

Docket R-2021-XXXXXXX

Volume 2

**Philadelphia Gas Works**  
**Before The**  
**Pennsylvania Public Utility Commission**

**Computation of Annual Purchased Gas Costs  
For Twelve Months Ending August 31, 2022**

**66 Pa.C.S. § 1307(f)**

**Information Submitted Pursuant To:**

**66 Pa.C.S. §§ 1307(f), 1317, 1318 and  
52 Pa. Code § 53.61, et seq.**

**February 1, 2021**

# Philadelphia Gas Works 1307(f) - 2021 Prefiling

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**Philadelphia Gas Works**

Pennsylvania Public Utility Commission  
52 Pa. Code § 53.61, et seq.

**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:

- (5) A listing and updating, if necessary, of projections of gas supply and demand provided to the Commission for any purpose—see § 59.67 (relating to formats). In addition, provide an accounting of the difference between reported gas supply available and gas supply deliverable—including storage—from the utility to its customers under various circumstances and time periods.

**Response:**

Please see the attached document. PGW's next Annual Resource Planning Report (Forms 1 and 2) is due for submission to the Commission on March 1, 2021, and an updated Annual Resource Planning Report is not available at this time.

# ANNUAL RESOURCE PLANNING REPORT

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## **Philadelphia Gas Works**

### **Philadelphia, Pennsylvania**

March 2020

Forms 1 & 2

**BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**Philadelphia Gas Works  
800 West Montgomery Avenue  
Philadelphia, Pennsylvania 19122**

**ANNUAL RESOURCE PLANNING REPORT**  
**MARCH 2020**

**Forms 1 & 2**

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

# **PHILADELPHIA GAS WORKS**

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

Section 59.81: **General**

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

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

One courtesy copy should also be submitted to:

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

Also submit one (1) copy to the following:

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

Office of Small Business Advocate  
Suite 202, Commerce Building  
300 N. Second Street  
Harrisburg, PA 17101

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

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

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

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

Response:

Forms 1A, 1B, 2A, 2b, and 2C along with a general discussion of the methodologies, data sources, and assumptions are being submitted to meet the requirements of the March 1 filing.

All questions concerning the ARPR should be directed to Mr. Kenneth Dybalski, Vice President, Energy Planning & Technical Compliance at 215-684-6317. The following individual is available to answer questions concerning Forms 1 and 2: Ms. Maria Hogan, Director – Gas Planning & Rates at (215) 684-6618.



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

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

Response: Please see the attached documentation and forms.

Section 59.81

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

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

Response:

Please see the attached documentation and forms.

**BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**PHILADELPHIA GAS WORKS  
800 WEST MONTGOMERY AVENUE  
PHILADELPHIA, PENNSYLVANIA**

**Annual Resource Planning Summary Report**

**Filed: March 2020**

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

**PHILADELPHIA GAS WORKS**  
**2020 Annual Resource Planning Summary Report**

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**SECTION V -- PGW Corporate Modeling System**

## **Introduction**

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

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

- I. PGW's Overall Approach to Integrated Resource Planning
- II. Supply Forecasting Methodology and Assumptions
- III. Demand Forecasting Methodology and Assumptions
- IV. Design Day Forecasting Methodology and Assumptions
- V. PGW Corporate Modeling System

## **I. PGW's Overall Approach to Integrated Resource Planning**

### **PGW Optimization Standard for Purchasing and Utilizing Gas Supplies**

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

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

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

## **II. Supply Forecasting Methodology and Assumptions**

### **Basic Assumptions**

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

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

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

PGW's supply strategy incorporates maintaining full current winter day deliverability with regard to transportation capacity but to convert, where possible, to storage rather than winter flowing contracts to enhance financial and operational flexibility. A variety of longer term supply contracts are necessary to support pipeline transportation capacity because reliance upon best effort spot suppliers to fill wintertime supply requirements to meet firm customers' demands has proven to be an unreliable alternative. As a result, longer-term contracts are utilized to support firm transportation capacity. To accomplish this end, the Company purchases winter supply contracts with daily deliverability equal to approximately 37% of the contractual daily transportation entitlements on its two interstate pipelines with direct connections to PGW's service territory. Additionally, these supply contracts match the contractual entitlements of the two pipelines by sourcing supply in a manner consistent with the pipeline's upstream contractual requirements. In this way, PGW not only helps ensure the security of supply by sourcing the gas from geographically diverse supply regions, but this diversity also allows PGW to take advantage of the pricing basis differential inherent in these supply locations.

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

A second component of PGW's supply portfolio, or a volume equal to 27% of pipeline capacity, is purchased gas based on the daily midpoint price published in "Platt's Gas Daily". These contracts allow for daily change in volumetric take. This allows the Company to effectively shut-off higher priced supply, replacing such supply with daily cheaper spot priced gases. Under assumed normal winter conditions, PGW utilizes WSS storage field in a manner similar to third party supply. Specifically, this storage contract does not contain transportation to the PGW city gate. Therefore, these storages must flow within PGW's contractual upstream capacity rights on TGPL.



Delivery from these fields utilizes approximately 8% of the daily TETCO and TGPL capacity rights to the Philadelphia city gates. These storage fields also act as a physical fixed price to counter winter price conditions since the WACOG usually reflects a winter/summer pricing differential. Additionally, PGW purchases 17% of its supply using day purchases as needed and releases eleven percent (11%) of its capacity to its choice suppliers.

PGW's summer purchasing strategy also incorporates a portfolio approach to the purchase of system supply and storage refill. The GCR filing is again used as a yardstick in purchasing supply for both system supply and storage refill. PGW attempts to always purchase a portion of its supply needs below the projected GCR cost estimate with a portion of the portfolio purchased at default, first-of-the-month pricing. These first of the month pricing option contracts, in most instances, allow PGW to evaluate daily spot prices and provide for a turn-off of first-of-the-month index priced supply in favor of the purchase of more advantageous daily spot purchases.

Operating conditions permitting, the Company enters into the FERC approved capacity release market to offset demand charges it pays for its firm transportation and the incremental off-systems sales market when it is economically advantageous for the firm ratepayer. In both instances, these opportunities are sought only when firm customer needs are satisfied.

Additionally, PGW's bundled storages and LNG can be utilized as a substitute for higher price gas supply based on market pricing conditions and the results of PGW's status report.

Effectively, the Gas Supply Group is at all times studying the market for any economic advantage it can bring to the firm ratepayer.

### **III. Demand Forecasting Methodology and Assumptions** **Basic Assumptions**

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

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

#### **Customer Demand**

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

This usage primarily reflects space heating but also includes such other temperature sensitive needs as water heating attributable to colder ground water inlet temperatures and similar process variations. This overall heating requirement can be expressed in terms of the cubic feet of gas

utilized per degree of temperature change on a per customer basis for each separate customer classification.

In addition, consideration must be given to the variation of customer utilization patterns for space heating over the year, recognizing the transitional fall start-up of heaters, the deep winter period needs and the tapering off and shut-down which occurs in the spring. These usage patterns taken in conjunction with anticipated customer counts and appropriate temperature patterns form the basis of determining class and total system demands. Due to the inconsistencies of weather and weather forecasting techniques, no attempt is made to predict the specific daily temperatures of the projection period. Instead, PGW has developed a normal monthly temperature pattern by analyzing statistical records of actual temperature patterns over a 20-year period. This pattern reflects 3,962 degree-days annually distributed in a stylized pattern preserving the monthly range of colder to warmer daily temperatures experienced in the January to May period and warmer to colder daily temperatures in the September to December period.

The term "degree days" quantifies the number of degrees of temperature below a base level of 65 degrees Fahrenheit and is used as a tool to measure space heating requirements, i.e. on a day experiencing an average temperature of 40 degrees Fahrenheit, there would be 25 degree days. The annual 3,962 degree days, which are composed of the PGW normal monthly temperature patterns, form the basis of the calculation of the temperature sensitive component of demand. The application of the above described baseload, space heating factors and customer counts, when applied to a calendar based daily temperature pattern, produce a daily calculation of total customer requirements identified as sendout. It should be noted that there is a difference between sendout volume and sales volume. Sendout represents those volumes metered at the city gate to supply customers' requirements while sales are those volumes registered on customer meters. The variation between sendout and sales, after adjustments, is that portion which is lost and unaccounted for in the PGW distribution system.

Sales and sendout differ on a monthly basis in the degree day distribution pattern. For efficiency, meter reading and billing efforts are distributed uniformly over the available number of working days in a month and the majority of PGW customers are divided into 20 individual

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

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

### **Methodology Used to Develop Monthly Estimates**

A trial domestic factor is developed by classes of customers from sales reported for the summer months in the previous year. This average factor is then utilized in the sendout formula with the customer counts for the months of July, August and September. A comparison between what the formula calculates and the actual experienced for those three months is ascertained and the trial domestic (baseload) factors are finalized to replicate the total sendout experienced.

The finalized domestic factors (DOMs) are then utilized in conjunction with the actual sales and customer counts for the months of December, January and February to determine the average Mcf per degree day for each of the individual months for the remaining temperature sensitive load. The results are weighted by degree-days to give an average value which is utilized as a trial value for the heating factor.

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

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

The base revenue projections for both firm and interruptible customer groups are derived as the product of the projected sales volumes and the present tariff rate for each individual customer

class within each group. The GCR revenue projections are derived as the product of the GCR factor and the projected sales volumes to the firm GCR customers.

#### **IV. Design Day and Design Hour Forecasting Methodology and Assumptions**

Each year, a six year estimate of Design Day and Design Hour requirements anticipated under design day and design hour operating conditions is prepared to ensure that adequate resources are under contract and to further ensure that PGW can fulfill its supply obligation for its firm customer requirements on a design day and design hour.

The projected demands for design day are developed utilizing previous winter periods data for all weekdays where the temperature average for the day is 32 degrees Fahrenheit or below. The total sendout for these days as recorded under actual conditions and is reduced to firm sendout by removal of the interruptible load. A computer generated linear regression procedure is utilized to develop a sendout model from actual daily sendouts and degree days, and the process is repeated in a quadratic regression and a cubic regression procedure. From the predicted sendouts in the regression, which are within a reasonable percent of error to the actual sendout, factors are derived to replicate the actual sendouts. The factors derived from this are used to determine the current load requirements for a 0 degrees Fahrenheit day and from this data, the load for a -5 degrees Fahrenheit hour is calculated. PGW's Marketing Department's load projections for present and future years are then applied to these requirements to develop design day and design hour present and future load requirements. This is achieved by the addition of the projected marketing load growth on an annual basis (by day) to the derived base-year design day requirements.

## V. **PGW Corporate Modeling System**

### **General Description**

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

### **Gas Demand Model**

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

### **Gas Supply Model**

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



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

### **Gas Cost Rate Model**

The Gas Cost Rate Model is used to develop the GCR. This model, in conjunction with the Gas Supply Model, ascribes responsibility for the raw material costs to firm rate classes in accordance with PGW's tariff requirements, and compensates for the Interruptible Revenue Credit, interest, gas transportation Supplier Storage Peaking and migration charges and the previous over or under billing of fuel expenses. The GCR is then used by the Revenue Model.

### **Revenue Model**

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

### **Summary**

The Corporate Modeling System allows PGW management to effectively address supply/demand balancing, supply facilities planning, projected sales, cost, revenues, and sendout volumes. Results assist in the development of PGW's annual Operating Budget, setting of the GCR and planning of supply resources.

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

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

Index Year Actual Year	Historical Data		Current Year	Three Year Forecast		
	-2 2017-2018	-1 2018-2019	0 2019-2020	1 2020-2021	2 2021-2022	3 2022-2023
<b>Firm Requirements:</b>						
Retail Residential	36,167	34,801	32,308	33,345	33,253	33,160
Retail Commercial	7,875	7,913	7,432	7,583	7,511	7,441
Retail Industrial	476	508	452	443	429	415
Electric Power Generation	-	-	-	-	-	-
Exchanges with Other Utilities	-	-	-	-	-	-
Unaccounted For Gas	1,083	1,027	1,173	1,182	1,178	1,173
Company Use	264	262	253	273	273	273
Other - Prior Period Adjustment	-	-	-	-	-	-
Subtotal Firm	45,864	44,511	41,619	42,825	42,644	42,461
<b>Interruptible Requirements:</b>						
Retail	166	205	510	63	63	63
Electric Power Generation	-	-	-	-	-	-
Company's Own Plant	62	57	82	106	126	126
Unaccounted For Gas	1	6	11	0	0	0
Subtotal Interruptible	228	268	604	169	189	189
<b>SUBTOTAL FIRM AND INTERRUPTIBLE</b>	<b>46,093</b>	<b>44,778</b>	<b>42,224</b>	<b>42,994</b>	<b>42,832</b>	<b>42,650</b>
<b>Transportation:</b>						
Firm Residential	135	1,149	1,606	1,595	1,595	1,595
Firm Commercial	4,510	4,605	4,684	4,815	4,867	4,920
Firm Industrial	428	402	397	444	457	471
Interruptible Residential	-	-	-	85	85	85
Interruptible Commercial	8,341	7,350	7,504	7,735	7,735	7,735
Interruptible Industrial	5,492	6,927	5,550	6,102	6,102	6,102
Other - Non-Utility Power Producers	11,829	13,150	12,721	13,150	13,150	13,150
Subtotal Transportation	30,735	33,583	32,462	33,926	33,992	34,058
<b>TOTAL GAS REQUIREMENTS</b>	<b>76,828</b>	<b>78,362</b>	<b>74,686</b>	<b>76,920</b>	<b>76,824</b>	<b>76,709</b>
Increase (Decrease)	5,286	1,534	(3,676)	2,234	(96)	(115)
Percent Change (%)	7.39%	2.00%	-4.69%	2.99%	-0.12%	-0.15%

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

Index Year Actual Year	Historical Data		Current Year <sup>(2)</sup>	Three Year Forecast <sup>(1)</sup>		
	-2 2017-2018	-1 2018-2019	0 2019-2020	1 2020-2021	2 2021-2022	3 2022-2023
<b>Firm Requirements:</b>						
Retail Residential	409	382	424	457	443	442
Retail Commercial	89	87	97	104	100	99
Retail Industrial	5	6	6	6	6	6
Electric Power Generation	-	-	-	-	-	-
Exchanges with Other Utilities	-	-	-	-	-	-
Unaccounted For Gas	12	11	15	16	16	16
Company Use	3	3	3	4	4	4
Other	-	-	-	-	-	-
Subtotal Firm	518	488	546	587	568	566
<b>Interruptible Requirements:</b>						
Retail	3.7	0.0	0.0	0.2	0.2	0
Electric Power Generation	-	-	-	-	-	-
Company's Own Plant	0.4	0.3	0.5	0.5	0.6	1
Unaccounted For Gas	0.1	0.0	-	0.0	0.0	0.0
Subtotal Interruptible	4.2	0.4	0.6	0.7	0.8	0.8
<b>SUBTOTAL FIRM AND INTERRUPTIBLE</b>	<b>522</b>	<b>488</b>	<b>546</b>	<b>588</b>	<b>569</b>	<b>566</b>
<b>Transportation:</b>						
Firm Residential	10	10	23	5	22	22
Firm Commercial	33	33	48	50	50	51
Firm Industrial	3	3	4	4	5	5
Interruptible Residential	-	-	-	-	-	-
Interruptible Commercial	49	51	-	-	-	-
Interruptible Industrial	25	30	-	-	-	-
Other - Non-Utility Power Producers	41	52	-	-	-	-
Subtotal Transportation	162	179	75	60	77	78
<b>TOTAL GAS REQUIREMENTS</b>	<b>684</b>	<b>668</b>	<b>621</b>	<b>647</b>	<b>646</b>	<b>644</b>
Increase (Decrease)		(16)	(46)	26	(1)	(2)
Percent Change (%)		-2.4%	-7.0%	4.2%	-0.2%	-0.2%

<sup>(1)</sup> Peak Day is forecasted at a 2 degree temperature.

<sup>(2)</sup> Current Year Peak Day is forecasted at a 5 degree temperature.

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

Index Year Actual Year	Historical Data				Current Year (2)		Three Year Forecast (1)					
	-2 2017-2018		-1 2018-2019		0 2019-2020		1 2020-2021		2 2021-2022		3 2022-2023	
	Annual	Peak	Annual	Peak	Annual	Peak	Annual	Peak	Annual	Peak	Annual	Peak
Gas Supply for Sales Service												
Spot Purchases	45,114	189	46,124	134	44,905	271	44,674	242	44,420	238	44,173	267
Storage Withdrawals	12,385	166	10,634	154	11,927	161	14,697	189	14,527	191	14,343	161
LNG Withdrawal	2,517	167	1,914	200	1,613	168	1,580	195	1,631	193	1,708	192
LNG Purchases	-	-	-	-	-	-	-	-	-	-	-	-
Exchanges with other LDCs	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Gas Supply</b>	<b>60,016</b>	<b>522</b>	<b>58,672</b>	<b>488</b>	<b>58,445</b>	<b>600</b>	<b>60,951</b>	<b>625</b>	<b>60,579</b>	<b>622</b>	<b>60,223</b>	<b>620</b>
<b>Total Transportation Services</b>	<b>30,735</b>	<b>162</b>	<b>33,583</b>	<b>179</b>	<b>32,462</b>	<b>34</b>	<b>33,926</b>	<b>34</b>	<b>33,992</b>	<b>35</b>	<b>34,058</b>	<b>36</b>
<b>TOTAL GAS SUPPLY AND TRANSPORTATION SERVICE</b>	<b>90,750</b>	<b>684</b>	<b>92,256</b>	<b>668</b>	<b>90,908</b>	<b>633</b>	<b>94,877</b>	<b>659</b>	<b>94,570</b>	<b>658</b>	<b>94,282</b>	<b>656</b>
Deductions												
Pipeline: TRANS FUEL	874	-	1,073	-	1,051	8	939	7	937	7	926	8
Storage: INJ, INJ FUEL, WITHDRAW FUEL, TRANS FUEL	11,074	-	10,526	-	12,836	1	15,189	2	14,981	2	14,817	1
LNG: LIQUE, INJ FUEL, TRANS FUEL	1,974	-	2,295	-	2,335	3	1,829	3	1,829	3	1,830	3
Sales to other LDC's	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Deductions</b>	<b>13,923</b>	<b>-</b>	<b>13,894</b>	<b>-</b>	<b>16,222</b>	<b>12</b>	<b>17,957</b>	<b>12</b>	<b>17,746</b>	<b>12</b>	<b>17,573</b>	<b>12</b>
<b>NET GAS SUPPLY</b>	<b>76,828</b>	<b>684</b>	<b>78,362</b>	<b>668</b>	<b>74,686</b>	<b>621</b>	<b>76,920</b>	<b>647</b>	<b>76,824</b>	<b>646</b>	<b>76,709</b>	<b>644</b>
<b>BTU</b>	<b>1.037</b>		<b>1.036</b>		<b>1.034</b>		<b>1.036</b>		<b>1.036</b>		<b>1.036</b>	

(1) Peak Day is forecasted at a 2 degree temperature.

(2) Current Year Peak Day is forecasted at a 5 degree temperature.

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

Index Year Actual year	Historical Data				Current Year		Three Year Forecast					
	-2 2017-2018		-1 2018-2019		0 2019-2020		1 2020-2021		2 2021-2022		3 2022-2023	
	Annual	Peak	Annual	Peak	Annual	Peak	Annual	Peak	Annual	Peak	Annual	Peak
<u>City Gate Transportation Contracts:</u>												
Transcontinental Transmission Corp.	3,977	59	3,980	59	3,988	60	3,980	59	3,980	59	3,980	59
Texas Eastern Transmission Corp.	2,237	43	2,240	43	2,245	43	2,240	43	2,240	43	2,240	43
Texas Eastern Transmission Corp.	719	20	716	20	-	20	-	20	-	20	-	20
Transcontinental Transmission Corp.	441	5	442	5	443	5	442	5	442	5	442	5
<b>Total</b>	<b>7,374</b>	<b>127</b>	<b>7,379</b>	<b>127</b>	<b>6,676</b>	<b>127</b>	<b>6,663</b>	<b>127</b>	<b>6,663</b>	<b>127</b>	<b>6,663</b>	<b>127</b>
<u>Upstream Transportation Contracts:</u>												
Transcontinental Transmission Corp.	58,151	159	58,207	159	58,479	160	58,207	159	58,207	159	58,207	159
Texas Eastern Transmission Corp.	26,471	72	26,424	72	26,547	73	26,424	72	26,424	72	26,424	72
Texas Eastern Transmission Corp.	8,408	23	8,393	23	8,432	23	8,393	23	8,393	23	8,393	23
Texas Eastern Transmission Corp.	2,569	17	2,571	17	2,576	17	2,571	17	2,571	17	2,571	17
Texas Eastern Transmission Corp.	2,569	17	2,571	17	2,576	17	2,571	17	2,571	17	2,571	17
Transcontinental Transmission Corp.	171	2	171	2	171	2	171	2	171	2	171	2
Texas Eastern Transmission Corp.	1,765	5	1,762	5	1,770	5	1,762	5	1,762	5	1,762	5
<b>Total</b>	<b>100,102</b>	<b>296</b>	<b>100,099</b>	<b>297</b>	<b>100,553</b>	<b>297</b>	<b>100,099</b>	<b>297</b>	<b>100,099</b>	<b>297</b>	<b>100,099</b>	<b>297</b>
<u>Storage-Related Transportation Contracts:</u>												
Dominion Transmission Inc.	9,074	25	9,058	25	9,100	25	9,058	25	9,058	25	9,058	25
Dominion Transmission Inc.	2,749	8	2,744	8	2,757	8	2,744	8	2,744	8	2,744	8
<b>Total</b>	<b>11,822</b>	<b>32</b>	<b>11,802</b>	<b>32</b>	<b>11,857</b>	<b>32</b>	<b>11,802</b>	<b>32</b>	<b>11,802</b>	<b>32</b>	<b>11,802</b>	<b>32</b>

Conversions at 1036 Btu

**FORM-IRP-GAS-2C: NATURAL GAS STORAGE**  
**REPORTING UTILITY: PHILADELPHIA GAS WORKS**  
(volumes in MMcf)

Index Year Actual year	Historical Data				Current Year		Three Year Forecast					
	-2		-1		0		1		2		3	
	2016-2017		2017-2018		2018-2019		2019-2020		2020-2021		2021-2022	
	Annual	Peak	Annual	Peak	Annual	Peak	Annual	Peak	Annual	Peak	Annual	Peak
Transcontinental Transmission Corp.	3,977	59	3,980	59	3,988	60	3,980	59	3,980	59	3,980	59
Dominion Transmission Inc.	3,639	32	3,654	32	3,661	32	3,654	32	3,654	32	3,654	32
Transcontinental Transmission Corp.	3,137	33	3,120	33	3,127	33	3,120	33	3,120	33	3,120	33
Texas Eastern Transmission Corp.	2,409	43	2,409	43	2,413	43	2,409	43	2,409	43	2,409	43
Texas Eastern Transmission Corp.	2,237	20	2,240	20	2,245	20	2,240	20	2,240	20	2,240	20
Transcontinental Transmission Corp.	719	85	716	85	-	-	-	-	-	-	-	-
Transcontinental Transmission Corp.	441	5	442	5	443	5	442	5	442	5	442	5
<b>Total</b>	<b>16,559</b>	<b>278</b>	<b>16,562</b>	<b>277</b>	<b>15,877</b>	<b>193</b>	<b>15,846</b>	<b>192</b>	<b>15,846</b>	<b>192</b>	<b>15,846</b>	<b>192</b>

Forecasted Dth to Mcf Conversions at 1036 BTU.

