully addressed in PGW's base rate case. I
19 would note again, however, my understanding that these types of changes to PGW's tariff
20 are not legally permissible now and were clearly contemplated to be considered in PGW's
21 restructuring proceeding. Indeed, I have been informed that section 2212(h)(2) of the
22 Code would specifically permit PGW to recover the non-gas costs it now includes in its
23 GCR in a 1307(f) type, sliding scale mechanism. At any rate, if there is a decision to

1 include these non-gas costs in base rates, the GCR would subsequently have to be
2 adjusted to remove those charges.

3
4 Q. MR. LELASH ALSO RECOMMENDS THAT THE COMPANY REGULARLY (I.E.,
5 MONTHLY) APPRISE THE COMMISSION OF ITS MAIN REPLACEMENT
6 PROGRAM AND REASSESS AND RELEASE ITS LNG BUSINESS STRATEGY.
7 DO YOU AGREE?

8 A. PGW already reports its construction progress on main replacement and LNG
9 refurbishment in monthly filings. As with other issues that Mr. LeLash has raised, the
10 PUC will have a chance to review PGW's use of its LNG facility in future GCR
11 proceedings.

12
13 Q. MR. LELASH RECOMMENDS THAT PGW BE REQUIRED TO PROVIDE THE
14 COMMISSION WITH STATUS UPDATES ON ITS SUPPLY CONTRACTS THAT
15 HAVE NOT BEEN "DULY AUTHORIZED AND SIGNED PURSUANT TO
16 EXISTING REQUIREMENTS." DO YOU AGREE?

17 A. No. The signatory process used to approve supply contracts is irrelevant to this
18 proceeding. The fact that PGW's governing board or city council reviews or approves
19 supply contracts bears no significance on the price paid for gas. It is merely a process
20 that PGW endures, as a municipal entity, that is not present in non-municipally owned
21 companies.

22

1 RESPONSE TO MR. METRO

2

3 Q. DO YOU AGREE WITH MR. METRO THAT PGW SHOULD FILE ITS
4 PRELIMINARY 1307(F) FILING BY FEBRUARY 1, 2002 AND THE
5 OFFICIAL FILING BY MARCH 1, 2002? ALSO, THAT QUARTERLY
6 REPORTS ARE TO BE FILED PRIOR TO THE EFFECTIVE DATES: 1ST
7 QUARTERLY - DECEMBER 1, 2001; 2ND QUARTERLY - MARCH 1, 2002;
8 3RD QUARTERLY - JUNE 1, 2002; 4TH QUARTERLY SEPTEMBER 1, 2002?

9 A. With PGW's fiscal year and GCR period beginning September 1, PGW intends to file
10 its preliminary 1307(f) filing by February 1, 2002 and its official 1307(f) filing by
11 March 1, 2002. As such, our first quarter will not conclude until November 30, 2001.
12 I recommend that the quarterly reports be filed thirty (30) days after the close of each
13 quarter. If this recommendation is not adopted, our quarterly reports will be one
14 month shy of a complete period in every instance. This one-month delay is necessary
15 in order for us to close the books on the quarter and then to do the necessary analysis.

16

17 Q. DO YOU AGREE WITH MR. METRO'S OTHER ADJUSTMENTS TO THE
18 COMPANY'S' GCR FILING FOR GAS COSTS?

19 A. No. As discussed above, I have updated my GCR calculations, but have explained
20 why these estimates of future gas costs must be viewed as interim and subject to
21 change if gas cost volatility again creates upward pressure on prices.

22

1 Q. DOES THIS CONCLUDE YOUR TESTIMONY?

2 A. Yes.

3



Appendix A
PGW CURRENT RISK MANAGEMENT POLICY

Currently, PGW employs a physical hedging strategy. Essentially, its target is to purchase gas at or below the market. This is done through daily monitoring of the market in an effort to determine pricing trends and the use of pipeline storage and on site LNG capabilities. PGW's current strategy for meeting system supply requirements generally is to use a portfolio approach in both contract structures and pricing. The Company's gas supply portfolio is split into three distinct categories.

- (1) The Company enters into winter-only supply contracts. These winter-only supply arrangements provide gas supply which fills approximately sixty percent (60%) of PGW's daily firm transportation entitlements on Texas Eastern Transmission Corporation (Tetco) and Transcontinental Gas Pipe Line Corporation (Transco). The Tetco and Transco pipelines represent the only interstate pipeline facilities with physical connections to the PGW service territory. These supply contracts also recognize pipeline receipt and delivery rights. By sourcing supply in this manner, PGW not only ensures security of supply from the pipelines, but also can take advantage of varying basis differentiated pricing in the market. These contracts all contain the ability to "lock up" the price for upcoming months, or to have the pricing default to an agreed upon market index if there is no market advantage in fixing a price before the month begins.
- (2) Approximately thirty percent (30%) of PGW's portfolio is purchased on "first of the month index" priced contracts that allow for daily change in volume. These contracts also include pricing flexibility, which allows the Company to turn off what may be higher priced gas from day to day and purchase spot priced gas when it is to the advantage of the ratepayer.
- (3) The Company utilizes two pipeline storage fields, which act as an additional source of supply. These contracts do not contain bundled transportation and therefore move to PGW City gates within PGW's firm interstate pipeline capacity. These services

represent ten percent (10%) of supply and also act as a physical fixed price counter to market conditions. Additionally, PGW utilizes bundled storage and LNG to meet operational requirements and to accomplish other cost saving initiatives.