	<b>Contract Expiration Date <sup>(1)</sup></b>
Transcontinental Transmission Corp.	3/31/2023
Dominion Transmission Inc.	3/31/2022
Transcontinental Transmission Corp.	3/31/2021
Texas Eastern Transmission Corp.	4/30/2025
Texas Eastern Transmission Corp.	4/30/2025
Transcontinental Transmission Corp. (2)	10/31/2016
Transcontinental Transmission Corp.	4/15/2021

<sup>(1)</sup> For purposes of this report, contracts that are due to expire are assumed renewed for the forecast years.

<sup>(2)</sup> Contract terminates in 2016

**Philadelphia Gas Works**

Pennsylvania Public Utility Commission  
52 Pa. Code § 53.61, et seq.

**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) as utility seeking recovery of purchased as 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:

- (6) Each Section 1307(f) utility shall file with the Commission a statement of its current fuel procurement practices, detailed information concerning, the staffing and expertise of its fuel procurement personnel, a discussion of its methodology for obtaining a least cost and reliable source of gas supply, including a discussion of any methodologies, assumptions, models or rules of thumb employed in selecting its gas supply, transportation and storage mix, its loss prevention strategy in the event of fraud, nonperformance or interruption of performance, its participation in capacity release and reallocation programs, the impact, if any, upon least cost fuel procurement by constraints imposed by local transportation end users, interruptible service, balancing, storage and dispatching, options, and its strategy for improving its fuel procurement practices in the future and timetable for implementing these changes.

**Response:**

**I. Current Strategy**

PGW employs a least cost fuel procurement strategy consistent with PGW's obligation to provide safe, adequate, and reliable service to its customers. PGW's current strategy for meeting, the system's supply requirements is to use a portfolio approach in both contract structures and pricing. The Company's supply portfolio is split into four distinct categories. First, the Company enters into winter-only supply contracts. These winter-only supply arrangements provide gas supply that fills approximately thirty-

seven percent (37%) of PGW's daily firm transportation entitlements on both Spectra Energy Gas Transmission (formerly Duke Energy Gas Transmission) and Williams Gas Pipeline.

The Enbridge Energy and Williams 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 set the price for upcoming months, or to have the pricing default to an agreed upon market index. Second, an additional twenty-seven percent (27%) is priced at the "gas daily mid-point" for each day of usage. These contracts allow for daily changes in volume. The operational flexibility of these contracts allows the Company to increase or decrease gas supply to meet variations in sendout requirements. Third, the Company utilizes one (1) pipeline storage services, as an additional source of supply. This storage service does not contain bundled transportation and therefore are moved to the city gates within PGW's firm interstate pipeline capacity. This service represents eight percent (8%) of supply at a fixed price. Additionally, the Company purchases eighteen percent (18%) of its supply using day purchases as needed. The Company will again attempt to release capacity for year periods totaling 33,000 dekatherms as it did last year if this proves less economic for the ratepayer, the Company will release these capacities for the winter and summer season separately. These capacity releases are with twenty-four hour recall rights in their terms and conditions. They are split between the two interstate pipelines, which service PGW. If the need would arise to recall this capacity PGW would do so and use its unbundled storage to fill the TGPL portion for 10,000 dekatherms and depend on supply obtained at market-based prices to fill the TETCO portion for 23,000 dekatherms. The Company also releases firm capacity to its firm choice suppliers on a monthly basis based upon their firm pool size.

Additionally, PGW utilizes bundled storage and LNG to meet operational requirements and to accomplish other cost saving initiatives. Specifically, once PGW determines that it is assured of being able to meet design winter sendout requirements, the Company may utilize bundled storage and LNG inventories to displace higher priced supply based on the current market conditions. PGW uses a portfolio approach to address system supply and storage refill in the traditional non-peak season. PGW's Gas Supply Section utilizes the Gas Supply Plan set forth in



PGW's GCR filing as a template in an attempt to purchase gas volumes for both system supply and storage refill below the projected cost, when possible. However, some proportion of the supply will always be subject to spot market pricing, either daily or monthly, due to the constant need to purchase gas to meet sendout variations that are inherent in a residential firm heating load. PGW seeks to recoup demand charges for its firm transportation through the FERC approved capacity release mechanisms.

The Company also enters into the incremental off systems sales market to generate additional revenue when it is economically advantageous to do so. At all times the Company is studying the market for any economic advantage that can be derived in support of the firm ratepayer.

## **II. Overview of Gas Supply Section**

The Gas Supply Section of Gas Management is comprised of four departments: Gas Supply, Gas Transportation, Gas Accounting and Gas Control. The Gas Supply Section is responsible for ensuring that there is an adequate supply of natural gas available at all times to meet the requirements of PGW's over 490,000 firm customers. The Gas Supply Section accomplishes this through continuous interaction with various departments within PGW.

The staff of the Gas Supply Section is expected to maintain an in-depth working knowledge of all facets of the natural gas supply markets. The staff members of the four departments are required to maintain a working knowledge of PGW's natural gas contracts and facilities for the purpose of ensuring the safe and efficient operation of the distribution system, in accordance with company procedures, and in compliance with federal, state, and local regulations.

## **III. Organization and Staffing**

Director of Gas Transportation and Gas Control: This person has a four-year history working in the Gas Supply area and a five-year history in Gas Processing for PGW. This individual also has a background working in the Oil and Petrochemical industries. This individual has a BS in Chemical Engineer and MBA as well as having a background in natural gas accounting, allocation and confirmation experience under the first stages of FERC Order 636, and its effect on supply portfolio management.

This individual, and the staffs of the departments that report to him, interact continuously and provide 24/7 coverage in all situations pertaining to the gas supply and operation of the natural gas facilities. This is done in conjunction with the Gas Supply Committee, as well as daily meetings with the VP of Gas Management and the other direct reports of the VP of Gas Management. The following departments report directly to this individual: Gas Supply, Gas Control, Gas Accounting, and Gas Transportation.

Administrator, Gas Supply: this person has seventeen years of experience in the gas supply area. This individual has a MBA in International Business and a BBA with a concentration in Management Information Systems, in addition to having an extensive background in the area of gas purchasing. Reporting to this individual are the gas accountants, gas coordinators and gas buyers.

Manager, Gas Control: This person has over ten years' experience in the oil & gas area, is responsible for the day-to-day management of the distribution grid and daily confirmation of each day's gas volumes. He manages the gas control department on a 24/7 basis. The manager has completed the course work for a BS degree and has extensive experience in the Distribution Department's Pressure Control and Network Analysis area.

**Philadelphia Gas Works**

Pennsylvania Public Utility Commission  
52 Pa. Code § 53.61, et seq.

**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:

- (7) A list of off-system sales, including transportation, storage, or capacity releases by the utility at less than the weighted average price of gas, or at less than the original contract cost of transportation, storage, or capacity supplied to the utility for its own customers.

**Response:**

The attached schedules list off-system sales, capacity release, and asset management for the period of January 1, 2020 to December 31, 2020.

Schedule 1 – reflects all off-system sales margins for the period January 1, 2020 to December 31, 2020.

Schedule 2 – would reflect any off-system sales transactions that were done at less than the weighted average price of gas. The schedule is blank because none of the deals match the criteria.

Schedule 3 – illustrates all capacity release deals.

Schedule 4 – reflects individual capacity release transactions that were done at less than the weighted average cost of capacity.

Schedule 1  
Item 53.64(C)(7)

Philadelphia Gas Works  
Pennsylvania Public Utilities Commission  
52 Pa. Code §53.61, et seq.  
For the Twelve Months Ending December 31, 2020

Off-System Sales			
MONTH	Total Revenue	Ratepayer Margin	Total Credit
Jan-20	\$0	\$0	\$0
Feb-20	\$0	\$0	\$0
Mar-20	\$0	\$0	\$0
Apr-20	\$0	\$0	\$0
May-20	\$0	\$0	\$0
Jun-20	\$0	\$0	\$0
Jul-20	\$0	\$0	\$0
Aug-20	\$0	\$0	\$0
Sep-20	\$0	\$0	\$0
Oct-20	\$0	\$0	\$0
Nov-20	\$0	\$0	\$0
Dec-20	\$109,558	\$15,192	\$104,494

Docket No. R-2021-XXXXXXX  
Item 53.64(c)(7)  
Schedule 2

**Philadelphia Gas Works**

Pennsylvania Public Utility Commission  
52 Pa. Code §53.61, et seq.  
For the Twelve Months Ending December 31, 2020

**Item 53.64(c)(7)**

Off system sales at less than WACOG. Identify as Schedule II.

**Response:**

PGW has no off system sales.

Philadelphia Gas Works  
 Pennsylvania Public Utilities Commission  
 52 Pa. Code §53.61, et seq.  
 For the Twelve Months Ending December 31, 2020

Schedule 3  
 Item 53.64(C)(7)

MONTH	Capacity Release		
	Total	Total	
	TGPL	TETCO	Total
	Credits	Credits	Credits
Jan-20	\$ 849,270	\$ 1,150,493	\$ 1,999,763
Feb-20	\$ 791,558	\$ 1,071,138	\$ 1,862,696
Mar-20	\$ 851,657	\$ 1,150,585	\$ 2,002,242
Apr-20	\$ 365,248	\$ 392,532	\$ 757,780
May-20	\$ 379,530	\$ 691,934	\$ 1,071,463
Jun-20	\$ 290,976	\$ 550,894	\$ 841,870
Jul-20	\$ 285,487	\$ 658,965	\$ 944,452
Aug-20	\$ 286,223	\$ 650,200	\$ 936,423
Sep-20	\$ 264,134	\$ 625,146	\$ 889,280
Oct-20	\$ 242,571	\$ 375,106	\$ 617,677
Nov-20	\$ 525,805	\$ 850,250	\$ 1,376,055
Dec-20	\$ 522,617	\$ 858,501	\$ 1,381,118
<b>TOTAL</b>	<b>\$ 5,655,076</b>	<b>\$ 9,025,744</b>	<b>\$ 14,680,820</b>

M / YR	PIPELINE	PATH	RECALL STATUS	MONTHLY VOLUME DTH	TOTAL MONTHLY CREDIT	CREDIT DTH	TOTAL CREDIT	REPLACEMENT SHIPPER	
January-20	TETCO	STX - M3	N	558	\$ 392.47	\$ 0.7034	\$ 392.47	Energy Plus	
	TETCO	STX - M3	N	20,522	\$ 14,580.22	\$ 0.7105	\$ 14,580.22	Energy Plus	
	TETCO	STX - M3	N	25,420	\$ 18,055.31	\$ 0.7103	\$ 18,055.31	Vista Energy	
	TETCO	STX - M3	N	3,348	\$ 2,374.15	\$ 0.7091	\$ 2,374.15	Shipley	
	TETCO	STX - M3	N	1,364	\$ 966.89	\$ 0.7089	\$ 966.89	V3 Commodities	
	TETCO	STX - M3	N	16,926	\$ 12,024.14	\$ 0.7104	\$ 12,024.14	Sprague	
	TETCO	STX - M3	N	1,209	\$ 861.64	\$ 0.7127	\$ 861.64	American Power	
	TETCO	STX - M3	N	52,173	\$ 37,058.41	\$ 0.7103	\$ 37,058.41	SFE Energy	
	TETCO	STX - M3	N	9,517	\$ 6,758.77	\$ 0.7102	\$ 6,758.77	Atlantic Energy	
	TETCO	STX - M3	N	5,983	\$ 4,250.57	\$ 0.7104	\$ 4,250.57	Josco Energy	
	TETCO	STX - M3	N	341	\$ 239.31	\$ 0.7018	\$ 239.31	Median Energy	
	TETCO	STX - M3	N	135,470	\$ 96,221.63	\$ 0.7103	\$ 96,221.63	UGI Energy	
	TETCO	STX - M3	N	6,479	\$ 4,604.80	\$ 0.7107	\$ 4,604.80	WGL Energy	
	TETCO	STX - M3	N	72,912	\$ 51,791.79	\$ 0.7103	\$ 51,791.79	Direct Energy	
	TETCO	STX - M3	N	142,383	\$ 101,132.76	\$ 0.7103	\$ 101,132.76	Exelon	
	TETCO	STX - M3	N	1,798	\$ 1,273.21	\$ 0.7081	\$ 1,273.21	Statewise	
	TETCO	STX - M3	N	5,673	\$ 4,030.39	\$ 0.7105	\$ 4,030.39	Park Power	
	TETCO	STX - M3	N	11,780	\$ 8,367.10	\$ 0.7103	\$ 8,367.10	Palmco	
	TETCO	STX - M3	N	1,271	\$ 899.88	\$ 0.7080	\$ 899.88	Alpha Gas	
	TETCO	STX - M3	N	7,843	\$ 5,571.68	\$ 0.7104	\$ 5,571.68	CIMA Energy	
	TETCO	STX - M3	N	8,897	\$ 6,318.39	\$ 0.7102	\$ 6,318.39	Marathon Power	
	TETCO	STX - M3	N	3,131	\$ 2,220.99	\$ 0.7094	\$ 2,220.99	MPower	
	TETCO	STX - M3	N	589	\$ 421.25	\$ 0.7152	\$ 421.25	EDF Trading	
	TETCO	M3 - M3	N	486,948	\$ 121,737.00	\$ 0.2500	\$ 121,737.00	Paulsboro	
	TETCO	STX - M3	N	486,948	\$ 559,990.20	\$ 1.1500	\$ 559,990.20	Vitol	
	TETCO	STX - M3	N	93,000	\$ 88,350.00	\$ 0.9500	\$ 88,350.00	Vitol	
					<u>1,602,483</u>			<u>\$ 1,150,492.95</u>	
		TRANSCO	2-6	N	620	\$ 418.81	\$ 0.67550	\$ 418.81	EDF Trading
		TRANSCO	2-6	N	8,928	\$ 6,031.67	\$ 0.67559	\$ 6,031.67	Marathon Power
		TRANSCO	2-6	N	372	\$ 251.10	\$ 0.67500	\$ 251.10	Median Energy
		TRANSCO	2-6	N	1,395	\$ 942.40	\$ 0.67556	\$ 942.40	V3 Commodities
		TRANSCO	2-6	N	3,348	\$ 2,261.76	\$ 0.67556	\$ 2,261.76	Shipley
		TRANSCO	2-6	N	3,131	\$ 2,115.44	\$ 0.67564	\$ 2,115.44	MPower
	TRANSCO	2-6	N	6,510	\$ 4,398.28	\$ 0.67562	\$ 4,398.28	WGL Energy	
	TRANSCO	2-6	N	5,983	\$ 4,042.09	\$ 0.67560	\$ 4,042.09	Josco Energy	
	TRANSCO	2-6	N	9,517	\$ 6,429.40	\$ 0.67557	\$ 6,429.40	Atlantic Energy	
	TRANSCO	2-6	N	7,843	\$ 5,298.52	\$ 0.67557	\$ 5,298.52	CIMA Energy	
	TRANSCO	2-6	N	558	\$ 376.96	\$ 0.67556	\$ 376.96	Energy Plus	
	TRANSCO	2-6	N	1,302	\$ 879.78	\$ 0.67571	\$ 879.78	Alpha Gas	
	TRANSCO	2-6	N	1,240	\$ 837.62	\$ 0.67550	\$ 837.62	American Power	
	TRANSCO	2-6	N	16,957	\$ 11,455.74	\$ 0.67558	\$ 11,455.74	Sprague	
	TRANSCO	2-6	N	11,811	\$ 7,979.40	\$ 0.67559	\$ 7,979.40	Palmco	
	TRANSCO	2-6	N	20,553	\$ 13,885.21	\$ 0.67558	\$ 13,885.21	Energy Plus	
	TRANSCO	2-6	N	25,451	\$ 17,194.15	\$ 0.67558	\$ 17,194.15	Vista Energy	
	TRANSCO	2-6	N	52,173	\$ 35,247.31	\$ 0.67559	\$ 35,247.31	SFE Energy	
	TRANSCO	2-6	N	72,912	\$ 49,257.76	\$ 0.67558	\$ 49,257.76	Direct Energy	
	TRANSCO	2-6	N	142,383	\$ 96,191.14	\$ 0.67558	\$ 96,191.14	Exelon	
	TRANSCO	2-6	N	1,829	\$ 1,235.66	\$ 0.67559	\$ 1,235.66	Statewise	
	TRANSCO	2-6	N	5,673	\$ 3,832.84	\$ 0.67563	\$ 3,832.84	Park Power	
	TRANSCO	2-6	N	135,501	\$ 91,541.76	\$ 0.67558	\$ 91,541.76	UGI Energy	
	TRANSCO	1-3	N	155,000	\$ 4,107.50	\$ 0.02650	\$ 4,107.50	United Energy	
	TRANSCO	2-3	N	155,000	\$ 2,557.50	\$ 0.01650	\$ 2,557.50	United Energy	
	TRANSCO	3-6	N	310,000	\$ 480,500.00	\$ 1.55000	\$ 480,500.00	Shell	
	TRANSCO	4-6	N	41,164	\$ -	\$ -	\$ -	Tioga LNG LLC	
				<u>1,197,154</u>			<u>\$ 849,269.80</u>		

M / YR	PIPELINE	PATH	RECALL STATUS	MONTHLY VOLUME DTH	TOTAL MONTHLY CREDIT	CREDIT DTH	TOTAL CREDIT	REPLACEMENT SHIPPER	
February-20	TETCO	STX - M3	N	493	\$ 347.12	\$ 0.7041	\$ 347.12	Energy Plus	
	TETCO	STX - M3	N	19,923	\$ 14,063.53	\$ 0.7059	\$ 14,063.53	Energy Plus	
	TETCO	STX - M3	N	23,316	\$ 16,457.89	\$ 0.7059	\$ 16,457.89	Vista Energy	
	TETCO	STX - M3	N	3,654	\$ 2,581.31	\$ 0.7064	\$ 2,581.31	Shipley	
	TETCO	STX - M3	N	1,131	\$ 801.13	\$ 0.7083	\$ 801.13	V3 Commodities	
	TETCO	STX - M3	N	15,109	\$ 10,663.34	\$ 0.7058	\$ 10,663.34	Sprague	
	TETCO	STX - M3	N	1,160	\$ 818.88	\$ 0.7059	\$ 818.88	American Power	
	TETCO	STX - M3	N	48,546	\$ 34,268.75	\$ 0.7059	\$ 34,268.75	SFE Energy	
	TETCO	STX - M3	N	8,845	\$ 6,248.56	\$ 0.7065	\$ 6,248.56	Atlantic Energy	
	TETCO	STX - M3	N	5,336	\$ 3,765.08	\$ 0.7056	\$ 3,765.08	Josco Energy	
	TETCO	STX - M3	N	290	\$ 204.73	\$ 0.7060	\$ 204.73	Median Energy	
	TETCO	STX - M3	N	125,019	\$ 88,253.21	\$ 0.7059	\$ 88,253.21	UGI Energy	
	TETCO	STX - M3	N	6,061	\$ 4,281.43	\$ 0.7064	\$ 4,281.43	WGL Energy	
	TETCO	STX - M3	N	68,469	\$ 48,332.29	\$ 0.7059	\$ 48,332.29	Direct Energy	
	TETCO	STX - M3	N	132,414	\$ 93,478.15	\$ 0.7060	\$ 93,478.15	Exelon	
	TETCO	STX - M3	N	2,175	\$ 1,539.95	\$ 0.7080	\$ 1,539.95	Statewise	
	TETCO	STX - M3	N	4,698	\$ 3,320.11	\$ 0.7067	\$ 3,320.11	Park Power	
	TETCO	STX - M3	N	11,600	\$ 8,188.90	\$ 0.7059	\$ 8,188.90	Palmco	
	TETCO	STX - M3	N	1,160	\$ 818.88	\$ 0.7059	\$ 818.88	Alpha Gas	
	TETCO	STX - M3	N	5,307	\$ 3,747.33	\$ 0.7061	\$ 3,747.33	CIMA Energy	
	TETCO	STX - M3	N	8,613	\$ 6,079.35	\$ 0.7058	\$ 6,079.35	Marathon Power	
	TETCO	STX - M3	N	2,871	\$ 2,029.47	\$ 0.7069	\$ 2,029.47	MPower	
	TETCO	STX - M3	N	638	\$ 454.00	\$ 0.7116	\$ 454.00	EDF Trading	
	TETCO	M3 - M3	N	455,532	\$ 113,883.00	\$ 0.2500	\$ 113,883.00	Paulsboro	
	TETCO	STX - M3	N	455,532	\$ 523,861.80	\$ 1.1500	\$ 523,861.80	Vitol	
	TETCO	STX - M3	N	87,000	\$ 82,650.00	\$ 0.9500	\$ 82,650.00	Vitol	
					<u>1,494,892</u>			<u>\$ 1,071,138.19</u>	
		TRANSCO	2-6	N	667	\$ 450.66	\$ 0.67565	\$ 450.66	EDF Trading
		TRANSCO	2-6	N	8,613	\$ 5,818.56	\$ 0.67556	\$ 5,818.56	Marathon Power
		TRANSCO	2-6	N	319	\$ 215.47	\$ 0.67545	\$ 215.47	Median Energy
		TRANSCO	2-6	N	1,131	\$ 764.15	\$ 0.67564	\$ 764.15	V3 Commodities
		TRANSCO	2-6	N	3,654	\$ 2,468.48	\$ 0.67556	\$ 2,468.48	Shipley
	TRANSCO	2-6	N	2,900	\$ 1,959.24	\$ 0.67560	\$ 1,959.24	MPower	
	TRANSCO	2-6	N	6,090	\$ 4,114.52	\$ 0.67562	\$ 4,114.52	WGL Energy	
	TRANSCO	2-6	N	5,336	\$ 3,604.70	\$ 0.67554	\$ 3,604.70	Josco Energy	
	TRANSCO	2-6	N	8,874	\$ 5,995.17	\$ 0.67559	\$ 5,995.17	Atlantic Energy	
	TRANSCO	2-6	N	5,307	\$ 3,585.56	\$ 0.67563	\$ 3,585.56	CIMA Energy	
	TRANSCO	2-6	N	19,923	\$ 13,459.48	\$ 0.67557	\$ 13,459.48	Energy Plus	
	TRANSCO	2-6	N	1,189	\$ 803.30	\$ 0.67561	\$ 803.30	Alpha Gas	
	TRANSCO	2-6	N	1,160	\$ 783.58	\$ 0.67550	\$ 783.58	American Power	
	TRANSCO	2-6	N	15,109	\$ 10,207.42	\$ 0.67559	\$ 10,207.42	Sprague	
	TRANSCO	2-6	N	11,600	\$ 7,836.67	\$ 0.67558	\$ 7,836.67	Palmco	
	TRANSCO	2-6	N	522	\$ 352.64	\$ 0.67556	\$ 352.64	Energy Plus	
	TRANSCO	2-6	N	23,316	\$ 15,751.64	\$ 0.67557	\$ 15,751.64	Vista Energy	
	TRANSCO	2-6	N	48,546	\$ 32,796.68	\$ 0.67558	\$ 32,796.68	SFE Energy	
	TRANSCO	2-6	N	68,498	\$ 46,275.88	\$ 0.67558	\$ 46,275.88	Direct Energy	
	TRANSCO	2-6	N	132,443	\$ 89,475.73	\$ 0.67558	\$ 89,475.73	Exelon	
	TRANSCO	2-6	N	2,175	\$ 1,469.43	\$ 0.67560	\$ 1,469.43	Statewise	
	TRANSCO	2-6	N	4,698	\$ 3,174.05	\$ 0.67562	\$ 3,174.05	Park Power	
	TRANSCO	2-6	N	125,019	\$ 84,460.18	\$ 0.67558	\$ 84,460.18	UGI Energy	
	TRANSCO	1-3	N	145,000	\$ 3,842.50	\$ 0.02650	\$ 3,842.50	United Energy	
	TRANSCO	2-3	N	145,000	\$ 2,392.50	\$ 0.01650	\$ 2,392.50	United Energy	
	TRANSCO	3-6	N	290,000	\$ 449,500.00	\$ 1.55000	\$ 449,500.00	Shell	
	TRANSCO	4-6	N	20,582	\$ -	\$ -	\$ -	Tioga LNG LLC	
				<u>1,097,671</u>			<u>\$ 791,558.19</u>		



M / YR	PIPELINE	PATH	RECALL STATUS	MONTHLY VOLUME DTH	TOTAL MONTHLY CREDIT	CREDIT DTH	TOTAL CREDIT	REPLACEMENT SHIPPER	
March-20	TETCO	STX - M3	N	21,917	\$ 15,471.11	\$ 0.7059	\$ 15,471.11	Energy Plus	
	TETCO	STX - M3	N	558	\$ 390.04	\$ 0.6990	\$ 390.04	Energy Plus	
	TETCO	STX - M3	N	24,738	\$ 17,459.68	\$ 0.7058	\$ 17,459.68	Vista Energy	
	TETCO	STX - M3	N	4,898	\$ 3,453.83	\$ 0.7052	\$ 3,453.83	Shipley	
	TETCO	STX - M3	N	1,178	\$ 827.73	\$ 0.7027	\$ 827.73	V3 Commodities	
	TETCO	STX - M3	N	16,027	\$ 11,313.14	\$ 0.7059	\$ 11,313.14	Sprague	
	TETCO	STX - M3	N	1,271	\$ 894.35	\$ 0.7037	\$ 894.35	American Power	
	TETCO	STX - M3	N	52,204	\$ 36,850.95	\$ 0.7059	\$ 36,850.95	SFE Energy	
	TETCO	STX - M3	N	9,114	\$ 6,432.00	\$ 0.7057	\$ 6,432.00	Atlantic Energy	
	TETCO	STX - M3	N	5,518	\$ 3,891.52	\$ 0.7052	\$ 3,891.52	Josco Energy	
	TETCO	STX - M3	N	310	\$ 218.84	\$ 0.7059	\$ 218.84	Median Energy	
	TETCO	STX - M3	N	133,579	\$ 94,301.66	\$ 0.7060	\$ 94,301.66	UGI Energy	
	TETCO	STX - M3	N	6,231	\$ 4,395.81	\$ 0.7055	\$ 4,395.81	WGL Energy	
	TETCO	STX - M3	N	75,206	\$ 53,092.86	\$ 0.7060	\$ 53,092.86	Direct Energy	
	TETCO	STX - M3	N	142,693	\$ 100,733.66	\$ 0.7059	\$ 100,733.66	Exelon	
	TETCO	STX - M3	N	3,627	\$ 2,559.48	\$ 0.7057	\$ 2,559.48	Statewise	
	TETCO	STX - M3	N	4,774	\$ 3,368.22	\$ 0.7055	\$ 3,368.22	Park Power	
	TETCO	STX - M3	N	14,043	\$ 9,914.48	\$ 0.7060	\$ 9,914.48	Palmco	
	TETCO	STX - M3	N	1,302	\$ 923.00	\$ 0.7089	\$ 923.00	Alpha Gas	
	TETCO	STX - M3	N	5,673	\$ 4,005.76	\$ 0.7061	\$ 4,005.76	CIMA Energy	
	TETCO	STX - M3	N	9,269	\$ 6,546.27	\$ 0.7063	\$ 6,546.27	Marathon Power	
	TETCO	STX - M3	N	3,813	\$ 2,692.71	\$ 0.7062	\$ 2,692.71	MPower	
	TETCO	STX - M3	N	1,085	\$ 770.77	\$ 0.7104	\$ 770.77	EDF Trading	
	TETCO	M3 - M3	N	486,948	\$ 121,737.00	\$ 0.2500	\$ 121,737.00	Paulsboro	
	TETCO	STX - M3	N	486,948	\$ 559,990.20	\$ 1.1500	\$ 559,990.20	Vitol	
	TETCO	STX - M3	N	93,000	\$ 88,350.00	\$ 0.9500	\$ 88,350.00	Vitol	
					<u>1,605,924</u>			<u>\$1,150,585.07</u>	
		TRANSCO	2-6	N	1,085	\$ 733.15	\$ 0.67571	\$ 733.15	EDF Trading
		TRANSCO	2-6	N	9,300	\$ 6,282.77	\$ 0.67557	\$ 6,282.77	Marathon Power
		TRANSCO	2-6	N	341	\$ 230.33	\$ 0.67545	\$ 230.33	Median Energy
	TRANSCO	2-6	N	1,178	\$ 795.77	\$ 0.67553	\$ 795.77	V3 Commodities	
	TRANSCO	2-6	N	4,898	\$ 3,308.94	\$ 0.67557	\$ 3,308.94	Shipley	
	TRANSCO	2-6	N	3,844	\$ 2,596.87	\$ 0.67556	\$ 2,596.87	MPower	
	TRANSCO	2-6	N	6,262	\$ 4,230.57	\$ 0.67559	\$ 4,230.57	WGL Energy	
	TRANSCO	2-6	N	5,518	\$ 3,727.75	\$ 0.67556	\$ 3,727.75	Josco Energy	
	TRANSCO	2-6	N	9,145	\$ 6,178.30	\$ 0.67559	\$ 6,178.30	Atlantic Energy	
	TRANSCO	2-6	N	5,673	\$ 3,832.84	\$ 0.67563	\$ 3,832.84	CIMA Energy	
	TRANSCO	2-6	N	21,948	\$ 14,827.61	\$ 0.67558	\$ 14,827.61	Energy Plus	
	TRANSCO	2-6	N	1,333	\$ 900.55	\$ 0.67558	\$ 900.55	Alpha Gas	
	TRANSCO	2-6	N	1,271	\$ 858.70	\$ 0.67561	\$ 858.70	American Power	
	TRANSCO	2-6	N	16,058	\$ 10,848.45	\$ 0.67558	\$ 10,848.45	Sprague	
	TRANSCO	2-6	N	14,074	\$ 9,508.01	\$ 0.67557	\$ 9,508.01	Palmco	
	TRANSCO	2-6	N	558	\$ 376.96	\$ 0.67556	\$ 376.96	Energy Plus	
	TRANSCO	2-6	N	24,769	\$ 16,733.49	\$ 0.67558	\$ 16,733.49	Vista Energy	
	TRANSCO	2-6	N	52,235	\$ 35,288.85	\$ 0.67558	\$ 35,288.85	SFE Energy	
	TRANSCO	2-6	N	75,237	\$ 50,828.53	\$ 0.67558	\$ 50,828.53	Direct Energy	
	TRANSCO	2-6	N	142,724	\$ 96,421.47	\$ 0.67558	\$ 96,421.47	Exelon	
	TRANSCO	2-6	N	3,658	\$ 2,471.32	\$ 0.67559	\$ 2,471.32	Statewise	
	TRANSCO	2-6	N	4,805	\$ 3,246.32	\$ 0.67561	\$ 3,246.32	Park Power	
	TRANSCO	2-6	N	133,610	\$ 90,264.25	\$ 0.67558	\$ 90,264.25	UGI Energy	
	TRANSCO	1-3	N	155,000	\$ 4,107.50	\$ 0.02650	\$ 4,107.50	United Energy	
	TRANSCO	2-3	N	155,000	\$ 2,557.50	\$ 0.01650	\$ 2,557.50	United Energy	
	TRANSCO	3-6	N	310,000	\$ 480,500.00	\$ 1.55000	\$ 480,500.00	Shell	
				<u>1,159,524</u>			<u>\$ 851,656.80</u>		

M / YR	PIPELINE	PATH	RECALL STATUS	MONTHLY VOLUME DTH	TOTAL MONTHLY CREDIT	CREDIT DTH	TOTAL CREDIT	REPLACEMENT SHIPPER	
April-20	TETCO	STX - M3	N	22,260	\$ 13,177.65	\$ 0.5920	\$ 13,177.65	Energy Plus	
	TETCO	STX - M3	N	600	\$ 355.10	\$ 0.5918	\$ 355.10	Energy Plus	
	TETCO	STX - M3	N	23,340	\$ 13,810.27	\$ 0.5917	\$ 13,810.27	Vista Energy	
	TETCO	STX - M3	N	5,010	\$ 2,964.29	\$ 0.5917	\$ 2,964.29	Shipley	
	TETCO	STX - M3	N	990	\$ 586.75	\$ 0.5927	\$ 586.75	V3 Commodities	
	TETCO	STX - M3	N	15,300	\$ 9,055.16	\$ 0.5918	\$ 9,055.16	Sprague	
	TETCO	STX - M3	N	1,290	\$ 764.31	\$ 0.5925	\$ 764.31	American Power	
	TETCO	STX - M3	N	49,290	\$ 29,172.63	\$ 0.5919	\$ 29,172.63	SFE Energy	
	TETCO	STX - M3	N	8,550	\$ 5,064.36	\$ 0.5923	\$ 5,064.36	Atlantic Energy	
	TETCO	STX - M3	N	5,250	\$ 3,111.30	\$ 0.5926	\$ 3,111.30	Josco Energy	
	TETCO	STX - M3	N	270	\$ 162.28	\$ 0.6010	\$ 162.28	Median Energy	
	TETCO	STX - M3	N	129,600	\$ 76,702.46	\$ 0.5918	\$ 76,702.46	UGI Energy	
	TETCO	STX - M3	N	6,090	\$ 3,605.14	\$ 0.5920	\$ 3,605.14	WGL Energy	
	TETCO	STX - M3	N	77,460	\$ 45,847.22	\$ 0.5919	\$ 45,847.22	Direct Energy	
	TETCO	STX - M3	N	138,180	\$ 81,782.09	\$ 0.5919	\$ 81,782.09	Exelon	
	TETCO	STX - M3	N	5,310	\$ 3,141.85	\$ 0.5917	\$ 3,141.85	Statewise	
	TETCO	STX - M3	N	4,320	\$ 2,555.12	\$ 0.5915	\$ 2,555.12	Park Power	
	TETCO	STX - M3	N	13,800	\$ 8,167.39	\$ 0.5918	\$ 8,167.39	Palmco	
	TETCO	STX - M3	N	1,470	\$ 872.49	\$ 0.5935	\$ 872.49	Alpha Gas	
	TETCO	STX - M3	N	4,680	\$ 2,771.45	\$ 0.5922	\$ 2,771.45	CIMA Energy	
	TETCO	STX - M3	N	10,080	\$ 5,967.39	\$ 0.5920	\$ 5,967.39	Marathon Power	
	TETCO	STX - M3	N	4,380	\$ 2,593.90	\$ 0.5922	\$ 2,593.90	MPower	
	TETCO	STX - M3	N	1,320	\$ 779.60	\$ 0.5906	\$ 779.60	EDF Trading	
	TETCO	STX - M3	N	90,000	\$ 3,159.00	\$ 0.0351	\$ 3,159.00	Colonial Energy	
	TETCO	STX - M3	N	471,240	\$ 42,882.84	\$ 0.0910	\$ 42,882.84	Tenaska	
	TETCO	WLA - M3	N	540,000	\$ 17,280.00	\$ 0.0320	\$ 17,280.00	Sequent	
	TETCO	WLA - M3	N	540,000	\$ 16,200.00	\$ 0.0300	\$ 16,200.00	Colonial Energy	
					<u>2,170,080</u>			<u>\$ 392,532.04</u>	
		TRANSCO	2-6	N	1,350	\$ 911.40	\$ 0.67511	\$ 911.40	EDF Trading
		TRANSCO	2-6	N	10,080	\$ 6,806.70	\$ 0.67527	\$ 6,806.70	Marathon Power
		TRANSCO	2-6	N	270	\$ 182.40	\$ 0.67556	\$ 182.40	Median Energy
		TRANSCO	2-6	N	1,020	\$ 688.80	\$ 0.67529	\$ 688.80	Greenlight
		TRANSCO	2-6	N	5,040	\$ 3,403.50	\$ 0.67530	\$ 3,403.50	Shipley
		TRANSCO	2-6	N	4,380	\$ 2,957.70	\$ 0.67527	\$ 2,957.70	MPower
		TRANSCO	2-6	N	6,090	\$ 4,112.40	\$ 0.67527	\$ 4,112.40	WGL Energy
		TRANSCO	2-6	N	5,280	\$ 3,565.50	\$ 0.67528	\$ 3,565.50	Josco Energy
	TRANSCO	2-6	N	8,580	\$ 5,793.60	\$ 0.67524	\$ 5,793.60	Atlantic Energy	
	TRANSCO	2-6	N	4,680	\$ 3,160.20	\$ 0.67526	\$ 3,160.20	CIMA Energy	
	TRANSCO	2-6	N	630	\$ 425.40	\$ 0.67524	\$ 425.40	Energy Plus	
	TRANSCO	2-6	N	1,470	\$ 992.70	\$ 0.67531	\$ 992.70	Alpha Gas	
	TRANSCO	2-6	N	1,320	\$ 891.30	\$ 0.67523	\$ 891.30	American Power	
	TRANSCO	2-6	N	15,330	\$ 10,351.50	\$ 0.67524	\$ 10,351.50	Sprague	
	TRANSCO	2-6	N	13,830	\$ 9,339.00	\$ 0.67527	\$ 9,339.00	Palmco	
	TRANSCO	2-6	N	22,260	\$ 15,031.50	\$ 0.67527	\$ 15,031.50	Energy Plus	
	TRANSCO	2-6	N	23,340	\$ 15,760.50	\$ 0.67526	\$ 15,760.50	Vista Energy	
	TRANSCO	2-6	N	49,320	\$ 33,303.60	\$ 0.67526	\$ 33,303.60	SFE Energy	
	TRANSCO	2-6	N	77,460	\$ 52,305.60	\$ 0.67526	\$ 52,305.60	Direct Energy	
	TRANSCO	2-6	N	138,210	\$ 93,327.60	\$ 0.67526	\$ 93,327.60	Exelon	
	TRANSCO	2-6	N	5,340	\$ 3,605.70	\$ 0.67522	\$ 3,605.70	Statewise	
	TRANSCO	2-6	N	4,350	\$ 2,937.30	\$ 0.67524	\$ 2,937.30	Park Power	
	TRANSCO	2-6	N	129,630	\$ 87,534.00	\$ 0.67526	\$ 87,534.00	UGI Energy	
	TRANSCO	3-6	N	300,000	\$ 7,860.00	\$ 0.02620	\$ 7,860.00	Spotlight Energy	
				<u>829,260</u>			<u>\$ 365,247.90</u>		

M / YR	PIPELINE	PATH	RECALL STATUS	MONTHLY VOLUME DTH	TOTAL MONTHLY CREDIT	CREDIT DTH	TOTAL CREDIT	REPLACEMENT SHIPPER	
May-20	TETCO	STX - M3	N	22,413	\$ 13,265.76	\$ 0.5919	\$ 13,265.76	Energy Plus	
	TETCO	STX - M3	N	620	\$ 366.96	\$ 0.5919	\$ 366.96	Energy Plus	
	TETCO	STX - M3	N	22,723	\$ 13,449.24	\$ 0.5919	\$ 13,449.24	Vista Energy	
	TETCO	STX - M3	N	5,053	\$ 2,991.42	\$ 0.5920	\$ 2,991.42	Shipley	
	TETCO	STX - M3	N	899	\$ 534.63	\$ 0.5947	\$ 534.63	Greenlight	
	TETCO	STX - M3	N	15,376	\$ 9,101.83	\$ 0.5920	\$ 9,101.83	Sprague	
	TETCO	STX - M3	N	1,457	\$ 861.47	\$ 0.5913	\$ 861.47	American Power	
	TETCO	STX - M3	N	49,352	\$ 29,211.89	\$ 0.5919	\$ 29,211.89	SFE Energy	
	TETCO	STX - M3	N	8,277	\$ 4,897.80	\$ 0.5917	\$ 4,897.80	Atlantic Energy	
	TETCO	STX - M3	N	5,177	\$ 3,063.11	\$ 0.5917	\$ 3,063.11	Josco Energy	
	TETCO	STX - M3	N	248	\$ 143.38	\$ 0.5781	\$ 143.38	Median Energy	
	TETCO	STX - M3	N	127,937	\$ 75,717.38	\$ 0.5918	\$ 75,717.38	UGI Energy	
	TETCO	STX - M3	N	5,766	\$ 3,414.25	\$ 0.5921	\$ 3,414.25	WGL Energy	
	TETCO	STX - M3	N	77,934	\$ 46,122.76	\$ 0.5918	\$ 46,122.76	Direct Energy	
	TETCO	STX - M3	N	136,896	\$ 81,022.23	\$ 0.5919	\$ 81,022.23	Exelon	
	TETCO	STX - M3	N	5,673	\$ 3,358.37	\$ 0.5920	\$ 3,358.37	Statewise	
	TETCO	STX - M3	N	4,154	\$ 2,456.80	\$ 0.5914	\$ 2,456.80	Park Power	
	TETCO	STX - M3	N	14,012	\$ 8,296.27	\$ 0.5921	\$ 8,296.27	Palmco	
	TETCO	STX - M3	N	1,426	\$ 845.67	\$ 0.5930	\$ 845.67	Alpha Gas	
	TETCO	STX - M3	N	4,712	\$ 2,792.16	\$ 0.5926	\$ 2,792.16	CIMA Energy	
	TETCO	STX - M3	N	10,447	\$ 6,182.10	\$ 0.5918	\$ 6,182.10	Marathon Power	
	TETCO	STX - M3	N	4,650	\$ 2,752.07	\$ 0.5918	\$ 2,752.07	MPower	
	TETCO	STX - M3	N	1,395	\$ 829.90	\$ 0.5949	\$ 829.90	EDF Trading	
	TETCO	STX - M3	N	93,000	\$ 3,264.30	\$ 0.0351	\$ 3,264.30	Colonial Energy	
	TETCO	STX - M3	N	486,948	\$ 44,312.27	\$ 0.0910	\$ 44,312.27	Tenaska	
	TETCO	WLA - M3	N	558,000	\$ 166,339.77	\$ 0.2981	\$ 166,339.77	Grays Ferry	
	TETCO	WLA - M3	N	558,000	\$ 166,339.77	\$ 0.2981	\$ 166,339.77	Grays Ferry	
					<u>2,222,545</u>			<u>\$ 691,933.56</u>	
		TRANSCO	2-6	N	1,426	\$ 962.86	\$ 0.67522	\$ 962.86	EDF Trading
		TRANSCO	2-6	N	10,447	\$ 7,054.36	\$ 0.67525	\$ 7,054.36	Marathon Power
		TRANSCO	2-6	N	248	\$ 167.40	\$ 0.67500	\$ 167.40	Median Energy
		TRANSCO	2-6	N	930	\$ 628.06	\$ 0.67533	\$ 628.06	Greenlight
		TRANSCO	2-6	N	5,053	\$ 3,412.17	\$ 0.67528	\$ 3,412.17	Shipley
	TRANSCO	2-6	N	4,650	\$ 3,139.99	\$ 0.67527	\$ 3,139.99	MPower	
	TRANSCO	2-6	N	5,797	\$ 3,914.37	\$ 0.67524	\$ 3,914.37	WGL Energy	
	TRANSCO	2-6	N	5,208	\$ 3,516.95	\$ 0.67530	\$ 3,516.95	Josco Energy	
	TRANSCO	2-6	N	8,277	\$ 5,588.99	\$ 0.67524	\$ 5,588.99	Atlantic Energy	
	TRANSCO	2-6	N	4,743	\$ 3,202.61	\$ 0.67523	\$ 3,202.61	CIMA Energy	
	TRANSCO	2-6	N	620	\$ 418.81	\$ 0.67550	\$ 418.81	Energy Plus	
	TRANSCO	2-6	N	1,426	\$ 962.86	\$ 0.67522	\$ 962.86	Alpha Gas	
	TRANSCO	2-6	N	1,488	\$ 1,004.71	\$ 0.67521	\$ 1,004.71	American Power	
	TRANSCO	2-6	N	15,407	\$ 10,403.60	\$ 0.67525	\$ 10,403.60	Sprague	
	TRANSCO	2-6	N	14,043	\$ 9,482.59	\$ 0.67525	\$ 9,482.59	Palmco	
	TRANSCO	2-6	N	22,413	\$ 15,134.82	\$ 0.67527	\$ 15,134.82	Energy Plus	
	TRANSCO	2-6	N	22,723	\$ 15,344.07	\$ 0.67527	\$ 15,344.07	Vista Energy	
	TRANSCO	2-6	N	49,383	\$ 33,346.39	\$ 0.67526	\$ 33,346.39	SFE Energy	
	TRANSCO	2-6	N	77,934	\$ 52,625.60	\$ 0.67526	\$ 52,625.60	Direct Energy	
	TRANSCO	2-6	N	136,896	\$ 92,440.45	\$ 0.67526	\$ 92,440.45	Exelon	
	TRANSCO	2-6	N	5,673	\$ 3,830.98	\$ 0.67530	\$ 3,830.98	Statewise	
	TRANSCO	2-6	N	4,185	\$ 2,825.96	\$ 0.67526	\$ 2,825.96	Park Power	
	TRANSCO	2-6	N	127,937	\$ 86,390.80	\$ 0.67526	\$ 86,390.80	UGI Energy	
	TRANSCO	3-6	N	620,000	\$ 12,400.00	\$ 0.02000	\$ 12,400.00	Mitsui & Co.	
	TRANSCO	1-3	N	155,000	\$ 2,030.50	\$ 0.01310	\$ 2,030.50	Spotlight Energy	
	TRANSCO	2-3	N	155,000	\$ 1,178.00	\$ 0.00760	\$ 1,178.00	Conoco Phillips	
	TRANSCO	3-6	N	310,000	\$ 8,122.00	\$ 0.02620	\$ 8,122.00	Spotlight Energy	
				<u>1,766,907</u>			<u>\$ 379,529.90</u>		