Specifically, once design winter sendout requirements are ensured, the Company may utilize bundled storage and LNG as a substitute for higher priced gases based on both market conditions including anticipated refill pricing. PGW's summer policy uses a portfolio approach to address system supply and storage refill. The Gas Supply area uses the GCR filing as a template to purchase gas volumes for both system supply and storage refill below the projected cost, where possible, on a proportional basis while leaving a portion of its needs to default to "first of the month" pricing. This provides the ability to turn off "first of the month" supply in order to purchase supply on a daily basis, where advantageous. PGW seeks to recoup demand charges for its firm transportation through the FERC approved capacity release mechanism. The Company also enters into the incremental off systems sales market to generate additional revenue when it is economically advantageous to do so. Further, the Company continues to periodically participate in LNG arrangements that generate margins, which reduce GCR applicable expenses. At all times, the Company is studying the market for any economic advantage that can be derived in support of the firm ratepayer. This can take the form of caps and collars on pricing, puts to the system, and short term lending from the system to supplier/marketers.

In a year in which a normal winter is experienced, PGW anticipates that it will purchase approximately 60 Bcf of natural gas to meet its system requirements. PGW's customer base is comprised predominantly of residential heating customers which means that most of the gas consumed occurs during the traditional winter heating season. Therefore, PGW, like most LDC's, is subject to the market volatility discussed earlier. PGW's use of LNG, storage and winter supply contracts can serve to ameliorate some spike in gas prices; however, they are somewhat limited in what they can achieve.

A good example is the use of storage contracts. While off system storage affords the Company the ability to purchase gas in the non-peak season, there are physical

limitations to how much gas can be injected or withdrawn on any given day. While the use of storage is a very good means of mitigating seasonal price spikes, these services do not permit LDC's to take full advantage of market fluctuations.

Other Hedging Strategies That Could Be Employed

In addition to the hedging strategies described above, PGW also is considering financial hedging strategies.

Comparison of June 29, 2001 NYMEX Close versus July 2001 DRI

	29-Jun-01		Jul-01		Difference
	<u>NYMEX Close</u>		<u>DRI</u>		
Sep-01	\$ 3.1720	\$	2.8800	\$	0.2920
Oct-01	\$ 3.2550	\$	2.7900	\$	0.4650
Nov-01	\$ 3.5380	\$	2.7500	\$	0.7880
Dec-01	\$ 3.8150	\$	3.0700	\$	0.7450
Jan-02	\$ 3.9000	\$	3.3000	\$	0.6000
Average				\$	0.5780

For the remainder of the fiscal year, the average variation between the June 29 NYMEX and the July DRI is shown below:

	29-Jun-01		Jul-01		Difference
	<u>NYMEX Close</u>		<u>DRI</u>		
Feb-02	\$ 3.7950	\$	3.2500	\$	0.5450
Mar-02	\$ 3.6250	\$	3.1500	\$	0.4750
Apr-02	\$ 3.3750	\$	3.2000	\$	0.1750
May-02	\$ 3.3600	\$	3.3000	\$	0.0600
Jun-02	\$ 3.4050	\$	3.4000	\$	0.0050
Jul-02	\$ 3.4550	\$	3.5000	\$	(0.0450)
Aug-02	\$ 3.4840	\$	3.6000	\$	(0.1160)
Average				\$	0.1570

Philadelphia Gas Works
Design Day Capacity
MMCF

2001-2002

Transco	219.0
Texas Eastern	227.3
Total Available	446.3
LNG	395.0
Total Supply	841.3
Firm Demand	780.8
Supply Reserve	60.5
Reserve Percentage	7.7%
LNG Design Requirement	334.5
LNG % of Capacity	84.7%

Actual/Estimated Unaccounted for Factor for Fiscal 1999-00 Based on Firm Sendout (MCFs)

	SALES	SENDOUT	
	<u>Sep-Aug</u>	<u>Sep-Aug</u>	
<i>Total Sales</i>	63,389,991	70,319,458	<i>Total Sendout</i>
LESS:			LESS:
Dir Interruptible	488,682	488,682	Dir Interruptible
Indir Interruptible	7,981,251	8,279,306	Indir Interruptible
Dir GTS-Sales	6,584	6,584	Dir GTS-Sales
Indir GTS-Sales	118,359	122,779	Indir GTS-Sales
 <i>Total Interruptible Sales</i>	 8,594,876	 8,897,351	 <i>Total Interruptible Sendout</i>
 <i>Total Firm Sales</i>	 54,795,115	 61,422,107	 <i>Total Firm Sendout</i>
(+) Utility Use	68,666		
		1,033,194	LESS GTS-Transport DIR
		1,807,488	LESS GTS-Transport INDIR
 <i>Total Firm Sales Acct For</i>	 54,863,781	 58,581,424	 <i>Total Firm Sendout Acct For</i>
<i>Total Firm Sendout Acct For</i>	58,581,424		
- <i>Total Firm Sales Acct For</i>	(54,863,781)		
 <i>Total MCFs Unaccounted For</i>	 3,717,643		

FISCAL 1999-00 UAF % = 6.3%



Effect on Typical Heating Customer Bill
Current Rates versus Updated GCR versus Pending Base Rate Case
 (Updated Natural Gas Fuel Costs Based on July 2001 DRI and June 29, 2001 NYMEX Blended Pricing)

<i>Residential</i>					Change in Rates Updated GCR v. Present			Change in Rates Proposed Base Rate Case v. Present		
	(1)		(2)	Change In Rate	(3)	Change In		(4)	Change In	
	Annual	Unit	Current Rates		GCR Update	Annual Bill	In Rate	Proposed Base Case Rates	Annual Bill	In Rate
Unit Costs										
Base Fuel	100.0	Mcf	\$ 3.1800	Na	\$ 3.1800		\$ -	\$ 3.1800		\$ -
Base Non-Fuel	100.0	Mcf	\$ 3.4330	Na	\$ 3.4330		\$ -	\$ 3.7251		\$ 0.29
GCR Factor	100.0	Mcf	\$ 6.6959	Na	\$ 3.0542		\$ (3.64)	\$ 3.0853		\$ (3.61)
Customer Charge	12	Months	\$ 11.66	Na	\$ 8.00		\$ (3.66)	\$ 15.00		\$ 3.34
Annual Bill/Effect on Annual Bill			\$ 1,470.81	Na	\$ 1,062.72	\$ (408.09)	-27.7%	\$ 1,179.04	\$ (291.77)	-19.8%

<i>Commercial</i>					Change in Rates Updated GCR v. Present			Change in Rates Proposed Base Rate Case v. Present		
	(1)		(2)	Change In Rate	(3)	Change In		(4)	Change In	
	Annual	Unit	Current Rates		GCR Update	Annual Bill	In Rate	Proposed Base Case Rates	Annual Bill	In Rate
Unit Costs										
Base Fuel	382.0	Mcf	\$ 3.1800	Na	\$ 3.1800		\$ -	\$ 3.1800		\$ -
Base Non-Fuel	382.0	Mcf	\$ 3.9400	Na	\$ 3.9400		\$ -	\$ 4.5064		\$ 0.57
GCR Factor	382.0	Mcf	\$ 6.6959	Na	\$ 3.0542		\$ (3.64)	\$ 3.0853		\$ (3.61)
Customer Charge	12	Months	\$ 14.57	Na	\$ 10.00		\$ (4.57)	\$ 25.00		\$ 10.43
Annual Bill/Effect on Annual Bill			\$ 5,452.51	Na	\$ 4,006.54	\$ (1,445.97)	-26.5%	\$ 4,414.79	\$ (1,037.72)	-19.0%

<i>Industrial</i>					Change in Rates Updated GCR v. Present			Change in Rates Proposed Base Rate Case v. Present		
	(1)		(2)	Change In Rate	(3)	Change In		(4)	Change In	
	Annual	Unit	Current Rates		GCR Update	Annual Bill	In Rate	Proposed Base Case Rates	Annual Bill	In Rate
Unit Costs										
Base Fuel	1,129.0	Mcf	\$ 3.1800	Na	\$ 3.1800		\$ -	\$ 3.1800		\$ -
Base Non-Fuel	1,129.0	Mcf	\$ 3.9400	Na	\$ 3.9400		\$ -	\$ 4.6370		\$ 0.70
GCR Factor	1,129.0	Mcf	\$ 6.6959	Na	\$ 3.0542		\$ (3.64)	\$ 3.0853		\$ (3.61)
Customer Charge	12	Months	\$ 29.14	Na	\$ 20.00		\$ (9.14)	\$ 50.00		\$ 20.86
Annual Bill/Effect on Annual Bill			\$ 15,947.83	Na	\$ 11,726.67	\$ (4,221.16)	-26.5%	\$ 12,908.70	\$ (3,039.13)	-19.1%

- Notes:
 (1) Typical annual usage
 (2) As of July 2001
 (3) Effective 9/1/01
 (4) Assumes Full Award