M / YR	PIPELINE	PATH	RECALL STATUS	MONTHLY VOLUME DTH	TOTAL MONTHLY CREDIT	CREDIT DTH	TOTAL CREDIT	REPLACEMENT SHIPPER	
June-20	TETCO	STX - M3	N	20,940	\$ 12,389.85	\$ 0.5917	\$ 12,389.85	Energy Plus	
	TETCO	STX - M3	N	570	\$ 339.82	\$ 0.5962	\$ 339.82	Energy Plus	
	TETCO	STX - M3	N	20,760	\$ 12,289.88	\$ 0.5920	\$ 12,289.88	Vista Energy	
	TETCO	STX - M3	N	4,740	\$ 2,802.04	\$ 0.5911	\$ 2,802.04	Shipley	
	TETCO	STX - M3	N	780	\$ 463.27	\$ 0.5939	\$ 463.27	Greenlight	
	TETCO	STX - M3	N	13,680	\$ 8,098.01	\$ 0.5920	\$ 8,098.01	Sprague	
	TETCO	STX - M3	N	1,470	\$ 872.49	\$ 0.5935	\$ 872.49	American Power	
	TETCO	STX - M3	N	45,510	\$ 26,933.82	\$ 0.5918	\$ 26,933.82	SFE Energy	
	TETCO	STX - M3	N	7,560	\$ 4,477.59	\$ 0.5923	\$ 4,477.59	Atlantic Energy	
	TETCO	STX - M3	N	4,620	\$ 2,732.66	\$ 0.5915	\$ 2,732.66	Josco Energy	
	TETCO	STX - M3	N	210	\$ 123.46	\$ 0.5879	\$ 123.46	Median Energy	
	TETCO	STX - M3	N	115,440	\$ 68,318.73	\$ 0.5918	\$ 68,318.73	UGI Energy	
	TETCO	STX - M3	N	5,160	\$ 3,057.18	\$ 0.5925	\$ 3,057.18	WGL Energy	
	TETCO	STX - M3	N	72,630	\$ 42,982.86	\$ 0.5918	\$ 42,982.86	Direct Energy	
	TETCO	STX - M3	N	124,140	\$ 73,467.74	\$ 0.5918	\$ 73,467.74	Exelon	
	TETCO	STX - M3	N	5,130	\$ 3,033.67	\$ 0.5914	\$ 3,033.67	Statewise	
	TETCO	STX - M3	N	3,870	\$ 2,292.90	\$ 0.5925	\$ 2,292.90	Park Power	
	TETCO	STX - M3	N	13,560	\$ 8,028.63	\$ 0.5921	\$ 8,028.63	Palmco	
	TETCO	STX - M3	N	1,290	\$ 764.31	\$ 0.5925	\$ 764.31	Alpha Gas	
	TETCO	STX - M3	N	4,230	\$ 2,501.01	\$ 0.5913	\$ 2,501.01	CIMA Energy	
	TETCO	STX - M3	N	10,320	\$ 6,106.16	\$ 0.5917	\$ 6,106.16	Marathon Power	
	TETCO	STX - M3	N	4,500	\$ 2,663.29	\$ 0.5918	\$ 2,663.29	MPower	
	TETCO	STX - M3	N	1,470	\$ 872.49	\$ 0.5935	\$ 872.49	EDF Trading	
	TETCO	STX - M3	N	90,000	\$ 3,159.00	\$ 0.0351	\$ 3,159.00	Colonial Energy	
	TETCO	STX - M3	N	471,240	\$ 42,882.84	\$ 0.0910	\$ 42,882.84	Tenaska	
	TETCO	WLA - M3	N	540,000	\$ 109,620.03	\$ 0.2030	\$ 109,620.03	Grays Ferry	
	TETCO	WLA - M3	N	540,000	\$ 109,620.03	\$ 0.2030	\$ 109,620.03	Grays Ferry	
					<u>2,123,820</u>			<u>\$ 550,893.76</u>	
		TRANSCO	2-6	N	1,470	\$ 803.70	\$ 0.54673	\$ 803.70	EDF Trading
		TRANSCO	2-6	N	10,320	\$ 5,643.60	\$ 0.54686	\$ 5,643.60	Marathon Power
		TRANSCO	2-6	N	240	\$ 131.10	\$ 0.54625	\$ 131.10	Median Energy
		TRANSCO	2-6	N	810	\$ 442.80	\$ 0.54667	\$ 442.80	Greenlight
		TRANSCO	2-6	N	4,740	\$ 2,592.00	\$ 0.54684	\$ 2,592.00	Shipley
		TRANSCO	2-6	N	4,500	\$ 2,460.60	\$ 0.54680	\$ 2,460.60	MPower
		TRANSCO	2-6	N	5,160	\$ 2,821.80	\$ 0.54686	\$ 2,821.80	WGL Energy
		TRANSCO	2-6	N	4,650	\$ 2,542.80	\$ 0.54684	\$ 2,542.80	Josco Energy
	TRANSCO	2-6	N	7,590	\$ 4,150.50	\$ 0.54684	\$ 4,150.50	Atlantic Energy	
	TRANSCO	2-6	N	4,230	\$ 2,313.00	\$ 0.54681	\$ 2,313.00	CIMA Energy	
	TRANSCO	2-6	N	600	\$ 328.20	\$ 0.54700	\$ 328.20	Energy Plus	
	TRANSCO	2-6	N	1,320	\$ 721.80	\$ 0.54682	\$ 721.80	Alpha Gas	
	TRANSCO	2-6	N	1,500	\$ 820.20	\$ 0.54680	\$ 820.20	American Power	
	TRANSCO	2-6	N	13,680	\$ 7,480.80	\$ 0.54684	\$ 7,480.80	Sprague	
	TRANSCO	2-6	N	13,590	\$ 7,431.60	\$ 0.54684	\$ 7,431.60	Palmco	
	TRANSCO	2-6	N	20,970	\$ 11,467.50	\$ 0.54685	\$ 11,467.50	Energy Plus	
	TRANSCO	2-6	N	20,790	\$ 11,368.80	\$ 0.54684	\$ 11,368.80	Vista Energy	
	TRANSCO	2-6	N	45,510	\$ 24,887.10	\$ 0.54685	\$ 24,887.10	SFE Energy	
	TRANSCO	2-6	N	72,630	\$ 39,717.90	\$ 0.54685	\$ 39,717.90	Direct Energy	
	TRANSCO	2-6	N	124,170	\$ 67,902.30	\$ 0.54685	\$ 67,902.30	Exelon	
	TRANSCO	2-6	N	5,130	\$ 2,805.60	\$ 0.54690	\$ 2,805.60	Statewise	
	TRANSCO	2-6	N	3,900	\$ 2,132.70	\$ 0.54685	\$ 2,132.70	Park Power	
	TRANSCO	2-6	N	115,470	\$ 63,144.90	\$ 0.54685	\$ 63,144.90	UGI Energy	
	TRANSCO	3-6	N	600,000	\$ 12,000.00	\$ 0.02000	\$ 12,000.00	Mitsui & Co.	
	TRANSCO	3-6	N	300,000	\$ 3,900.00	\$ 0.01300	\$ 3,900.00	Rainbow Energy	
	TRANSCO	1-3	N	150,000	\$ 1,965.00	\$ 0.01310	\$ 1,965.00	Spotlight Energy	
	TRANSCO	2-3	N	150,000	\$ 1,140.00	\$ 0.00760	\$ 1,140.00	Conoco Phillips	
	TRANSCO	3-6	N	300,000	\$ 7,860.00	\$ 0.02620	\$ 7,860.00	Spotlight Energy	
				<u>1,982,970</u>			<u>\$ 290,976.30</u>		

M / YR	PIPELINE	PATH	RECALL STATUS	MONTHLY VOLUME DTH	TOTAL MONTHLY CREDIT	CREDIT DTH	TOTAL CREDIT	REPLACEMENT SHIPPER
July-20	TETCO	STX - M3	N	589	\$ 351.16	\$ 0.5962	\$ 351.16	Energy Plus
	TETCO	STX - M3	N	20,925	\$ 12,388.50	\$ 0.5920	\$ 12,388.50	Energy Plus
	TETCO	STX - M3	N	20,615	\$ 12,205.04	\$ 0.5920	\$ 12,205.04	Vista Energy
	TETCO	STX - M3	N	4,743	\$ 2,807.95	\$ 0.5920	\$ 2,807.95	Shipley
	TETCO	STX - M3	N	806	\$ 478.73	\$ 0.5940	\$ 478.73	Greenlight
	TETCO	STX - M3	N	12,896	\$ 7,634.07	\$ 0.5920	\$ 7,634.07	Sprague
	TETCO	STX - M3	N	1,581	\$ 933.14	\$ 0.5902	\$ 933.14	American Power
	TETCO	STX - M3	N	45,942	\$ 27,193.73	\$ 0.5919	\$ 27,193.73	SFE Energy
	TETCO	STX - M3	N	7,750	\$ 4,586.77	\$ 0.5918	\$ 4,586.77	Atlantic Energy
	TETCO	STX - M3	N	4,464	\$ 2,640.27	\$ 0.5915	\$ 2,640.27	Josco Energy
	TETCO	STX - M3	N	217	\$ 127.58	\$ 0.5879	\$ 127.58	Median Energy
	TETCO	STX - M3	N	109,709	\$ 64,932.73	\$ 0.5919	\$ 64,932.73	UGI Energy
	TETCO	STX - M3	N	5,084	\$ 3,007.21	\$ 0.5915	\$ 3,007.21	WGL Energy
	TETCO	STX - M3	N	71,517	\$ 42,325.77	\$ 0.5918	\$ 42,325.77	Direct Energy
	TETCO	STX - M3	N	119,939	\$ 70,987.26	\$ 0.5919	\$ 70,987.26	Exelon
	TETCO	STX - M3	N	4,991	\$ 2,951.32	\$ 0.5913	\$ 2,951.32	Statewise
	TETCO	STX - M3	N	3,720	\$ 2,201.66	\$ 0.5918	\$ 2,201.66	Park Power
	TETCO	STX - M3	N	13,609	\$ 8,056.90	\$ 0.5920	\$ 8,056.90	Palmco
	TETCO	STX - M3	N	1,240	\$ 733.90	\$ 0.5919	\$ 733.90	Alpha Gas
	TETCO	STX - M3	N	4,061	\$ 2,400.90	\$ 0.5912	\$ 2,400.90	CIMA Energy
	TETCO	STX - M3	N	10,416	\$ 6,166.31	\$ 0.5920	\$ 6,166.31	Marathon Power
	TETCO	STX - M3	N	4,495	\$ 2,664.60	\$ 0.5928	\$ 2,664.60	MPower
	TETCO	STX - M3	N	1,550	\$ 917.36	\$ 0.5918	\$ 917.36	EDF Trading
	TETCO	STX - M3	N	31	\$ 15.79	\$ 0.5094	\$ 15.79	South Bay Energy
	TETCO	STX - M3	N	93,000	\$ 3,264.30	\$ 0.0351	\$ 3,264.30	Colonial Energy
	TETCO	STX - M3	N	486,948	\$ 44,312.27	\$ 0.0910	\$ 44,312.27	Tenaska
TETCO	WLA - M3	N	558,000	\$ 166,339.77	\$ 0.2981	\$ 166,339.77	Grays Ferry	
TETCO	WLA - M3	N	558,000	\$ 166,339.77	\$ 0.2981	\$ 166,339.77	Grays Ferry	
				<u>2,166,838</u>			<u>\$ 658,964.76</u>	
	TRANSCO	2-6	N	1,581	\$ 864.28	\$ 0.54667	\$ 864.28	EDF Trading
	TRANSCO	2-6	N	10,447	\$ 5,712.99	\$ 0.54685	\$ 5,712.99	Marathon Power
	TRANSCO	2-6	N	217	\$ 118.73	\$ 0.54714	\$ 118.73	Median Energy
	TRANSCO	2-6	N	806	\$ 440.82	\$ 0.54692	\$ 440.82	Greenlight
	TRANSCO	2-6	N	4,774	\$ 2,610.51	\$ 0.54682	\$ 2,610.51	Shipley
	TRANSCO	2-6	N	4,495	\$ 2,457.99	\$ 0.54683	\$ 2,457.99	MPower
	TRANSCO	2-6	N	5,084	\$ 2,780.08	\$ 0.54683	\$ 2,780.08	WGL Energy
	TRANSCO	2-6	N	4,495	\$ 2,457.99	\$ 0.54683	\$ 2,457.99	Josco Energy
	TRANSCO	2-6	N	7,781	\$ 4,255.06	\$ 0.54685	\$ 4,255.06	Atlantic Energy
	TRANSCO	2-6	N	4,061	\$ 2,220.84	\$ 0.54687	\$ 2,220.84	CIMA Energy
	TRANSCO	2-6	N	589	\$ 322.09	\$ 0.54684	\$ 322.09	Energy Plus
	TRANSCO	2-6	N	1,240	\$ 677.97	\$ 0.54675	\$ 677.97	Alpha Gas
	TRANSCO	2-6	N	1,612	\$ 881.33	\$ 0.54673	\$ 881.33	American Power
	TRANSCO	2-6	N	12,927	\$ 7,069.24	\$ 0.54686	\$ 7,069.24	Sprague
	TRANSCO	2-6	N	13,609	\$ 7,442.17	\$ 0.54686	\$ 7,442.17	Palmco
	TRANSCO	2-6	N	20,956	\$ 11,459.77	\$ 0.54685	\$ 11,459.77	Energy Plus
	TRANSCO	2-6	N	20,646	\$ 11,290.20	\$ 0.54685	\$ 11,290.20	Vista Energy
	TRANSCO	2-6	N	45,973	\$ 25,140.38	\$ 0.54685	\$ 25,140.38	SFE Energy
	TRANSCO	2-6	N	71,517	\$ 39,109.29	\$ 0.54685	\$ 39,109.29	Direct Energy
	TRANSCO	2-6	N	119,970	\$ 65,605.61	\$ 0.54685	\$ 65,605.61	Exelon
	TRANSCO	2-6	N	5,022	\$ 2,746.29	\$ 0.54685	\$ 2,746.29	Statewise
	TRANSCO	2-6	N	3,720	\$ 2,034.22	\$ 0.54683	\$ 2,034.22	Park Power
	TRANSCO	2-6	N	109,709	\$ 59,994.30	\$ 0.54685	\$ 59,994.30	UGI Energy
	TRANSCO	2-6	N	31	\$ 17.05	\$ 0.55000	\$ 17.05	South Bay Energy
	TRANSCO	2-6	N	31	\$ 17.05	\$ 0.55000	\$ 17.05	Eligo Energy
	TRANSCO	3-6	N	620,000	\$ 12,400.00	\$ 0.02000	\$ 12,400.00	Mitsui & Co.
	TRANSCO	3-6	N	310,000	\$ 4,030.00	\$ 0.01300	\$ 4,030.00	Rainbow Energy
	TRANSCO	1-3	N	155,000	\$ 2,030.50	\$ 0.01310	\$ 2,030.50	Spotlight Energy
	TRANSCO	2-3	N	155,000	\$ 1,178.00	\$ 0.00760	\$ 1,178.00	Conoco Phillips
	TRANSCO	3-6	N	310,000	\$ 8,122.00	\$ 0.02620	\$ 8,122.00	Spotlight Energy
				<u>2,021,293</u>			<u>\$ 285,486.75</u>	

M / YR	PIPELINE	PATH	RECALL STATUS	MONTHLY VOLUME DTH	TOTAL MONTHLY CREDIT	CREDIT DTH	TOTAL CREDIT	REPLACEMENT SHIPPER
August-20	TETCO	STX - M3	N	69,471	\$ 41,313.93	\$ 0.5947	\$ 41,313.93	Direct Energy
	TETCO	STX - M3	N	4,836	\$ 2,877.83	\$ 0.5951	\$ 2,877.83	WGL Energy
	TETCO	STX - M3	N	111,879	\$ 66,540.36	\$ 0.5948	\$ 66,540.36	Exelon
	TETCO	STX - M3	N	4,743	\$ 2,821.66	\$ 0.5949	\$ 2,821.66	Statewise
	TETCO	STX - M3	N	44,702	\$ 26,589.04	\$ 0.5948	\$ 26,589.04	SFE Energy
	TETCO	STX - M3	N	4,619	\$ 2,749.62	\$ 0.5953	\$ 2,749.62	Shipley
	TETCO	STX - M3	N	1,581	\$ 937.71	\$ 0.5931	\$ 937.71	EDF Trading
	TETCO	STX - M3	N	11,501	\$ 6,837.42	\$ 0.5945	\$ 6,837.42	Sprague
	TETCO	STX - M3	N	155	\$ 96.45	\$ 0.6223	\$ 96.45	Residents
	TETCO	STX - M3	N	31	\$ 24.41	\$ 0.7874	\$ 24.41	Eligo Energy
	TETCO	STX - M3	N	217	\$ 128.20	\$ 0.5908	\$ 128.20	Median Energy
	TETCO	STX - M3	N	10,199	\$ 6,068.22	\$ 0.5950	\$ 6,068.22	Marathon Power
	TETCO	STX - M3	N	4,247	\$ 2,524.97	\$ 0.5945	\$ 2,524.97	Josco Energy
	TETCO	STX - M3	N	20,119	\$ 11,967.93	\$ 0.5949	\$ 11,967.93	Vista Energy
	TETCO	STX - M3	N	7,533	\$ 4,480.96	\$ 0.5948	\$ 4,480.96	Atlantic Energy
	TETCO	STX - M3	N	3,627	\$ 2,156.23	\$ 0.5945	\$ 2,156.23	Park Power
	TETCO	STX - M3	N	20,615	\$ 12,264.62	\$ 0.5949	\$ 12,264.62	Energy Plus
	TETCO	STX - M3	N	589	\$ 352.85	\$ 0.5991	\$ 352.85	Energy Plus
	TETCO	STX - M3	N	13,113	\$ 7,799.55	\$ 0.5948	\$ 7,799.55	Palmco
	TETCO	STX - M3	N	124	\$ 72.04	\$ 0.5810	\$ 72.04	South Bay
	TETCO	STX - M3	N	1,705	\$ 1,018.28	\$ 0.5972	\$ 1,018.28	American Power
	TETCO	STX - M3	N	775	\$ 465.18	\$ 0.6002	\$ 465.18	Greenlight
	TETCO	STX - M3	N	1,178	\$ 697.17	\$ 0.5918	\$ 697.17	Alpha Gas
	TETCO	STX - M3	N	104,718	\$ 62,275.53	\$ 0.5947	\$ 62,275.53	UGI Energy
	TETCO	STX - M3	N	372	\$ 224.65	\$ 0.6039	\$ 224.65	Nordic Energy
	TETCO	STX - M3	N	4,309	\$ 2,565.25	\$ 0.5953	\$ 2,565.25	MPower
	TETCO	STX - M3	N	3,689	\$ 2,196.51	\$ 0.5954	\$ 2,196.51	CIMA Energy
	TETCO	STX - M3	N	93,000	\$ 3,264.30	\$ 0.0351	\$ 3,264.30	Colonial Energy
	TETCO	STX - M3	N	486,948	\$ 44,312.27	\$ 0.0910	\$ 44,312.27	Tenaska
	TETCO	WLA - M3	N	558,000	\$ 167,288.44	\$ 0.2998	\$ 167,288.44	Grays Ferry
TETCO	WLA - M3	N	558,000	\$ 167,288.44	\$ 0.2998	\$ 167,288.44	Grays Ferry	
				<u>2,146,595</u>			<u>\$ 650,200.02</u>	
	TRANSCO	2-6	N	31	\$ 17.05	\$ 0.55000	\$ 17.05	Eligo Energy
	TRANSCO	2-6	N	124	\$ 67.89	\$ 0.54750	\$ 67.89	South Bay
	TRANSCO	2-6	N	186	\$ 101.68	\$ 0.54667	\$ 101.68	Residents
	TRANSCO	2-6	N	217	\$ 118.73	\$ 0.54714	\$ 118.73	Median Energy
	TRANSCO	2-6	N	372	\$ 203.36	\$ 0.54667	\$ 203.36	Nordic Energy
	TRANSCO	2-6	N	589	\$ 322.09	\$ 0.54684	\$ 322.09	Energy Plus
	TRANSCO	2-6	N	806	\$ 440.82	\$ 0.54692	\$ 440.82	Greenlight
	TRANSCO	2-6	N	1,209	\$ 660.92	\$ 0.54667	\$ 660.92	Alpha Gas
	TRANSCO	2-6	N	1,581	\$ 864.28	\$ 0.54667	\$ 864.28	EDF Trading
	TRANSCO	2-6	N	1,736	\$ 949.53	\$ 0.54696	\$ 949.53	American Power
	TRANSCO	2-6	N	3,627	\$ 1,983.38	\$ 0.54684	\$ 1,983.38	Park Power
	TRANSCO	2-6	N	3,720	\$ 2,034.22	\$ 0.54683	\$ 2,034.22	CIMA Energy
	TRANSCO	2-6	N	4,247	\$ 2,322.52	\$ 0.54686	\$ 2,322.52	Josco Energy
	TRANSCO	2-6	N	4,309	\$ 2,356.31	\$ 0.54683	\$ 2,356.31	MPower
	TRANSCO	2-6	N	4,619	\$ 2,525.88	\$ 0.54685	\$ 2,525.88	Shipley
	TRANSCO	2-6	N	4,774	\$ 2,610.51	\$ 0.54682	\$ 2,610.51	Statewise
	TRANSCO	2-6	N	4,836	\$ 2,644.30	\$ 0.54679	\$ 2,644.30	WGL Energy
	TRANSCO	2-6	N	7,533	\$ 4,119.28	\$ 0.54683	\$ 4,119.28	Atlantic Energy
	TRANSCO	2-6	N	10,199	\$ 5,577.21	\$ 0.54684	\$ 5,577.21	Marathon Power
	TRANSCO	2-6	N	11,501	\$ 6,289.28	\$ 0.54685	\$ 6,289.28	Sprague
	TRANSCO	2-6	N	13,113	\$ 7,170.92	\$ 0.54686	\$ 7,170.92	Palmco
	TRANSCO	2-6	N	20,119	\$ 11,002.21	\$ 0.54686	\$ 11,002.21	Vista Energy
	TRANSCO	2-6	N	20,615	\$ 11,273.46	\$ 0.54686	\$ 11,273.46	Energy Plus
	TRANSCO	2-6	N	44,733	\$ 24,462.10	\$ 0.54685	\$ 24,462.10	SFE Energy
	TRANSCO	2-6	N	69,502	\$ 38,007.24	\$ 0.54685	\$ 38,007.24	Direct Energy
	TRANSCO	2-6	N	104,718	\$ 57,265.06	\$ 0.54685	\$ 57,265.06	UGI Energy
	TRANSCO	2-6	N	111,910	\$ 61,197.72	\$ 0.54685	\$ 61,197.72	Exelon
	TRANSCO	1-3	N	155,000	\$ 2,030.50	\$ 0.01310	\$ 2,030.50	Spotlight Energy
	TRANSCO	2-3	N	155,000	\$ 1,178.00	\$ 0.00760	\$ 1,178.00	Conoco Phillips
	TRANSCO	2-3	N	155,000	\$ 3,875.00	\$ 0.02500	\$ 3,875.00	Koch Energy Services
	TRANSCO	3-6	N	310,000	\$ 8,122.00	\$ 0.02620	\$ 8,122.00	Spotlight Energy
	TRANSCO	3-6	N	310,000	\$ 4,030.00	\$ 0.01300	\$ 4,030.00	Rainbow Energy
	TRANSCO	3-6	N	620,000	\$ 12,400.00	\$ 0.02000	\$ 12,400.00	Mitsui & Co.
	TRANSCO	1-3	N	100,000	\$ 4,000.00	\$ 0.04000	\$ 4,000.00	Tenaska
	TRANSCO	2-3	N	100,000	\$ 4,000.00	\$ 0.04000	\$ 4,000.00	Tenaska
				<u>2,355,926</u>			<u>\$ 286,223.45</u>	

M / YR	PIPELINE	PATH	RECALL STATUS	MONTHLY VOLUME DTH	TOTAL MONTHLY CREDIT	CREDIT DTH	TOTAL CREDIT	REPLACEMENT SHIPPER
September-20	TETCO	STX - M3	N	65,010	\$ 38,662.57	\$ 0.5947	\$ 38,662.57	Direct Energy
	TETCO	STX - M3	N	4,170	\$ 2,482.51	\$ 0.5953	\$ 2,482.51	WGL Energy
	TETCO	STX - M3	N	98,970	\$ 58,862.91	\$ 0.5948	\$ 58,862.91	Exelon
	TETCO	STX - M3	N	4,410	\$ 2,621.93	\$ 0.5945	\$ 2,621.93	Statewise
	TETCO	STX - M3	N	42,180	\$ 25,087.36	\$ 0.5948	\$ 25,087.36	SFE Energy
	TETCO	STX - M3	N	4,320	\$ 2,567.59	\$ 0.5943	\$ 2,567.59	Shipley
	TETCO	STX - M3	N	1,560	\$ 931.07	\$ 0.5968	\$ 931.07	EDF Trading
	TETCO	STX - M3	N	8,970	\$ 5,337.21	\$ 0.5950	\$ 5,337.21	Sprague
	TETCO	STX - M3	N	360	\$ 217.39	\$ 0.6039	\$ 217.39	Residents
	TETCO	STX - M3	N	30	\$ 23.63	\$ 0.7877	\$ 23.63	Eligo Energy
	TETCO	STX - M3	N	180	\$ 108.70	\$ 0.6039	\$ 108.70	Median Energy
	TETCO	STX - M3	N	10,020	\$ 5,957.55	\$ 0.5946	\$ 5,957.55	Marathon Power
	TETCO	STX - M3	N	3,870	\$ 2,304.09	\$ 0.5954	\$ 2,304.09	Josco Energy
	TETCO	STX - M3	N	18,720	\$ 11,131.71	\$ 0.5946	\$ 11,131.71	Vista Energy
	TETCO	STX - M3	N	6,960	\$ 4,142.61	\$ 0.5952	\$ 4,142.61	Atlantic Energy
	TETCO	STX - M3	N	3,390	\$ 2,016.97	\$ 0.5950	\$ 2,016.97	Park Power
	TETCO	STX - M3	N	19,590	\$ 11,651.60	\$ 0.5948	\$ 11,651.60	Energy Plus
	TETCO	STX - M3	N	540	\$ 317.87	\$ 0.5886	\$ 317.87	Energy Plus
	TETCO	STX - M3	N	12,360	\$ 7,354.15	\$ 0.5950	\$ 7,354.15	Palmco
	TETCO	STX - M3	N	120	\$ 69.73	\$ 0.5811	\$ 69.73	South Bay
	TETCO	STX - M3	N	1,710	\$ 1,016.17	\$ 0.5943	\$ 1,016.17	American Power
	TETCO	STX - M3	N	930	\$ 550.63	\$ 0.5921	\$ 550.63	Greenlight
	TETCO	STX - M3	N	1,080	\$ 643.96	\$ 0.5963	\$ 643.96	Alpha Gas
	TETCO	STX - M3	N	94,110	\$ 55,969.22	\$ 0.5947	\$ 55,969.22	UGI Energy
	TETCO	STX - M3	N	540	\$ 317.87	\$ 0.5886	\$ 317.87	Nordic Energy
	TETCO	STX - M3	N	3,900	\$ 2,319.45	\$ 0.5947	\$ 2,319.45	MPOWER
	TETCO	STX - M3	N	3,120	\$ 1,853.92	\$ 0.5942	\$ 1,853.92	CIMA Energy
	TETCO	STX - M3	N	90,000	\$ 3,159.00	\$ 0.0351	\$ 3,159.00	Colonial Energy
	TETCO	STX - M3	N	471,240	\$ 42,882.84	\$ 0.0910	\$ 42,882.84	Tenaska
	TETCO	WLA - M3	N	540,000	\$ 167,292.01	\$ 0.3098	\$ 167,292.01	Grays Ferry
TETCO	WLA - M3	N	540,000	\$ 167,292.01	\$ 0.3098	\$ 167,292.01	Grays Ferry	
				<u>2,052,360</u>			<u>\$ 625,146.23</u>	
	TRANSCO	2-6	N	30	\$ 16.50	\$ 0.55000	\$ 16.50	Eligo Energy
	TRANSCO	2-6	N	120	\$ 65.70	\$ 0.54750	\$ 65.70	South Bay
	TRANSCO	2-6	N	390	\$ 213.30	\$ 0.54692	\$ 213.30	Residents
	TRANSCO	2-6	N	210	\$ 114.90	\$ 0.54714	\$ 114.90	Median Energy
	TRANSCO	2-6	N	570	\$ 311.70	\$ 0.54684	\$ 311.70	Nordic Energy
	TRANSCO	2-6	N	540	\$ 295.20	\$ 0.54667	\$ 295.20	Energy Plus
	TRANSCO	2-6	N	930	\$ 508.50	\$ 0.54677	\$ 508.50	Greenlight
	TRANSCO	2-6	N	1,110	\$ 606.90	\$ 0.54676	\$ 606.90	Alpha Gas
	TRANSCO	2-6	N	1,590	\$ 869.40	\$ 0.54679	\$ 869.40	EDF Trading
	TRANSCO	2-6	N	1,710	\$ 935.40	\$ 0.54702	\$ 935.40	American Power
	TRANSCO	2-6	N	3,420	\$ 1,870.20	\$ 0.54684	\$ 1,870.20	Park Power
	TRANSCO	2-6	N	3,120	\$ 1,706.10	\$ 0.54683	\$ 1,706.10	CIMA Energy
	TRANSCO	2-6	N	3,870	\$ 2,116.20	\$ 0.54682	\$ 2,116.20	Josco Energy
	TRANSCO	2-6	N	3,930	\$ 2,149.20	\$ 0.54687	\$ 2,149.20	MPOWER
	TRANSCO	2-6	N	4,350	\$ 2,378.70	\$ 0.54683	\$ 2,378.70	Shipley
	TRANSCO	2-6	N	4,410	\$ 2,411.40	\$ 0.54680	\$ 2,411.40	Statewise
	TRANSCO	2-6	N	4,200	\$ 2,296.80	\$ 0.54686	\$ 2,296.80	WGL Energy
	TRANSCO	2-6	N	6,960	\$ 3,806.10	\$ 0.54685	\$ 3,806.10	Atlantic Energy
	TRANSCO	2-6	N	10,050	\$ 5,495.70	\$ 0.54684	\$ 5,495.70	Marathon Power
	TRANSCO	2-6	N	9,000	\$ 4,921.80	\$ 0.54687	\$ 4,921.80	Sprague
	TRANSCO	2-6	N	12,390	\$ 6,775.50	\$ 0.54685	\$ 6,775.50	Palmco
	TRANSCO	2-6	N	18,720	\$ 10,237.20	\$ 0.54686	\$ 10,237.20	Vista Energy
	TRANSCO	2-6	N	19,590	\$ 10,712.70	\$ 0.54685	\$ 10,712.70	Energy Plus
	TRANSCO	2-6	N	42,180	\$ 23,066.10	\$ 0.54685	\$ 23,066.10	SFE Energy
	TRANSCO	2-6	N	65,040	\$ 35,567.40	\$ 0.54685	\$ 35,567.40	Direct Energy
	TRANSCO	2-6	N	94,110	\$ 51,464.10	\$ 0.54685	\$ 51,464.10	UGI Energy
	TRANSCO	2-6	N	99,000	\$ 54,138.30	\$ 0.54685	\$ 54,138.30	Exelon
	TRANSCO	1-3	N	150,000	\$ 1,965.00	\$ 0.01310	\$ 1,965.00	Spotlight Energy
	TRANSCO	2-3	N	150,000	\$ 1,140.00	\$ 0.00760	\$ 1,140.00	Conoco Phillips
	TRANSCO	3-6	N	300,000	\$ 7,860.00	\$ 0.02620	\$ 7,860.00	Spotlight Energy
	TRANSCO	3-6	N	300,000	\$ 3,900.00	\$ 0.01300	\$ 3,900.00	Rainbow Energy
	TRANSCO	3-6	N	600,000	\$ 12,000.00	\$ 0.02000	\$ 12,000.00	Mitsui & Co.
	TRANSCO	1-3	N	135,000	\$ 6,075.00	\$ 0.04500	\$ 6,075.00	BASF Intertrade Corp.
	TRANSCO	2-3	N	135,000	\$ 6,142.50	\$ 0.04550	\$ 6,142.50	BASF Intertrade Corp.
				<u>2,181,540</u>			<u>\$ 264,133.50</u>	

M / YR	PIPELINE	PATH	RECALL STATUS	MONTHLY VOLUME DTH	TOTAL MONTHLY CREDIT	CREDIT DTH	TOTAL CREDIT	REPLACEMENT SHIPPER
October-20	TETCO	STX - M3	N	4,278	\$ 2,540.83	\$ 0.5939	\$ 2,540.83	Shipley
	TETCO	STX - M3	N	1,612	\$ 962.12	\$ 0.5968	\$ 962.12	EDF Trading
	TETCO	STX - M3	N	19,840	\$ 11,799.46	\$ 0.5947	\$ 11,799.46	Energy Plus
	TETCO	STX - M3	N	558	\$ 328.44	\$ 0.5886	\$ 328.44	Energy Plus
	TETCO	STX - M3	N	40,300	\$ 23,967.62	\$ 0.5947	\$ 23,967.62	SFE Energy
	TETCO	STX - M3	N	4,061	\$ 2,412.64	\$ 0.5941	\$ 2,412.64	Statewise
	TETCO	STX - M3	N	496	\$ 296.69	\$ 0.5982	\$ 296.69	Residents
	TETCO	STX - M3	N	31	\$ 24.41	\$ 0.7874	\$ 24.41	Eligo Energy
	TETCO	STX - M3	N	155	\$ 96.45	\$ 0.6223	\$ 96.45	Median Energy
	TETCO	STX - M3	N	9,176	\$ 5,458.95	\$ 0.5949	\$ 5,458.95	Marathon Power
	TETCO	STX - M3	N	3,658	\$ 2,172.10	\$ 0.5938	\$ 2,172.10	Josco Energy
	TETCO	STX - M3	N	17,918	\$ 10,652.96	\$ 0.5945	\$ 10,652.96	Vista Energy
	TETCO	STX - M3	N	4,712	\$ 2,805.79	\$ 0.5955	\$ 2,805.79	Sprague
	TETCO	STX - M3	N	1,798	\$ 1,065.91	\$ 0.5928	\$ 1,065.91	American Power
	TETCO	STX - M3	N	1,023	\$ 609.26	\$ 0.5956	\$ 609.26	Greenlight
	TETCO	STX - M3	N	6,789	\$ 4,040.18	\$ 0.5951	\$ 4,040.18	Atlantic Energy
	TETCO	STX - M3	N	81,158	\$ 48,263.68	\$ 0.5947	\$ 48,263.68	Exelon
	TETCO	STX - M3	N	3,596	\$ 2,140.35	\$ 0.5952	\$ 2,140.35	Park Power
	TETCO	STX - M3	N	11,439	\$ 6,805.67	\$ 0.5950	\$ 6,805.67	Palmco
	TETCO	STX - M3	N	82,398	\$ 49,001.15	\$ 0.5947	\$ 49,001.15	UGI Energy
	TETCO	STX - M3	N	3,999	\$ 2,380.89	\$ 0.5954	\$ 2,380.89	WGL Energy
	TETCO	STX - M3	N	60,667	\$ 36,079.62	\$ 0.5947	\$ 36,079.62	Direct Energy
	TETCO	STX - M3	N	1,023	\$ 609.26	\$ 0.5956	\$ 609.26	Alpha Gas
	TETCO	STX - M3	N	1,767	\$ 1,050.03	\$ 0.5942	\$ 1,050.03	CIMA Energy
	TETCO	STX - M3	N	3,441	\$ 2,043.91	\$ 0.5940	\$ 2,043.91	MPower
	TETCO	STX - M3	N	806	\$ 481.06	\$ 0.5968	\$ 481.06	Nordic Energy
	TETCO	STX - M3	N	124	\$ 72.04	\$ 0.5810	\$ 72.04	South Bay
	TETCO	STX - M3	N	93,000	\$ 3,264.30	\$ 0.0351	\$ 3,264.30	Colonial Energy
	TETCO	STX - M3	N	486,948	\$ 44,312.27	\$ 0.0910	\$ 44,312.27	Tenaska
	TETCO	WLA - M3	N	558,000	\$ 53,010.00	\$ 0.0950	\$ 53,010.00	Vitol
TETCO	WLA - M3	N	558,000	\$ 56,358.00	\$ 0.1010	\$ 56,358.00	Spotlight Energy	
				2,062,771			\$ 375,106.04	
	TRANSCO	2 - 6	N	31	\$ 17.05	\$ 0.55000	\$ 17.05	Eligo Energy
	TRANSCO	2 - 6	N	155	\$ 84.63	\$ 0.54600	\$ 84.63	South Bay
	TRANSCO	2 - 6	N	527	\$ 287.99	\$ 0.54647	\$ 287.99	Residents
	TRANSCO	2 - 6	N	155	\$ 84.63	\$ 0.54600	\$ 84.63	Median Energy
	TRANSCO	2 - 6	N	837	\$ 457.56	\$ 0.54667	\$ 457.56	Nordic Energy
	TRANSCO	2 - 6	N	558	\$ 305.04	\$ 0.54667	\$ 305.04	Energy Plus
	TRANSCO	2 - 6	N	1,023	\$ 559.24	\$ 0.54667	\$ 559.24	Greenlight
	TRANSCO	2 - 6	N	1,054	\$ 576.29	\$ 0.54676	\$ 576.29	Alpha Gas
	TRANSCO	2 - 6	N	1,643	\$ 898.38	\$ 0.54679	\$ 898.38	EDF Trading
	TRANSCO	2 - 6	N	1,798	\$ 983.32	\$ 0.54690	\$ 983.32	American Power
	TRANSCO	2 - 6	N	3,627	\$ 1,983.38	\$ 0.54684	\$ 1,983.38	Park Power
	TRANSCO	2 - 6	N	1,767	\$ 966.58	\$ 0.54702	\$ 966.58	CIMA Energy
	TRANSCO	2 - 6	N	3,658	\$ 2,000.43	\$ 0.54686	\$ 2,000.43	Josco Energy
	TRANSCO	2 - 6	N	3,441	\$ 1,881.70	\$ 0.54685	\$ 1,881.70	MPower
	TRANSCO	2 - 6	N	4,278	\$ 2,339.26	\$ 0.54681	\$ 2,339.26	Shipley
	TRANSCO	2 - 6	N	4,061	\$ 2,220.84	\$ 0.54687	\$ 2,220.84	Statewise
	TRANSCO	2 - 6	N	3,999	\$ 2,186.74	\$ 0.54682	\$ 2,186.74	WGL Energy
	TRANSCO	2 - 6	N	6,789	\$ 3,712.56	\$ 0.54685	\$ 3,712.56	Atlantic Energy
	TRANSCO	2 - 6	N	9,176	\$ 5,017.97	\$ 0.54686	\$ 5,017.97	Marathon Power
	TRANSCO	2 - 6	N	4,743	\$ 2,593.46	\$ 0.54680	\$ 2,593.46	Sprague
	TRANSCO	2 - 6	N	11,470	\$ 6,272.23	\$ 0.54684	\$ 6,272.23	Palmco
	TRANSCO	2 - 6	N	17,949	\$ 9,815.22	\$ 0.54684	\$ 9,815.22	Vista Energy
	TRANSCO	2 - 6	N	19,840	\$ 10,849.69	\$ 0.54686	\$ 10,849.69	Energy Plus
	TRANSCO	2 - 6	N	40,300	\$ 22,038.21	\$ 0.54685	\$ 22,038.21	SFE Energy
	TRANSCO	2 - 6	N	60,667	\$ 33,175.89	\$ 0.54685	\$ 33,175.89	Direct Energy
	TRANSCO	2 - 6	N	82,429	\$ 45,076.17	\$ 0.54685	\$ 45,076.17	UGI Energy
	TRANSCO	2 - 6	N	81,189	\$ 44,398.20	\$ 0.54685	\$ 44,398.20	Exelon
	TRANSCO	1 - 3	N	155,000	\$ 2,030.50	\$ 0.01310	\$ 2,030.50	Spotlight Energy
	TRANSCO	2 - 3	N	155,000	\$ 1,178.00	\$ 0.00760	\$ 1,178.00	Conoco Phillips
	TRANSCO	3 - 6	N	310,000	\$ 8,122.00	\$ 0.02620	\$ 8,122.00	Spotlight Energy
	TRANSCO	3 - 6	N	310,000	\$ 4,030.00	\$ 0.01300	\$ 4,030.00	Rainbow Energy
	TRANSCO	3 - 6	N	620,000	\$ 12,400.00	\$ 0.02000	\$ 12,400.00	Mitsui & Co.
	TRANSCO	1 - 3	N	155,000	\$ 6,975.00	\$ 0.04500	\$ 6,975.00	BASF Intertrade
	TRANSCO	2 - 3	N	155,000	\$ 7,052.50	\$ 0.04550	\$ 7,052.50	BASF Intertrade
				2,227,164			\$ 242,570.66	



Philadelphia Gas Works  
 Pennsylvania Public Utilities Commission  
 52 Pa. Code §53.61, et seq.  
 For the Twelve Months Ending December 31, 2020

M / YR	PIPELINE	PATH	RECALL STATUS	MONTHLY VOLUME DTH	TOTAL MONTHLY CREDIT	CREDIT DTH	TOTAL CREDIT	REPLACEMENT SHIPPER
November-20	TETCO	STX - M3	N	1,860	\$ 1,052.55	\$ 0.5659	\$ 1,052.55	EDF Trading
	TETCO	STX - M3	N	49,080	\$ 27,719.48	\$ 0.5648	\$ 27,719.48	SFE Energy
	TETCO	STX - M3	N	570	\$ 323.50	\$ 0.5675	\$ 323.50	Energy Plus
	TETCO	STX - M3	N	22,680	\$ 12,804.47	\$ 0.5646	\$ 12,804.47	Energy Plus
	TETCO	STX - M3	N	121,680	\$ 68,721.05	\$ 0.5648	\$ 68,721.05	UGI Energy
	TETCO	STX - M3	N	4,470	\$ 2,526.07	\$ 0.5651	\$ 2,526.07	MPower
	TETCO	STX - M3	N	137,430	\$ 77,613.39	\$ 0.5647	\$ 77,613.39	Exelon
	TETCO	STX - M3	N	5,190	\$ 2,931.65	\$ 0.5649	\$ 2,931.65	Statewise
	TETCO	STX - M3	N	20,580	\$ 11,623.81	\$ 0.5648	\$ 11,623.81	Vista Energy
	TETCO	STX - M3	N	4,380	\$ 2,474.69	\$ 0.5650	\$ 2,474.69	Josco Energy
	TETCO	STX - M3	N	20,940	\$ 11,823.98	\$ 0.5647	\$ 11,823.98	Sprague
	TETCO	STX - M3	N	60	\$ 35.99	\$ 0.5998	\$ 35.99	Eligo Energy
	TETCO	STX - M3	N	210	\$ 118.08	\$ 0.5623	\$ 118.08	Median Energy
	TETCO	STX - M3	N	480	\$ 266.80	\$ 0.5558	\$ 266.80	Residents
	TETCO	STX - M3	N	4,740	\$ 2,674.88	\$ 0.5643	\$ 2,674.88	Shipleys
	TETCO	STX - M3	N	4,230	\$ 2,387.36	\$ 0.5644	\$ 2,387.36	Park Power
	TETCO	STX - M3	N	80,580	\$ 45,504.07	\$ 0.5647	\$ 45,504.07	Direct Energy
	TETCO	STX - M3	N	7,860	\$ 4,441.11	\$ 0.5650	\$ 4,441.11	Atlantic Energy
	TETCO	STX - M3	N	1,500	\$ 847.15	\$ 0.5648	\$ 847.15	Greenlight
	TETCO	STX - M3	N	1,830	\$ 1,031.93	\$ 0.5639	\$ 1,031.93	American Power
	TETCO	STX - M3	N	4,530	\$ 2,556.79	\$ 0.5644	\$ 2,556.79	CIMA Energy
	TETCO	STX - M3	N	660	\$ 374.85	\$ 0.5680	\$ 374.85	Nordic Energy
	TETCO	STX - M3	N	1,230	\$ 693.08	\$ 0.5635	\$ 693.08	Alpha Gas
	TETCO	STX - M3	N	120	\$ 66.73	\$ 0.5561	\$ 66.73	South Bay
	TETCO	STX - M3	N	6,720	\$ 3,794.15	\$ 0.5646	\$ 3,794.15	WGL Energy
	TETCO	STX - M3	N	11,910	\$ 6,725.77	\$ 0.5647	\$ 6,725.77	Marathon Power
	TETCO	STX - M3	N	14,190	\$ 8,014.49	\$ 0.5648	\$ 8,014.49	Palmco
	TETCO	STX - M3	N	90,000	\$ 75,150.00	\$ 0.8350	\$ 75,150.00	Vitol
	TETCO	STX - M3	N	471,240	\$ 475,952.40	\$ 1.0100	\$ 475,952.40	Spotlight Energy
					<u>1,090,950</u>			<u>\$ 850,250.27</u>
	TRANSCO	2 - 6	N	90	\$ 49.20	\$ 0.54667	\$ 49.20	Eligo Energy
	TRANSCO	2 - 6	N	150	\$ 81.90	\$ 0.54600	\$ 81.90	South Bay
	TRANSCO	2 - 6	N	210	\$ 114.90	\$ 0.54714	\$ 114.90	Median Energy
	TRANSCO	2 - 6	N	450	\$ 246.00	\$ 0.54667	\$ 246.00	Residents
	TRANSCO	2 - 6	N	600	\$ 328.20	\$ 0.54700	\$ 328.20	Energy Plus
	TRANSCO	2 - 6	N	690	\$ 377.40	\$ 0.54696	\$ 377.40	Nordic Energy
	TRANSCO	2 - 6	N	1,260	\$ 688.80	\$ 0.54667	\$ 688.80	Alpha Gas
	TRANSCO	2 - 6	N	1,500	\$ 820.20	\$ 0.54680	\$ 820.20	Greenlight
	TRANSCO	2 - 6	N	1,860	\$ 1,017.30	\$ 0.54694	\$ 1,017.30	American Power
	TRANSCO	2 - 6	N	1,890	\$ 1,033.80	\$ 0.54698	\$ 1,033.80	EDF Trading
	TRANSCO	2 - 6	N	4,230	\$ 2,313.00	\$ 0.54681	\$ 2,313.00	Park Power
	TRANSCO	2 - 6	N	4,410	\$ 2,411.40	\$ 0.54680	\$ 2,411.40	Josco Energy
	TRANSCO	2 - 6	N	4,470	\$ 2,444.40	\$ 0.54685	\$ 2,444.40	MPower
	TRANSCO	2 - 6	N	4,530	\$ 2,477.10	\$ 0.54682	\$ 2,477.10	CIMA Energy
	TRANSCO	2 - 6	N	4,740	\$ 2,592.00	\$ 0.54684	\$ 2,592.00	Shipleys
	TRANSCO	2 - 6	N	5,220	\$ 2,854.80	\$ 0.54690	\$ 2,854.80	Statewise
	TRANSCO	2 - 6	N	6,750	\$ 3,691.20	\$ 0.54684	\$ 3,691.20	WGL Energy
	TRANSCO	2 - 6	N	7,860	\$ 4,298.10	\$ 0.54683	\$ 4,298.10	Atlantic Energy
	TRANSCO	2 - 6	N	11,910	\$ 6,513.00	\$ 0.54685	\$ 6,513.00	Marathon Power
	TRANSCO	2 - 6	N	14,220	\$ 7,776.00	\$ 0.54684	\$ 7,776.00	Palmco
	TRANSCO	2 - 6	N	20,580	\$ 11,254.20	\$ 0.54685	\$ 11,254.20	Vista Energy
	TRANSCO	2 - 6	N	20,970	\$ 11,467.50	\$ 0.54685	\$ 11,467.50	Sprague
	TRANSCO	2 - 6	N	22,680	\$ 12,402.60	\$ 0.54685	\$ 12,402.60	Energy Plus
	TRANSCO	2 - 6	N	49,110	\$ 26,856.00	\$ 0.54685	\$ 26,856.00	SFE Energy
	TRANSCO	2 - 6	N	80,580	\$ 44,065.20	\$ 0.54685	\$ 44,065.20	Direct Energy
	TRANSCO	2 - 6	N	121,710	\$ 66,557.40	\$ 0.54685	\$ 66,557.40	UGI Energy
	TRANSCO	2 - 6	N	137,430	\$ 75,153.60	\$ 0.54685	\$ 75,153.60	Exelon
	TRANSCO	3 - 6	N	300,000	\$ 235,920.00	\$ 0.78640	\$ 235,920.00	Castleton Commodities
	TRANSCO	1 - 3	N	255,000	\$ -	\$ -	\$ -	Tioga LNG LLC
	TRANSCO	3 - 6	N	750,000	\$ -	\$ -	\$ -	Tioga LNG LLC
	TRANSCO	3 - 6	N	750,000	\$ -	\$ -	\$ -	Tioga LNG LLC
				<u>2,585,100</u>			<u>\$ 525,805.20</u>	

M / YR	PIPELINE	PATH	RECALL STATUS	MONTHLY VOLUME DTH	TOTAL MONTHLY CREDIT	CREDIT DTH	TOTAL CREDIT	REPLACEMENT SHIPPER	
December-20	TETCO	STX - M3	N	23,901	\$ 13,533.03	\$ 0.5662	\$ 13,533.03	Energy Plus	
	TETCO	STX - M3	N	104,718	\$ 59,297.53	\$ 0.5663	\$ 59,297.53	Exelon	
	TETCO	STX - M3	N	82,367	\$ 46,642.24	\$ 0.5663	\$ 46,642.24	Direct Energy	
	TETCO	STX - M3	N	4,836	\$ 2,739.63	\$ 0.5665	\$ 2,739.63	Shipley	
	TETCO	STX - M3	N	21,080	\$ 11,937.18	\$ 0.5663	\$ 11,937.18	Vista Energy	
	TETCO	STX - M3	N	2,077	\$ 1,175.63	\$ 0.5660	\$ 1,175.63	EDF Trading	
	TETCO	STX - M3	N	50,158	\$ 28,401.29	\$ 0.5662	\$ 28,401.29	SFE Energy	
	TETCO	STX - M3	N	21,297	\$ 12,059.53	\$ 0.5663	\$ 12,059.53	Sprague	
	TETCO	STX - M3	N	589	\$ 335.17	\$ 0.5690	\$ 335.17	Energy Plus	
	TETCO	STX - M3	N	4,526	\$ 2,558.55	\$ 0.5653	\$ 2,558.55	Park Power	
	TETCO	STX - M3	N	14,446	\$ 8,181.56	\$ 0.5664	\$ 8,181.56	Palmco	
	TETCO	STX - M3	N	496	\$ 276.44	\$ 0.5573	\$ 276.44	Residents	
	TETCO	STX - M3	N	217	\$ 122.34	\$ 0.5638	\$ 122.34	Median Energy	
	TETCO	STX - M3	N	12,307	\$ 6,968.66	\$ 0.5662	\$ 6,968.66	Marathon Power	
	TETCO	STX - M3	N	4,526	\$ 2,558.55	\$ 0.5653	\$ 2,558.55	Josco Energy	
	TETCO	STX - M3	N	7,998	\$ 4,526.93	\$ 0.5660	\$ 4,526.93	Atlantic Energy	
	TETCO	STX - M3	N	1,922	\$ 1,090.57	\$ 0.5674	\$ 1,090.57	American Power	
	TETCO	STX - M3	N	126,542	\$ 71,660.39	\$ 0.5663	\$ 71,660.39	UGI Energy	
	TETCO	STX - M3	N	7,812	\$ 4,425.97	\$ 0.5666	\$ 4,425.97	WGL Energy	
	TETCO	STX - M3	N	5,270	\$ 2,984.31	\$ 0.5663	\$ 2,984.31	Statewise	
	TETCO	STX - M3	N	4,650	\$ 2,633.22	\$ 0.5663	\$ 2,633.22	CIMA Energy	
	TETCO	STX - M3	N	124	\$ 69.12	\$ 0.5574	\$ 69.12	Eligo Energy	
	TETCO	STX - M3	N	2,046	\$ 1,154.18	\$ 0.5641	\$ 1,154.18	Greenlight	
	TETCO	STX - M3	N	558	\$ 313.80	\$ 0.5624	\$ 313.80	Nordic Energy	
	TETCO	STX - M3	N	1,271	\$ 718.11	\$ 0.5650	\$ 718.11	Alpha Gas	
	TETCO	STX - M3	N	4,526	\$ 2,564.07	\$ 0.5665	\$ 2,564.07	MPower	
	TETCO	STX - M3	N	186	\$ 100.89	\$ 0.5424	\$ 100.89	South Bay	
	TETCO	STX - M3	N	93,000	\$ 77,655.00	\$ 0.8350	\$ 77,655.00	Vitol	
	TETCO	STX - M3	N	486,948	\$ 491,817.48	\$ 1.0100	\$ 491,817.48	Spotlight Energy	
					<u>1,090,394</u>			<u>\$ 858,501.37</u>	
		TRANSCO	2 - 6	N	124	\$ 67.89	\$ 0.54750	\$ 67.89	Eligo Energy
		TRANSCO	2 - 6	N	186	\$ 101.68	\$ 0.54667	\$ 101.68	South Bay
		TRANSCO	2 - 6	N	217	\$ 118.73	\$ 0.54714	\$ 118.73	Median Energy
	TRANSCO	2 - 6	N	496	\$ 271.25	\$ 0.54688	\$ 271.25	Residents	
	TRANSCO	2 - 6	N	589	\$ 322.09	\$ 0.54684	\$ 322.09	Energy Plus	
	TRANSCO	2 - 6	N	589	\$ 322.09	\$ 0.54684	\$ 322.09	Nordic Energy	
	TRANSCO	2 - 6	N	1,271	\$ 695.02	\$ 0.54683	\$ 695.02	Alpha Gas	
	TRANSCO	2 - 6	N	1,922	\$ 1,051.21	\$ 0.54694	\$ 1,051.21	American Power	
	TRANSCO	2 - 6	N	2,046	\$ 1,119.10	\$ 0.54697	\$ 1,119.10	Greenlight	
	TRANSCO	2 - 6	N	2,077	\$ 1,135.84	\$ 0.54687	\$ 1,135.84	EDF Trading	
	TRANSCO	2 - 6	N	4,495	\$ 2,457.99	\$ 0.54683	\$ 2,457.99	Josco Energy	
	TRANSCO	2 - 6	N	4,495	\$ 2,457.99	\$ 0.54683	\$ 2,457.99	Park Power	
	TRANSCO	2 - 6	N	4,526	\$ 2,475.04	\$ 0.54685	\$ 2,475.04	MPower	
	TRANSCO	2 - 6	N	4,650	\$ 2,542.62	\$ 0.54680	\$ 2,542.62	CIMA Energy	
	TRANSCO	2 - 6	N	4,836	\$ 2,644.30	\$ 0.54679	\$ 2,644.30	Shipley	
	TRANSCO	2 - 6	N	5,301	\$ 2,899.12	\$ 0.54690	\$ 2,899.12	Statewise	
	TRANSCO	2 - 6	N	7,812	\$ 4,271.80	\$ 0.54683	\$ 4,271.80	WGL Energy	
	TRANSCO	2 - 6	N	8,029	\$ 4,390.53	\$ 0.54683	\$ 4,390.53	Atlantic Energy	
	TRANSCO	2 - 6	N	12,307	\$ 6,730.10	\$ 0.54685	\$ 6,730.10	Marathon Power	
	TRANSCO	2 - 6	N	14,477	\$ 7,916.78	\$ 0.54685	\$ 7,916.78	Palmco	
	TRANSCO	2 - 6	N	21,297	\$ 11,646.08	\$ 0.54684	\$ 11,646.08	Sprague	
	TRANSCO	2 - 6	N	23,901	\$ 13,070.22	\$ 0.54685	\$ 13,070.22	Energy Plus	
	TRANSCO	2 - 6	N	50,189	\$ 27,445.85	\$ 0.54685	\$ 27,445.85	SFE Energy	
	TRANSCO	2 - 6	N	82,367	\$ 45,042.38	\$ 0.54685	\$ 45,042.38	Direct Energy	
	TRANSCO	2 - 6	N	104,718	\$ 57,265.06	\$ 0.54685	\$ 57,265.06	Exelon	
	TRANSCO	2 - 6	N	126,573	\$ 69,216.49	\$ 0.54685	\$ 69,216.49	UGI Energy	
	TRANSCO	2 - 6	N	20,400	\$ 11,155.80	\$ 0.54685	\$ 11,155.80	Vista Energy	
	TRANSCO	3 - 6	N	310,000	\$ 243,784.00	\$ 0.78640	\$ 243,784.00	Castleton Commodities	
	TRANSCO	1 - 3	N	263,500	\$ -	\$ -	\$ -	Tioga LNG LLC	
	TRANSCO	3 - 6	N	775,000	\$ -	\$ -	\$ -	Tioga LNG LLC	
	TRANSCO	3 - 6	N	775,000	\$ -	\$ -	\$ -	Tioga LNG LLC	
				<u>2,633,390</u>			<u>\$ 522,617.05</u>		

**Philadelphia Gas Works**

Pennsylvania Public Utility Commission  
52 Pa. Code § 53.61, et seq.

**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:

- (8) A list of agreements to transport gas by the utility through its system, for other utilities, pipelines or jurisdictional customers including the quantity and price of the transportation.

**Response:**

Please see the attached list of gas transportation agreements for PGW's jurisdictional customers. PGW has no transportation agreements with other utilities or pipeline customers.

**Philadelphia Gas Works**  
**January 2020 - December 2020**

MTR_NBR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL_CCF	MDQ (dth)	MDQ (mcf)
2123517	25211	23673	21208	16985	9311	5181	3814	4148	4845	6024	16641	27415	164456	180	174
2250854	79593	69780	51255	40929	0	0	0	0	0	6952	40267	73967	362743	784	758
2026784	7958	6401	5497	5196	3435	586	514	531	657	3063	5516	8975	48330	72	70
2024683	25577	19991	16167	14774	6021	1762	1588	1637	3068	9150	15645	22362	137742	291	281
2188212	18427	14483	10603	7394	1654	0	0	0	0	0	0	0	52562	302	292
2250864	12988	11541	5031	1680	0	0	0	0	0	0	3634	12959	47833	591	572
2239839	22332	20927	18557	14573	5409	93	62	52	31	2665	14067	21210	119978	120	116
2284988	1409867	1321649	1432961	1390595	1309637	1293502	1345305	1301658	1109439	1370596	1317335	1431829	16034371	17957	17367
1611016	1217986	1140160	1235431	1197849	1111909	1097556	1138335	1090457	915143	1173172	1133752	1229765	13681516	17957	17367
2227843	48290	41342	49036	43079	49571	40971	48442	50520	39526	52628	48209	51935	563549	17957	17367
2227846	43654	37390	45031	39085	45360	37156	43451	45424	35160	47491	43733	47594	510529	17957	17367
2064973	162071	149125	139140	125554	113167	88706	79599	81582	84601	99744	117963	158377	1399627	420	406
2250859	12019	10463	6286	5152	6262	1401	3708	3558	3801	6065	8418	16776	83911	346	335
1724230	7184	5943	3357	2637	7058	6449	8059	7875	10187	5884	3509	8277	76419	346	335
2250860	11584	8807	3574	2461	2000	879	968	784	871	2011	4352	11938	50228	375	363
2027533	14547	13191	10906	8259	2988	0	0	0	313	2419	7183	13191	72995	185	179
1987805	10984	8958	4927	1836	203	198	187	185	181	1092	3750	10761	43261	237	229
2035554	3902	3471	2668	2221	1248	542	472	460	503	1396	2192	3952	23026	48	46
2123525	20809	20150	10461	0	0	0	0	0	0	4328	16024	23209	94981	81	78
2250842	23523	20742	16143	12132	3414	21	0	0	10	2985	8898	23241	111110	209	202
2064975	31146	26023	12988	5185	4359	7020	8838	11172	12681	14470	13381	11593	158857	250	242
2027375	21181	18806	15648	13589	8169	4181	3776	3625	4407	8088	13931	22903	138306	189	183
1806081	0	0	0	0	0	0	0	0	0	0	0	0	0	690	667
2035366	2369	2192	1773	1185	395	0	0	0	0	478	1426	2570	12388	132	128
2035210	1993	1926	1517	986	384	0	0	0	0	487	1301	2160	10754	132	128
1989426	27905	25782	20888	15082	0	8163	2093	2148	2252	7375	15271	25139	152098	320	309
2024644	7908	6986	6319	4849	1641	798	677	748	835	2137	3826	6758	43481	480	464
2123519	75310	71176	66488	18296	9219	4298	6284	23910	24025	33954	54110	0	387069	240	232
1723873	4108	3189	1643	851	324	0	0	0	3	727	1769	4286	16899	120	116
2188210	19918	16038	13286	12135	10396	6647	3618	3744	4255	4629	10626	16245	121537	75	73
2064976	19162	17871	16248	12435	4144	0	0	0	0	713	11929	17490	99992	377	365
2261092	23621	20237	12990	10769	7921	6114	5896	5858	7109	7852	10551	24239	143156	647	626
2035356	2583	2388	1946	1104	257	0	0	0	0	237	993	2128	11636	41	40
2024712	16201	13948	6357	0	0	0	0	0	7	963	5586	10973	54035	235	227
2188215	29089	26316	13540	24	12	0	0	0	388	3356	11858	32688	117271	346	335
2070271	3179	3251	2577	2135	37	17	0	0	0	822	2041	2947	17007	64	62
2070260	2469	2216	1669	1389	635	4	0	0	168	753	1406	2531	13241	64	62

MTR_NBR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL_CCF	MDQ (dth)	MDQ (mcf)
2070249	2512	2303	1655	1366	589	0	0	0	46	472	1176	2635	12753	64	62
2070242	2646	2502	1775	1256	454	80	70	0	0	500	1160	2243	12687	64	62
1906628	8171	6925	2004	1376	0	0	0	0	4	153	5294	8976	32904	9	9
2025139	10575	9836	7637	5063	1203	0	0	0	0	2330	5753	11443	53840	90	87
2227850	27546	24173	19540	16130	0	2903	0	0	0	5493	14218	23363	133367	956	925
2211341	12673	11145	9341	7788	0	1399	0	0	0	3885	8836	12441	67508	956	925
1987495	10907	9685	10811	7058	0	13612	3018	8339	8571	9902	9619	8319	99839	313	303
1884506	9409	6487	3494	900	279	1	4	9	3938	5332	4328	17767	51949	245	237
1756663	65312	55949	39826	16372	1799	0	0	0	0	2712	21952	64198	268119	316	306
1658879	9757	8402	5934	4039	1447	83	31	103	166	1694	3940	9947	45543	269	260
2026819	20518	18622	20289	17297	20506	6578	8057	7141	16398	18869	13785	18943	187004	67	65
1724853	29978	21795	10506	4202	0	0	0	0	0	2427	10048	47693	126649	541	523
2024307	11508	10056	7751	5983	2221	3	0	0	0	2144	4946	11785	56398	111	107
1921578	8262	7373	3983	1478	899	1149	1749	1514	1941	2191	3072	5911	39522	183	177
2027635	4670	4028	4096	3651	4843	5330	5795	5466	5018	4719	4028	5785	57430	154	149
2157700	62664	58016	58716	56842	52081	40255	33080	37963	40583	50735	52821	63515	607271	803	777
1621317	360744	349448	284123	281159	324914	221690	149074	168145	282141	388511	343391	457155	3610495	2650	2563
2090400	289197	250411	218099	206069	167620	123657	195892	271220	211855	154993	185045	271581	2545639	2650	2563
1594769	0	0	0	0	0	0	0	0	0	0	0	0	0	461	446
2064954	15709	13382	12873	9221	7834	8219	7416	7073	7374	8165	8544	11388	117198	300	290
1987797	14274	12262	11041	6611	5873	5879	5655	5742	6184	6772	8179	10604	99076	281	272
1987777	9917	8243	9124	6448	5839	6142	5558	4722	5765	6138	6325	7551	81770	202	195
2064957	8315	7779	7589	5488	4641	4581	4054	3918	4028	4994	5262	6287	66936	291	281
1884577	29882	26396	18864	14219	3214	0	0	0	12	2451	16093	36154	147284	240	232
2115837	23217	19039	17718	18598	14773	9798	9394	9493	12076	17801	19189	24887	195984	240	232
2027531	14466	12583	8788	3795	1742	164	0	6	653	2298	7337	15955	67788	294	284
2157694	14999	15385	10211	5146	0	0	0	0	0	1622	4829	13233	65425	383	370
1685273	19570	17910	0	0	0	0	0	0	0	0	0	0	37479	355	343
1771899	0	0	0	0	0	0	0	0	0	0	0	0	0	1355	1310
1906625	8742	7834	7680	6837	5753	5393	4674	4965	5702	6477	6306	8006	78367	30	29
2027477	2422	2115	2214	1215	911	696	714	798	1075	984	1261	1203	15606	513	496
2036147	4921	4208	2894	3033	1265	31	0	0	205	804	2391	5026	24778	223	216
2024704	10155	7748	3789	1748	0	0	0	0	0	0	5076	11265	39781	257	249
2294698	0	43899	44953	36592	0	16700	8975	21648	8532	10893	30341	53192	275725	524	507
2024705	16177	14508	12032	10533	5423	3080	2659	3249	3291	4332	9263	16789	101336	278	269
1806076	56867	52218	43391	38526	20260	12077	12508	13033	13562	17050	32675	58855	371021	840	812
2035943	4270	3701	2487	1912	1597	1828	2343	2320	2115	2055	2362	4115	31105	72	70
1921575	12081	9191	2920	229	0	0	0	0	0	0	4927	11940	41288	160	155
2024648	28553	26929	22800	21419	17268	15612	14961	16644	17059	16819	17986	21058	237108	394	381
2027406	31679	27375	31068	24179	19358	22022	23616	25289	25756	27075	26711	34715	318843	600	580
2027544	27336	23515	26644	20733	16402	18534	19906	21294	21798	23064	22871	30136	272234	600	580

MTR_NBR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL_CCF	MDQ (dth)	MDQ (mcf)
2115543	4553	3994	2854	2179	658	0	0	0	0	1147	2737	4843	22965	98	95
2064978	54993	933	33858	76305	57231	80417	69461	59008	106107	77619	84417	62876	763226	2400	2321
2026758	0	0	0	0	0	0	0	0	0	0	0	0	0	409	396
2123504	20048	14785	11439	7366	3995	2396	2094	2231	2499	4744	11414	24112	107123	322	311
2115838	100103	86058	100161	85299	90468	111627	109383	93716	88698	100694	99295	105828	1171331	21	20
1806092	34577	30596	39391	37238	37540	42472	38408	34838	31702	36499	34887	42805	440955	21	20
1987500	40033	41409	2011	0	10	0	0	0	0	0	0	31980	115443	432	418
2027402	7424	6916	6453	5529	4330	4927	4466	3707	4561	3551	5986	8799	66649	50	48
2027401	6292	5825	5441	4649	3808	4042	3610	2993	3703	2981	4998	7312	55654	50	48
2290214	19608	16980	17416	14739	13815	13894	12538	13349	13717	15172	15636	17840	184703	626	605
2157696	45284	41327	38315	33154	20741	11034	10865	10923	11357	17421	27740	45446	313606	417	403
1724001	19596	15229	6625	1388	0	0	10	0	0	72	6062	9368	58350	503	486
1909351	6608	5786	4102	3096	533	0	0	0	0	2009	3754	6860	32749	110	106
2198755	0	0	0	0	0	0	13670	0	0	0	0	0	13670	252	244
2198741	60177	57927	58981	52500	68423	67211	69272	63771	63136	0	34373	59060	654832	254	246
2290191	40174	36109	30688	26807	17349	9669	12975	14389	11101	32642	29808	39274	300983	480	464
2024715	25107	18632	10288	3222	0	0	0	0	0	3284	14821	28171	103524	410	397
2035967	7899	7348	4075	285	656	2043	3675	4483	4754	5825	5058	3482	49583	168	162
2024851	14434	13135	8950	5312	1981	0	0	0	0	1921	6036	14614	66383	100	97
2025158	11380	8881	3634	827	1	1	0	1	1	486	4079	8595	37885	171	165
2171231	62147	55530	48981	46178	35029	27869	26981	26893	25569	37302	49716	60408	502602	994	961
1724011	7759	6206	1968	279	0	0	0	0	0	227	2865	12828	32132	469	454
2282358	9500	8647	8182	7688	2201	1483	1374	1357	1483	3010	7804	10342	63071	210	203
2023840	6447	5753	4537	3626	1943	662	606	596	656	2312	3579	5817	36532	112	108
2245129	10722	7916	2061	73	0	0	0	0	0	238	3402	15233	39643	377	365
2036167	14063	13532	8622	6762	2151	0	0	0	0	3142	8665	14095	71032	626	605
1806077	72506	68168	62031	39766	7336	2993	1447	1759	1863	2893	27294	66104	354160	151	146
2025150	8070	11199	8406	5696	1455	0	3	0	0	1793	5082	8943	50648	115	111
2123510	7279	6409	4186	547	0	0	0	0	0	598	4678	7799	31496	173	167
2116174	57281	49002	44425	32103	413	0	0	0	0	6507	34345	56158	280235	626	605
2116171	31582	26904	24077	17139	207	0	0	0	0	3543	18785	30897	153134	626	605
2157697	31323	28541	28168	26280	20637	13305	11402	9391	0	29978	22237	35228	256489	720	696
1989428	59657	53038	41491	36847	26468	15992	12677	10335	15190	24854	36704	57737	390991	720	696
2035975	10596	10197	9139	8335	8284	6653	6761	7268	6887	7802	8613	10758	101291	174	168
1826616	6434	5746	4957	3796	1746	0	0	0	713	3236	4427	6284	37338	87	84
2027599	6879	4097	2629	2529	3187	2475	2347	2754	4264	5215	6699	10138	53211	228	221
1723898	37703	33155	13355	9423	0	0	0	0	0	207	12413	43426	149681	601	581
2171221	24215	22594	22960	20401	18938	15621	16108	14118	15690	18264	19031	22707	230646	150	145
2132738	124299	87230	89462	93997	102298	90107	92623	85662	94104	54765	38970	52429	1005946	300	290
2123509	22616	18554	7472	5534	889	0	0	0	0	50	2822	17560	75498	252	244
2188219	46435	41441	34639	29865	23301	15421	15806	17055	14069	16646	28085	47289	330052	419	405

MTR_NBR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL_CCF	MDQ (dth)	MDQ (mcf)
1884573	22685	18339	13151	5797	1343	0	0	0	0	310	5478	18651	85755	368	356
2245170	9737	6028	2972	601	0	0	0	0	0	0	4168	12494	36000	304	294
2116154	10234	10751	9930	5083	8232	9722	5780	8454	9112	8052	7266	9243	101860	1252	1211
1921703	33674	31111	27722	22652	6226	0	0	0	0	9267	21552	33995	186201	345	334
2123295	6301	6110	4419	0	0	0	0	12	6287	6640	5380	4410	39559	22	21
2027581	1439	0	0	6091	2036	0	0	0	16	2603	6583	13302	32070	360	348
2171230	29107	25178	7354	0	0	103	0	0	0	1240	11792	26940	101713	614	594
1724240	7838	5939	3412	1392	0	0	0	0	196	815	2924	6037	28553	231	223
2157686	12058	11571	3046	549	0	0	0	0	0	672	2834	12831	43561	314	304
2188213	6070	4922	1595	0	0	0	0	10	0	289	2482	4704	20072	223	216
2023947	8625	7815	6541	5599	3897	3025	2959	2973	3211	4683	5919	7898	63144	325	314
2133386	1364	1198	272	0	0	0	0	0	0	2	680	2626	6142	98	95
2290203	0	0	0	0	0	0	0	10	0	0	0	0	10	1424	1377
2171219	89702	78533	58200	42558	16845	8051	8374	9103	9938	25829	47350	86728	481210	1424	1377
2290218	30640	26627	19202	17846	10594	0	0	0	19952	6923	14591	27987	174361	1424	1377
2250855	22447	19945	5416	1533	0	0	0	0	83	620	9071	36211	95327	843	815
2123526	13286	9712	2953	0	0	0	0	0	0	12	129	5157	31249	452	437
2027485	32346	32072	26905	17435	0	8926	3361	3726	4239	9603	21625	34338	194575	392	379
2023712	2406	2183	309	0	0	0	0	0	0	10	0	1969	6877	98	95
2025166	4322	3582	0	1984	524	0	0	0	1	378	2608	5089	18487	254	246
1987812	15207	13957	7952	4973	775	0	0	0	0	1126	4386	12104	60479	272	263
2291727	7326	6737	6053	5083	4368	4056	3559	3946	4267	5188	4954	6538	62074	391	378
2132966	5971	5385	4377	3567	1885	797	720	752	787	2220	3589	5951	36001	43	42
2116016	3179	2814	1812	1384	430	0	0	0	0	541	1573	3416	15149	43	42
2027423	5066	4708	3236	2805	852	0	0	0	0	1078	2497	4867	25109	86	83
1723876	7035	6298	5768	4706	1711	1	0	0	0	2264	4233	8274	40290	241	233
2116153	27210	25269	18299	9536	7472	4758	4879	5048	7092	10942	13615	22951	157071	628	607
2188211	12434	10242	6960	4851	2652	75	0	11	975	3814	6459	13704	62175	162	157
2025049	6415	4453	4038	3445	1558	1390	1970	2368	2757	3899	4652	6183	43128	65	63
1884510	22103	20197	16203	14655	8629	4130	3550	4027	3538	6657	14445	26568	144701	676	654
1701736	725	518	0	0	0	6818	0	0	0	0	0	104	8165	30000	29014
1701737	104	104	103	0	0	6921	0	0	0	0	207	0	7439	30000	29014
1826674	20954	18602	19127	13103	15669	15440	15880	14434	13779	14906	16208	17886	195986	114	110
2023831	3531	3296	3200	2754	2450	2108	2066	2067	2159	2458	2592	2726	31406	132	128
2025178	14604	13519	11991	11060	8484	5513	5780	5981	5808	9567	10891	14595	117793	296	286
2290212	20395	20131	7270	0	0	0	0	0	0	1207	5145	18882	73030	384	371
1685278	39494	35265	24951	20146	8613	2767	2683	2728	3185	7679	16371	31417	195297	703	680
1658878	42749	33547	17902	15450	3618	0	0	0	0	1279	14550	41567	170662	733	709
2211338	77881	73057	68265	61811	60737	58570	58227	60861	44164	69861	67678	82896	784010	1268	1226
2239836	7375	6009	3066	425	0	0	0	0	0	279	3785	12100	33039	340	329
1724852	90736	83193	74456	66480	50007	52435	47035	49342	53628	63548	73498	99574	803932	731	706

MTR_NBR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL_CCF	MDQ (dth)	MDQ (mcf)
1724851	76753	70968	63376	56435	42671	44487	40109	42099	45449	53525	61714	83928	681514	731	706
2023960	23995	19697	15807	2913	10380	19074	18270	16062	18020	19236	19234	18725	201411	1362	1317
2245376	13564	12279	8854	1849	297	389	837	1114	1746	3624	7486	11690	63726	204	197
2123504	20048	14785	11439	7366	3995	2396	2094	2231	2499	4744	11414	24112	107123	488	472
2024604	6219	5501	6245	6056	8334	9584	9116	9867	9506	12378	9399	6369	98575	78	75
1906623	7987	7794	7169	5482	2188	1095	881	836	1442	2403	5379	7840	50496	362	350
2250846	5490	5522	2061	135	0	0	0	0	0	310	2172	7004	22694	213	206
2115844	49430	40341	43042	44990	45022	39191	42223	45421	40322	53887	48832	55344	548047	1851	1790
2115841	35472	27525	29145	30721	31357	27200	31290	34223	30108	43993	39740	45383	406157	1093	1057
2123527	15330	13242	6463	4620	0	0	0	0	31	910	5368	20152	66117	454	439
2250841	55113	47888	31851	8185	1236	1301	1148	1258	2167	4690	17143	48692	220673	490	474
2290220	49522	44414	40004	34344	21536	11127	10048	5545	5436	11377	28420	44441	306212	507	490
2132737	52037	47039	35481	6761	0	0	0	13156	13709	17918	27477	39312	252890	697	674
2116156	17711	18464	14504	6061	0	0	0	0	0	0	1607	12903	71251	883	854
2024645	10800	10664	9028	6662	2169	857	800	282	265	0	4808	6463	52799	289	279
2025149	3896	3356	1934	1397	1234	930	886	1051	863	921	938	2099	19505	336	325
2027560	3300	3045	2474	928	736	474	434	444	26	0	1368	2174	15402	8	8
2036151	8913	9060	6635	4431	1260	0	0	0	0	1365	3669	9485	44818	72	70
1724008	35237	35070	30267	24773	29019	28611	24903	24512	24441	29397	35168	42040	363437	418	404
2064880	3119	2891	2978	2301	2287	2793	2684	2761	2744	2626	2697	2893	32775	90	87
2023958	22610	22336	16777	16492	4844	3178	0	6229	10808	7196	18548	25251	154269	523	506
2024684	4613	3468	2586	1110	843	0	0	0	1	1124	3863	6161	23770	211	204
2116148	9426	8475	6845	5706	2222	1001	920	951	1056	3265	5149	9098	54114	523	506
2064974	22759	17449	8854	5865	1159	0	0	0	0	1829	6279	22662	86855	417	403
2171222	9674	8548	3107	1511	0	0	0	0	41	1467	3258	8384	35991	157	152
2171220	48821	38426	34106	9845	10241	11886	17439	18007	20378	22279	31144	51887	314459	407	394
2012880	11873	12093	10833	10092	9138	7529	7247	7891	5736	5135	9146	13398	110109	104	101
1724854	73231	72001	69179	51362	30590	37266	29462	32167	35825	40815	53237	0	525135	1046	1012
2188214	20964	19472	14551	12218	7180	1802	137	747	3517	9168	11327	19475	120558	172	166
2171232	0	0	0	0	0	0	0	0	0	723	17888	30153	48765	255	247
2116158	44587	32570	18121	0	0	0	0	0	0	3151	25275	38125	161830	714	691
2116159	25273	26002	14342	0	0	0	0	0	0	0	17360	22397	105374	424	410
2198756	6135	6291	3821	2693	0	0	0	0	0	995	4031	9733	33699	234	226
2027605	3692	3370	2797	2125	471	0	0	0	0	752	2337	3888	19433	145	140
2027612	3181	2894	2352	1810	395	0	0	0	0	662	2017	3279	16590	211	204
2133065	8739	8969	6072	274	0	0	0	0	0	964	5506	11382	41905	131	127
2116152	8224	5822	1802	0	0	0	0	0	0	1065	1872	12073	30857	161	156
2157693	4517	7624	1916	301	0	0	0	0	0	610	3103	14590	32660	172	166
2123523	8743	9386	3832	103	0	0	0	0	0	847	7103	9035	39049	782	756
2027510	7513	5757	7909	6037	6730	7855	8107	8686	9220	8054	6688	7491	90047	235	227
1954681	53965	49004	38628	31066	26043	22089	20261	20066	19773	22320	31735	55331	390282	907	877



MTR_NBR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL_CCF	MDQ (dth)	MDQ (mcf)
2027454	6048	5184	3419	1938	1696	0	0	0	64	2556	5294	8238	34438	187	181
2035408	1620	1588	1029	684	231	0	0	0	0	325	864	1934	8275	255	247
2269419	24386	23645	25342	21985	19799	16657	17435	17239	17676	19174	20291	24072	247699	280	271
2269417	18045	17598	18963	16435	14621	12357	13011	12843	13388	14585	15330	18042	185217	178	172
2116004	5049	4805	3947	1966	0	0	0	0	0	496	2702	4751	23717	38	37
2123495	11531	11029	9352	7342	4610	2552	2600	3154	3456	5805	7806	11945	81182	139	134
1987815	77115	66727	46728	30640	24214	18106	17025	17036	16495	24211	54541	68950	461787	2169	2098
1724010	19168	19671	17109	16817	19455	19266	19931	20402	19475	20037	19167	20587	231083	495	479
1826561	7724	6830	5318	4350	2248	858	725	726	837	2212	4139	7126	43091	31	30
2035839	5634	4873	3863	3059	2443	1368	1073	975	1119	2087	2865	5456	34813	156	151
1756664	35323	30700	22345	17279	3464	0	0	0	0	1477	15372	39353	165314	341	330
1921700	35053	30688	15327	13589	7277	0	0	0	0	5317	17405	30992	155647	831	804
2025107	10173	8229	5112	5402	0	0	0	0	0	0	5273	10278	44467	209	202
2116161	176596	167108	150470	40908	0	0	0	0	0	0	62800	163409	761290	1225	1185
2157680	57558	51604	46868	43947	36667	30820	26022	28118	31328	38740	50380	57716	499767	267	258
2064977	7499	5813	2765	2112	83	0	0	0	41	527	3608	8736	31184	229	221
2036180	34802	35348	33238	32838	23528	20882	19031	19524	20518	21153	23474	34316	318651	748	723
1884579	6152	5480	4691	1657	0	0	0	0	0	2076	4331	6798	31186	202	195
2245126	49458	36778	29812	21781	0	0	0	0	139	6876	28339	54968	228151	859	831
1987814	497388	474418	478226	277577	286844	449513	385832	447032	436182	518521	465522	322907	5039963	3432	3319
1658883	39845	33742	22821	11971	3339	0	0	0	0	6488	18356	49353	185915	521	504
2157699	45908	47448	18309	10003	415	0	0	0	0	415	11358	55637	189493	1269	1227
2025174	4672	4762	4100	2487	0	2136	1413	2174	2359	2791	2821	3696	33411	254	246
2157695	29582	26504	17730	9482	3690	0	0	0	0	3451	0	45963	136401	31	30
2239845	39200	36444	37694	34197	38684	31214	37928	39895	33174	28157	30739	50147	437473	517	500
2188227	14232	12731	7702	6114	1155	0	0	11	294	4271	10273	18062	74844	336	325
2290211	41505	36986	29597	18818	4402	3664	3339	3713	4100	13947	24853	39675	224598	1046	1012
2064920	13086	11497	12836	6929	0	8852	3579	4381	3609	2109	11441	17487	95808	804	778
2123514	11756	10194	4047	129	0	657	164	130	353	2066	3008	10194	42697	804	778
2012845	9283	8571	12681	8151	0	13346	4158	4569	6378	7953	15339	18392	108822	804	778
2123515	16886	13961	4365	47	0	12	446	482	0	974	3007	12149	52328	804	778
2123516	18064	16162	12220	10365	3564	2467	1974	2100	2609	6643	2023	15972	94164	360	348
1685280	59857	56150	59512	60463	58369	38262	40380	30914	41888	48556	49930	49009	593291	650	629
2026766	10989	10073	7021	6733	2153	0	0	0	0	1709	5804	11758	56241	89	86
2027581	1439	0	0	6091	2036	0	0	0	16	2603	6583	13302	32070	89	86
2157687	31713	28355	23535	18863	7266	0	11	0	0	11485	18665	31478	171371	240	232
2290197	90898	86208	87175	77543	95958	90504	86992	92213	86113	95967	95438	95491	1080499	1151	1113
2269422	20653	18657	17035	14628	10210	7016	7181	6807	7201	9756	13370	20705	153220	1325	1281
1658884	58011	59776	36871	30129	24797	18887	1757	11889	16766	8784	33378	48601	349646	1400	1354
2064979	19420	33293	9154	139	1937	16031	13701	18975	10390	3873	4016	19984	150914	1400	1354
2250849	31954	28368	24114	13832	3090	0	0	0	0	1882	25451	26552	155242	522	505

MTR_NBR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL_CCF	MDQ (dth)	MDQ (mcf)
2188218	14538	13101	6703	3429	232	0	0	0	0	177	7244	16090	61515	264	255
1987803	56058	45817	37542	33436	39798	64855	0	0	226116	69926	51326	57163	682036	456	441
1989421	20153	14295	2929	0	0	0	0	0	68	0	5613	15038	58096	251	243
2024719	7026	5760	4202	0	0	205	0	0	1501	7095	3038	5676	34503	170	164
1921701	24624	21267	16302	12882	11533	9139	9186	9268	10305	13430	16824	29848	184608	504	487
1701736	725	518	0	0	0	6818	0	0	0	0	0	104	8165	30000	29014
1701737	104	104	103	0	0	6921	0	0	0	0	207	0	7439	30000	29014
2250853	34828	27288	16336	11389	152	0	0	0	0	5351	11982	30787	138113	748	723
2023955	38060	36541	27550	21394	5707	0	0	0	0	2628	21065	38583	191527	320	310
2027392	9339	8470	7296	6131	4223	3675	3852	4345	4376	5208	6697	9584	73195	576	557
2253387	8775	166	0	111	55	4465	33576	18515	2090	2379	6918	15529	92579	1639	1585
2253388	7015	166	0	97	41	3525	25964	13810	1578	1909	5396	12421	71922	1639	1585
2171233	34700	30669	24336	19988	11575	5057	2998	3517	4141	9195	18926	33884	198986	120	116
2027498	35091	34885	34522	17236	32825	34771	0	69922	37163	37198	35502	38779	407894	168	162
2035986	5053	4679	4531	2844	2530	2703	2434	2681	2575	2816	3096	4025	39966	126	122
2036046	3199	2117	1973	2215	677	0	0	0	6	466	2436	2867	15956	414	400
1987743	2214	2032	1335	823	291	0	0	0	2	333	1152	1835	10016	414	400
2123512	23461	18638	15969	5064	1561	1053	1189	1138	1657	4629	10363	21997	106716	414	400
2116023	2448	1975	1540	1014	984	737	711	893	1355	1736	1657	1122	16171	414	400
2025156	6817	5662	3452	1504	0	0	0	0	5	318	2480	7393	27631	120	116
2188222	0	0	0	113018	48594	1940	1664	1438	321	6414	23843	36835	234067	611	591
2239840	100621	94487	72864	56655	18574	0	0	0	0	8832	56445	107142	515620	2191	2119
1954684	57976	52162	30786	13877	4850	0	0	0	0	553	21058	52861	234123	1565	1514
2036186	101378	87208	61337	38429	6972	0	0	0	0	5042	30727	90448	421541	2087	2018
2036194	372779	355284	299233	267803	324267	284463	212572	334371	263245	314047	363072	347537	3738672	2365	2287
2036191	82832	74511	65163	42102	62784	44442	110398	70288	34570	23247	15713	40045	666095	2203	2131
2115831	42107	38647	36328	1082	0	0	0	0	0	3721	22064	32424	176374	2203	2131
1806080	11539	10475	8460	7901	5601	3210	0	0	0	4928	7298	11533	70945	277	268
2027476	8408	7882	8026	7434	7489	3896	4272	3113	5262	5464	5679	6337	73263	144	139
2012853	4588	4341	3520	2454	715	101	86	152	362	1551	2307	3492	23668	39	38
2012851	3531	3587	2650	1848	667	128	102	153	305	1618	2013	2448	19051	49	47
2012857	3183	3077	2317	1537	637	35	30	130	357	809	1711	2653	16475	39	38
2027524	27570	25064	18740	15834	10120	13521	26726	24095	10383	10879	17646	29336	229913	1774	1716
1987801	25663	23926	18204	15100	9286	12353	24506	21862	0	18714	15704	27129	212445	1774	1716
2198739	8103	7502	2203	585	0	0	0	0	21	71	3374	12496	34355	240	232
2024703	16722	14046	12048	6871	3135	24	0	0	94	2744	7688	19454	82825	1252	1211
2123490	5962	4087	2344	1332	304	3516	3151	3590	1918	668	2799	6001	35672	400	387
2250865	87835	74077	66379	62230	62106	48203	44658	44169	50936	57555	65637	92737	756523	1325	1281
2116157	55133	46662	45855	43390	37469	26415	33928	36218	25777	35132	38905	49298	474181	432	418
2290202	50651	48606	49926	46577	41963	34884	22689	32244	34434	44114	48710	36446	491242	503	486
2026874	3672	3278	2303	1761	677	0	0	0	0	702	1813	3651	17858	54	52

MTR_NBR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL_CCF	MDQ (dth)	MDQ (mcf)
1954683	38428	34811	15538	4244	1655	103	0	0	0	1240	8791	29323	134133	728	704
2250851	5293	3988	2227	735	475	0	0	10	0	238	2741	4858	20565	152	147
2027430	4587	4302	4267	3648	2071	953	711	860	961	1478	2987	4509	31334	402	389
2027381	4565	4325	4249	3664	2064	972	695	864	964	1467	2984	4518	31331	402	389
2027642	17279	17223	5573	1838	0	0	0	0	0	0	0	0	41913	27	26
2115832	11291	10060	5923	2589	496	0	21	62	21	641	2597	11576	45276	69	67
2115588	8217	7433	5567	4171	2816	1637	1563	1517	1453	1225	4757	8811	49166	385	372
2115589	7288	6713	5377	4096	2743	1558	1425	1418	1507	2325	4594	7878	46923	385	372
2023812	11247	10606	7358	6436	3473	1787	1677	1739	1757	3234	6520	10735	66567	131	127
2157685	26952	23310	16942	15066	7111	3231	2925	2834	3137	9050	19255	36038	165852	496	480
2023952	15981	10277	6897	5943	5363	4356	3949	4272	4028	4546	6988	16248	88846	549	531
1771898	2693	0	104	6518	59113	62970	38034	50654	18427	22532	33404	32737	327185	750	725
2132941	1482	52	4053	6776	6878	6303	6292	6347	6321	6905	6932	7160	65501	750	725
1722906	21554	19113	15440	11625	3816	194	175	28	0	5234	16227	20166	113572	340	329
2036145	13955	13527	9737	7319	2308	0	0	0	0	1101	6256	9824	64028	163	158
2027591	3002	2908	2064	1362	981	1160	763	672	850	1116	1195	1772	17843	73	71
2171228	56141	51387	39974	29612	19839	21573	16126	22136	24640	0	65628	49528	396584	400	387
2027620	14865	13048	11791	9805	4905	3	14	0	0	1308	9873	15433	81046	235	227
2026737	7223	5400	4146	4020	1042	0	0	0	0	162	3295	9857	35145	231	223
2026838	17289	15053	7464	17	0	0	0	0	0	3354	8836	15808	67821	72	70
2116150	11021	10826	3305	0	0	0	0	0	0	909	7054	13107	46223	302	292
2269427	6198	4613	1667	0	0	0	0	0	0	227	2139	8918	23763	269	260
2027589	10465	8853	3389	391	2	0	0	0	0	1220	4362	11039	39721	130	126
2064980	71902	63733	35610	11615	1769	0	0	0	2326	11805	23864	67609	290233	1269	1227
1723901	0	0	0	82137	3052	0	0	0	0	2817	22098	47671	157776	355	343
2171235	31903	21757	12011	3521	0	0	0	0	0	6614	21827	36680	134313	412	398
2123521	16045	13723	7131	257	0	1835	11203	10386	4411	12639	15001	25701	118332	351	339
2036195	29316	24658	12427	2692	0	0	0	0	0	1136	10862	33990	115080	701	678
2171229	24409	20708	9043	4465	2500	0	0	0	109	1631	9900	27470	100235	888	859
2123520	19112	16370	5665	1688	87	0	0	2577	5565	7742	9258	17516	85579	322	311
2036193	21236	19685	7456	5383	1965	0	0	0	0	1756	6104	18866	82450	598	578
2290204	18613	18089	6608	1543	0	0	0	0	21	1229	7675	24524	78303	461	446
2123513	19907	16629	4671	52	0	0	0	0	508	2572	6359	23534	74233	374	362
2116151	16008	13146	6559	3108	0	0	0	0	908	4580	7488	16255	68052	396	383
2027483	13442	11922	9001	8611	3851	1	1	1	1	1	6630	13926	67388	192	186
1987496	18655	13056	4111	166	0	0	0	10	21	1354	6743	17613	61728	263	254
2036189	12891	0	18537	2276	913	0	0	0	0	54	3471	21334	59477	397	384
2290189	0	0	0	0	0	0	0	0	34921	637	5257	14151	54966	209	202
2036185	9509	7326	1854	1233	62	0	0	817	838	1075	6197	20942	49852	341	330
2027464	9562	8371	2832	373	0	0	0	0	413	2710	6976	14268	45504	200	193
2171227	12574	7282	4265	3250	951	0	0	0	0	0	3756	10717	42795	92	89

MTR_NBR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL_CCF	MDQ (dth)	MDQ (mcf)
2116149	8690	7552	2765	342	0	0	0	0	0	1415	6693	12102	39559	242	234
2157690	11665	7563	4187	739	0	0	0	0	11	780	2941	10211	38096	494	478
2198752	7667	7802	6098	1872	258	1	0	0	0	938	2400	9372	36410	232	224
2115833	8555	5835	4397	414	0	0	0	0	0	743	4853	11244	36041	270	261
2115143	9641	8506	4524	0	0	1	0	0	0	40	2135	10080	34926	797	771
2123489	8111	6029	3462	2345	438	2	1	1	2	1373	3591	8737	34093	225	218
1987786	6545	5450	5255	1433	0	0	0	0	0	440	3277	11374	33775	212	205
2115842	6896	6766	2211	1235	0	0	0	0	0	821	3478	10894	32300	278	269
2027484	7096	7381	3191	243	0	0	0	0	2	817	3617	7881	30229	232	224
2250845	9263	4231	2720	685	0	0	0	0	0	492	3466	8794	29651	281	272
2024706	6296	5658	3259	1105	199	0	0	0	0	719	3981	7665	28881	240	232
2024367	6837	5355	3635	867	316	0	0	0	0	828	3540	6874	28253	888	859
2198753	5644	4754	2678	846	0	0	0	0	0	352	3853	5127	23255	197	191
2115136	6347	4724	1502	1721	0	0	0	0	0	2	208	7527	22031	202	195
1906630	5522	5790	2581	0	0	0	0	0	0	494	2059	5556	22000	215	208
2026849	0	1955	4080	3422	1516	0	0	0	1	759	4305	4281	20320	242	234
2024389	4436	3904	2120	667	0	0	0	0	20	853	3054	4750	19804	312	302
2115141	5399	5092	1358	0	0	0	0	0	57	409	1257	5793	19365	212	205
2133043	2860	1869	968	282	6	0	0	0	0	441	1129	4317	11873	148	143
2290206	7147	6402	5126	4598	900	0	0	0	0	920	8379	15677	49150	280	271
2250850	62193	58779	43497	45929	19324	0	0	0	0	10	29203	59690	318626	582	563
2250862	52869	47150	36844	29535	10302	0	0	0	200	14789	32575	48856	273121	663	641
2133093	29068	28415	21594	17821	9292	0	0	0	121	6859	21691	34748	169609	150	145
2123528	24383	23943	24283	17146	9020	495	0	0	0	8318	20028	26211	153829	336	325
1724856	27243	23519	17811	13776	619	0	0	0	0	3202	17377	25696	129243	927	897
2290205	20431	20718	16188	14459	4200	0	0	0	0	1370	12568	30358	120292	544	526
2024702	20633	20451	16141	11438	3686	0	0	0	0	1189	10140	22594	106271	573	554
2115137	19167	16472	10549	7079	1441	0	0	0	93	3110	6675	14751	79336	452	437
2027520	12953	12129	8584	5671	0	0	0	0	0	2062	7050	13786	62235	927	897
1987272	10924	10057	7670	7108	5035	0	0	0	0	695	4955	11939	58384	307	297
2155650	9800	8561	6407	4333	2017	224	0	3	488	2658	4140	8213	46844	113	109
2027243	18450	18295	19503	18439	14446	11870	7040	7937	8526	13397	17637	17332	172873	69	67
2024694	11256	9878	3129	1236	0	0	0	0	0	1174	5363	17477	49513	245	237
2133071	19258	16851	13060	10782	7156	4030	3483	3428	4142	0	17382	18618	118190	250	242
2027403	19255	16572	12664	10458	6504	3320	2863	2971	3350	0	16226	18666	112850	250	242
2024285	6736	6039	4608	3864	1799	573	490	474	549	2159	4224	6906	38419	15	15
2024290	6311	5827	4673	3696	1917	584	495	503	559	1907	3824	7365	37661	15	15
2024299	5951	5221	3807	3022	1509	512	435	462	477	1714	3171	5845	32125	15	15
2211319	18925	17065	8368	944	1213	8991	20651	20314	17362	12158	14170	17583	157742	34	33
2027527	7210	6080	7520	10542	4836	920	388	509	463	1692	2085	6091	48336	240	232
2024675	1434	1367	1315	1024	884	716	646	632	697	788	862	941	11306	140	135

MTR_NBR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL_CCF	MDQ (dth)	MDQ (mcf)
2123460	6225	4720	2432	1353	442	0	0	0	0	492	2561	7031	25257	135	131
1884576	28376	24797	19166	16567	8146	0	0	0	0	9820	18759	28562	154194	301	291
2250863	59247	54769	41267	32027	15712	6026	5427	5789	7898	20284	35983	70821	355249	173	167
2027387	20551	18789	12507	8392	5037	3986	3331	5538	6599	8703	9661	15521	118615	224	217
1685276	6320	4175	2931	1521	207	0	0	0	62	372	2223	3625	21437	420	406
2290213	26486	25318	8286	1240	0	0	0	0	0	508	11247	31149	104234	472	456
2171234	78913	73108	66560	65990	59634	51138	52045	53049	51289	55759	59654	78111	745249	123	119
2115901	532	485	328	234	94	0	0	0	0	56	270	578	2577	348	337
1987633	3454	3015	2349	409	0	0	0	0	0	3	1371	3540	14140	348	337
2035694	1430	1214	984	634	256	1	0	0	0	63	683	1440	6706	348	337
1987683	1233	1031	711	122	0	0	0	0	0	24	748	1131	5001	348	337
2115434	658	567	373	292	144	0	0	0	0	44	276	689	3042	348	337
2023825	5025	4576	2766	1128	632	98	89	56	73	250	2388	5792	22872	76	74
2027536	7482	6833	2046	0	0	0	0	0	0	0	3683	8678	28721	83	80
2027563	7013	6886	1449	0	0	0	0	0	0	0	2573	5494	23416	75	73
2282382	8860	8202	5666	4888	1509	0	0	0	0	1412	5030	10111	45679	163	158
2250843	17132	15094	14519	12280	9477	3138	3132	3000	2868	6178	12082	14568	113467	266	257
1806079	24659	22251	17652	2442	694	0	0	0	4953	10585	14008	19437	116681	605	585
2027641	8258	8437	2420	0	0	0	0	0	0	316	6872	9964	36267	186	180
2024992	3547	0	499	76	0	0	0	0	0	58	584	1475	6240	400	387
2025099	4792	4121	1924	145	132	0	0	0	0	201	2777	7401	21492	400	387
1986388	5291	4658	2560	302	37	0	0	0	0	939	2923	5731	22442	400	387
2188225	16583	14390	12800	10313	4578	4056	4476	4386	3954	6313	11908	16102	109859	419	405
1909334	5191	4705	4142	3731	2457	1414	945	910	1379	2466	3941	0	31281	130	126
2171234	78913	73108	66560	65990	59634	51138	52045	53049	51289	55759	59654	78111	745249	123	119
2027383	8984	8057	2518	26	0	0	0	0	0	113	4104	7373	31175	54	52
2123522	6684	4560	911	124	0	0	0	0	0	41	207	1492	14020	226	219
1611015	0	0	2897	7034	25018	33760	55098	54890	30550	27796	30578	22879	290498	750	725
2188223	404	0	0	0	0	0	0	0	0	0	0	0	404	286	277
2064982	769090	685246	536531	380222	304961	268992	257505	294816	305407	366713	441934	708147	5319564	2317	2241
1786008	349787	319407	285505	252539	213593	169897	143486	142746	156225	193748	246435	348666	2822034	2318	2242
1786009	325342	296925	265208	234316	197886	156995	132528	132506	146080	181038	229585	324420	2622828	2317	2241
2036192	55478	53548	48394	42836	33066	32341	34605	38228	33683	35420	37091	43425	488116	2317	2241
1658885	0	0	2176	0	0	3819	68627	26767	2487	1241	207	2279	107602	1311	1268
2064981	0	0	0	0	0	0	0	0	0	0	0	0	0	2317	2241
1658886	0	0	0	0	0	0	0	0	0	0	0	0	0	1311	1268
2027386	4963	8686	10769	11758	6759	4101	3933	1550	4339	1465	4169	4161	66652	141	136
2026820	17760	18247	18837	18052	16067	14491	11963	13087	14438	17195	14762	19338	194236	60	58
2023953	67330	61225	49068	37392	30114	20696	25072	26523	33580	37011	47396	69730	505136	576	557
2027529	47485	41570	33162	30251	0	19254	5297	5357	6926	15507	28963	50002	283774	706	683
2239841	59886	58568	55313	48690	40514	30820	30162	32316	30497	42463	47254	65276	541758	1043	1009

MTR_NBR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL_CCF	MDQ (dth)	MDQ (mcf)
1986382	34886	33454	23301	16803	3	3	3	5	10	917	9178	22323	140888	547	529
2027434	5566	5228	3938	2855	2467	4187	3592	3134	1712	935	2540	6136	42292	144	139
2027433	6207	5786	4196	2988	1061	1629	4256	2899	1731	1054	2784	6827	41417	144	139
1685277	26972	19606	7765	4662	10	0	0	0	0	300	6361	25670	91345	417	403
2239838	18106	16959	10220	6348	4217	2797	2874	2865	2992	6220	10899	16444	100940	313	303
2250857	48663	43408	32903	27734	13422	5787	5520	5304	7043	22457	29812	50984	293036	479	463
2023948	18430	16663	14665	13258	6169	2127	2053	2110	2101	7283	10908	17319	113087	360	348
2024714	10081	7131	3365	3631	907	0	0	0	0	1762	4784	7246	38905	167	162
2064820	3706	3459	2622	2333	0	872	0	0	0	840	2482	4421	20736	58	56
2157702	40915	37871	30229	30086	24070	18935	14257	17589	20793	25042	28650	34961	323401	43	42
2027583	34484	32139	34515	36240	36871	34030	35578	35060	33605	36131	34095	34426	417175	725	701
2036187	38558	34432	24307	21839	14618	982	0	0	5356	14444	24077	45771	224383	725	701
2116162	154749	142971	133278	130150	116770	96200	99757	101271	91204	103742	118660	160918	1449671	2549	2465
1909300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2027494	20735	18283	14027	10657	91	0	0	0	50	3524	13045	21817	102228	100	97
2123463	4583	3901	2817	2535	2321	1725	1462	1546	1858	2236	2497	4160	31641	119	115
2123484	4223	3597	2584	2307	2094	1487	1259	1361	1667	2016	2267	3830	28691	119	115
2123467	6686	5918	4947	3990	2277	831	739	729	517	1919	3909	6319	38781	80	77
2115593	16363	13838	8397	7455	5077	4413	3587	4770	4434	6235	8487	12059	95116	388	375
2290193	12379	9971	2605	5	4	3	3	2	3	1008	5909	11452	43344	383	370
2211334	28975	18525	26477	21044	17402	16491	6379	4489	8606	7960	14886	14710	185945	449	434
2025146	5614	4756	2386	376	0	0	0	0	0	706	3263	6598	23698	270	261
2025172	5308	4442	2323	366	0	0	0	0	0	625	2929	6005	21998	208	201
2027443	19201	15607	10063	6987	4403	2840	2475	2497	3375	4623	8989	17353	98412	180	174
2294826	31088	26002	13384	1217	0	0	0	0	0	0	4861	11400	87952	524	507
2027160	7647	7131	5575	3592	1241	0	0	0	0	1728	4400	7617	38931	75	73
2024698	7177	6866	5466	4526	1466	0	0	0	8	1885	3140	7616	38150	272	263
2250858	13414	11749	8450	6172	1944	0	0	0	0	1229	4593	10880	58432	272	263
2157683	50204	49262	48409	42858	37984	31998	38454	41109	39825	42874	31980	0	454958	1465	1417

**Philadelphia Gas Works**

Pennsylvania Public Utility Commission  
52 Pa. Code § 53.61, et seq.

**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:

- (9) A schedule depicting historic monthly end-user transportation through-put by customer. Each customer or account shall be identified solely by a unique alphanumeric code, the key to which may be provided subject to § 5.423 (relating to orders to limit availability of proprietary information).

**Response:**

Please see the schedule attached to the response to 53.64(c)(8), Tab #7, which also provides the monthly end-user transportation through-put by customer.

**Philadelphia Gas Works**

Pennsylvania Public Utility Commission  
52 Pa. Code § 53.61, et seq.

**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:

- (10) A schematic system map, locating and identifying by name, the pressure and capacity of all interstate or intrastate transmission pipeline connections, compressor stations, utility transmission or distribution mains 6 inches or larger in size, storage facilities, including maximum daily injection and withdrawal rates, production fields, and each individual supply or transportation customer which represents 5% or more of total system throughput in a month. Each customer or account shall be identified solely by a unique alphanumeric code, the key to which may be provided subject to § 5.423.

**Response:**

Following the lead of the industry, as well as federal policy guidelines regarding the security of information relating to energy transmission sites, PGW will no longer provide this data to the general public. However, upon request PGW will provide this information to the Commission and will also provide access to this information at a PGW facility of the Company's choosing, upon written request, to parties to this proceeding that have legitimate business reasons to view this information.



**Philadelphia Gas Works**

Pennsylvania Public Utility Commission  
52 Pa. Code § 53.61, et seq.

**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:

- (11) If any rate structure or rate allocation changes are to be proposed, a detailed explanation of each proposal, reasons therefore, number of customers affected, net effect on each customer class, and how the change relates to or is justified by changes in gas costs proposed in the Section 1307(f) tariff filing. Explain how gas supply, transportation and storage capacity costs are allocated to customers which are primarily nonheating, interruptible or transportation customers.

**Response:**

PGW is not proposing any rate structure or rate allocation changes in the instant proceeding, therefore, no testimony or schedules have been provided in this pre-filing to support such changes.

PGW will provide testimony regarding gas procurement policies, strategies and the GCR calculation in its 1307(f) March 1, 2021 filing.

**Philadelphia Gas Works**

Pennsylvania Public Utility Commission  
52 Pa. Code § 53.61, et seq.

**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:

- (12) A schedule depicting the most recent 5-year consecutive 3-day peak data by customer class (or other historic peak day data used for system planning), daily volumetric throughput by customer class (including end-user transportation throughput), gas interruptions and high, low and average temperature during each day.

**Response:**

Schedule 1 – Three-day peak for FY 15-16 through FY 19-20.

Schedule 2 – Identifies a listing of gas interruptions for FY 15-16 through FY 19-20, their duration and the high, low and average temperatures for each day that the interruption was in effect..

### 3 DAY PEAK ANALYSIS

Winter Peak Season	Date	Average Temp.	Hi Temp.	Low Temp.	Total Sendout (mcfs)	Firm Sendout	Cogen Sendout	LBS Sendout	BPS Sendout	GTS Sendout	IT Sendout
2015 - 2016	Feb 12	26	30	22	490,537	407,974	43	0	0	3,984	78,536
2015 - 2016	Feb 13	16	24	9	583,377	498,793	43	0	0	3,870	80,671
2015 - 2016	Feb 14	18	24	11	562,929	489,468	43	0	0	3,653	69,765
2016- 2017	Jan 7	21	25	17	496,220	432,581	11	0	0	3,905	59,723
2016 - 2017	Jan 8	21	27	18	528,423	461,794	11	0	0	3,791	62,827
2016- 2017	Jan 9	24	31	19	519,336	449,862	11	0	0	3,709	65,754
2017- 2018	Jan 5	15	19	10	625,642	547,239	44	0	0	0	78,359
2017 - 2018	Jan 6	13	16	8	639,043	565,130	44	0	0	0	73,869
2017- 2018	Jan 7	20	27	9	582,222	516,455	44	0	0	0	65,723

GAS INTERRUPTIONS (September 1, 2010 through January 1, 2020)  
SCHEDULE 2

<u>DATE</u>	<u>TEMPERATURE</u>			<u>GAS INTERRUPTIONS</u>					
	<u>HIGH</u>	<u>LOW</u>	<u>AVERAGE</u>	<u>BPS-S</u>	<u>BPS-H</u>	<u>BPS-L</u>	<u>LBS-S</u>	<u>LBS-L</u>	<u>LBS-XL</u>

No interruptions occurred between September 1, 2010 and January 01, 2021

TEMPERATURE

GAS INTERRUPTIONS

DATE      HIGH      LOW      AVERAGE      BPS-S      BPS-H      BPS-L      LBS-S      LBS-L      LBS-XL      COGEN

**Philadelphia Gas Works**

Pennsylvania Public Utility Commission  
52 Pa. Code § 53.61, et seq.

**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:

- (13) Identification and support for any peak day methodology used to project future gas demands and studies supporting the validity of the methodology.

**Response:**

Please see the attached Peak Day analysis. Also attached to Item 53.64(c)(14) is Siemens assessment of PGW's Peak Day Regression Model Review dated January 14, 2019, which supports PGW's peak day methodology.

## **Peak Day Analysis**

PGW performs a peak day analysis on an annual basis to determine its projected sendout requirements during peak conditions. Essentially this process is completed by collecting sendout and average temperature data for all days where the temperature is at or below 32 degrees Fahrenheit, excluding holidays and weekends. All interruptible transportation volumes are removed from total sendout to arrive at firm sendout on a daily basis.

Common statistical practices warrant that no less than thirty (30) data points be utilized in the analysis to ensure its integrity. For this analysis, PGW has utilized data from the period winter of FY 16-17 through FY 19-20 which would reflect the most current consumption behaviors of its customers. This period yielded 46 data points where the average temperature was at or below 32 degrees Fahrenheit.

Degree days are calculated by subtracting the average daily temperature from sixty-five (65).

A standard linear regression was performed on the data using the calculated degree-days and the actual firm daily sendout information. Additionally, in order to confirm the accuracy of the analysis, and to smooth the charting of the data, a quadratic and a cubic regression analysis were also completed.

A resulting  $R^2$  (Correlation Coefficient) indicates a 75.1 % correlation between firm sendout and degree-days. The multiple regression correlation co-efficient,  $R^2$ , is a measure of the proportion of variability explained by, or due to the regression (linear relationship) in a sample of paired data. It is a number between zero and one and a value close to zero suggests a poor model.

To verify the level of confidence we can ascribe to the model, we developed the attached Linear Regression Confidence Level Table. Essentially, this table compares the actual versus projected sendout to determine the level of variance expressed as a standard deviation. A standard deviation represents the positive square root of the variance where the variance simply represents the dispersion about the mean. In this analysis the sample standard deviation is 36,351 MCF.

The sample loses one degree of freedom for each estimated parameter. Thus, with a sample of 100 paired values and two estimated parameters (one for the constant and one for the coefficient of “degree days”), there are  $100-2=98$  degrees of freedom. In this analysis we had 46 data points and there were 44 Degrees of Freedom.

Finally, based upon the models developed, it can be determined that the company’s projected peak day sendout should be set at 698,361 MCF per day at 0 degree Fahrenheit. This calculation is performed using the X Coefficient (i.e. slope) multiplied by the number of degree days and adding the Constant (Y Intercept).

Winter 17-20 Data for Daily Temperatures <= 32 Degrees Fahrenheit

W/O Holidays, Weekends

SDS 5  
(1 of 6)

Day	Date	Daily Temp	Degree Days X	X^2	X^3	Actual Firm Sendout (Mcf)	Firm Sendout Per DD (Mcf)	Linear Projected Firm Sendout (Mcf)	Quadratic Projected Firm Sendout (Mcf)	Cubic Projected Firm Sendout (Mcf)
Thursday	1/18/2018	32	33	1,089	35,937	379,044	11,486	346,064	346,561	347,588
Wednesday	1/31/2018	32	33	1,089	35,937	358,262	10,856	346,064	346,561	347,588
Monday	2/5/2018	32	33	1,089	35,937	344,431	10,437	346,064	346,561	347,588
Thursday	12/20/2018	32	33	1,089	35,937	201,788	6,115	346,064	346,561	347,588
Monday	1/14/2019	32	33	1,089	35,937	359,888	10,906	346,064	346,561	347,588
Tuesday	1/22/2019	32	33	1,089	35,937	411,860	12,481	346,064	346,561	347,588
Monday	3/4/2019	32	33	1,089	35,937	344,300	10,433	346,064	346,561	347,588
Wednesday	12/13/2017	31	34	1,156	39,304	356,549	10,487	357,074	357,302	357,363
Thursday	12/14/2017	31	34	1,156	39,304	354,093	10,415	357,074	357,302	357,363
Monday	1/15/2018	31	34	1,156	39,304	394,810	11,612	357,074	357,302	357,363
Thursday	2/8/2018	31	34	1,156	39,304	354,509	10,427	357,074	357,302	357,363
Monday	1/28/2019	31	34	1,156	39,304	359,583	10,576	357,074	357,302	357,363
Wednesday	12/18/2019	31	34	1,156	39,304	374,998	11,029	357,074	357,302	357,363
Friday	2/3/2017	30	35	1,225	42,875	355,990	10,171	368,083	368,081	367,548
Friday	3/10/2017	30	35	1,225	42,875	320,645	9,161	368,083	368,081	367,548
Tuesday	1/30/2018	30	35	1,225	42,875	383,370	10,953	368,083	368,081	367,548
Friday	1/11/2019	30	35	1,225	42,875	373,059	10,659	368,083	368,081	367,548
Thursday	12/19/2019	30	35	1,225	42,875	398,878	11,397	368,083	368,081	367,548
Friday	1/17/2020	30	35	1,225	42,875	376,010	10,743	368,083	368,081	367,548
Monday	1/20/2020	30	35	1,225	42,875	392,770	11,222	368,083	368,081	367,548
Tuesday	1/21/2020	30	35	1,225	42,875	368,945	10,541	368,083	368,081	367,548
Friday	1/6/2017	29	36	1,296	46,656	352,566	9,794	379,092	378,900	378,087
Tuesday	12/26/2017	29	36	1,296	46,656	373,407	10,372	379,092	378,900	378,087
Friday	12/16/2016	28	37	1,369	50,653	398,274	10,764	390,101	389,758	388,925
Monday	12/19/2016	28	37	1,369	50,653	360,577	9,745	390,101	389,758	388,925
Tuesday	3/14/2017	28	37	1,369	50,653	385,646	10,423	390,101	389,758	388,925
Wednesday	3/15/2017	28	37	1,369	50,653	407,450	11,012	390,101	389,758	388,925
Friday	12/15/2017	28	37	1,369	50,653	375,049	10,136	390,101	389,758	388,925
Wednesday	1/3/2018	28	37	1,369	50,653	412,195	11,140	390,101	389,758	388,925
Tuesday	3/5/2019	28	37	1,369	50,653	374,021	10,109	390,101	389,758	388,925
Friday	2/14/2020	28	37	1,369	50,653	379,882	10,267	390,101	389,758	388,925
Thursday	2/9/2017	27	38	1,444	54,872	369,581	9,726	401,111	400,655	400,006
Wednesday	1/17/2018	26	39	1,521	59,319	411,626	10,555	412,120	411,591	411,274
Wednesday	3/6/2019	26	39	1,521	59,319	424,011	10,872	412,120	411,591	411,274
Friday	2/2/2018	25	40	1,600	64,000	418,656	10,466	423,129	422,566	422,675
Monday	1/9/2017	24	41	1,681	68,921	449,790	10,970	434,138	433,579	434,152
Wednesday	12/27/2017	23	42	1,764	74,088	436,899	10,402	445,148	444,632	445,650
Tuesday	1/2/2018	23	42	1,764	74,088	481,485	11,464	445,148	444,632	445,650
Friday	12/29/2017	22	43	1,849	79,507	451,955	10,511	456,157	455,724	457,113
Thursday	12/15/2016	21	44	1,936	85,184	442,443	10,056	467,166	466,855	468,485
Thursday	1/4/2018	21	44	1,936	85,184	490,882	11,156	467,166	466,855	468,485
Thursday	12/28/2017	19	46	2,116	97,336	475,927	10,346	489,185	489,234	490,737
Friday	2/1/2019	18	47	2,209	103,823	503,750	10,718	500,194	500,482	501,506
Thursday	1/31/2019	17	48	2,304	110,592	522,949	10,895	511,203	511,769	511,961
Wednesday	1/30/2019	16	49	2,401	117,649	500,210	10,208	522,213	523,094	522,049
Friday	1/5/2018	15	50	2,500	125,000	544,956	10,899	533,222	534,459	531,713
			65	4,225	274,625	397,999	10,546	698,361	709,613	588,031
			Count	46						



**Firm Sendout Projection Based Data From 17-20**  
**Data for Daily Temperatures <= 32 Degrees Fahrenheit**

SDS 5  
 (2 of 6)

<u>R Squared</u>	<u>Change</u>	<u>Student's T</u>	<u>Degrees of Freedom</u>	<u>Critical Value</u>	<u>@ 97.5% Significant</u>
0.750711	0.750711	11.510943	44	1.99	Yes
0.750760	0.000050	0.092474	43	1.98	No
0.750999	0.000238	0.200446	42	1.98	No
<b>Degrees of Freedom</b>		<b>44</b>	<b>43</b>	<b>42</b>	
<b>97.5% Significance Level</b>		<b>1.99</b>	<b>1.98</b>	<b>1.98</b>	
<b>95.0% Significance Level</b>		<b>1.66</b>	<b>1.66</b>	<b>1.66</b>	
<u>Linear Projection at Zero Degrees Fahrenheit</u>	698,361	Mcf			
<u>Linear Projection at 15 Degrees Fahrenheit</u>	533,222	Mcf			

$$\text{Student's T} = \text{Square Root}[(\text{Increase} * \text{Degrees of Freedom}) / (1 - \text{R Squared})]$$

$$\text{Linear SO} = \text{Constant} + (X * X \text{ Coefficient})$$

$$\text{Quadratic SO} = \text{Constant} + (X * X \text{ Coeff}) + (X1u2 * X1u2 \text{ Coeff})$$

$$\text{c SO} = \text{Constant} + (X * X \text{ Coeff}) + (X1u2 * X1u2 \text{ Coeff}) + (X1u3 * X1u3 \text{ Coeff})$$

### Linear Regression Confidence Level Table

Count	Degree Days	Firm Sendout (Mcf)	Projected Linear Firm Sendout (Mcf)	Difference Versus Projected Ydc	Actual Versus Projected (Y - Ye) <sup>2</sup>	(Degree Days - Xm)	(Degree Days - Xm) <sup>2</sup>	sdyc	t*sdyc	Lower Acc		Upper Acc		"- 1 SD"		"+ 1 SD"		"- 2 SD"		"+ 2 SD"	
										Lower	r/dc ± t*sdyc	Lower	r/dc ± t*sdyc	Lower	Ydc ± sdyc	Lower	Ydc ± 2sdyc	Lower	Ydc ± 2sdyc		
1	33	379,044	346,064	32,980	1,087,651,249	(5)	22	10,650	21,207	324,857	367,272	317,823	374,306	289,581	402,548						
2	33	358,262	346,064	12,198	148,782,519	(5)	22	10,650	21,207	324,857	367,272	317,823	374,306	289,581	402,548						
3	33	344,431	346,064	(1,633)	2,667,715	(5)	22	10,650	21,207	324,857	367,272	317,823	374,306	289,581	402,548						
4	33	201,788	346,064	(144,277)	20,815,759,567	(5)	22	10,650	21,207	324,857	367,272	317,823	374,306	289,581	402,548						
5	33	359,888	346,064	13,824	191,102,226	(5)	22	10,650	21,207	324,857	367,272	317,823	374,306	289,581	402,548						
6	33	411,860	346,064	65,796	4,329,110,045	(5)	22	10,650	21,207	324,857	367,272	317,823	374,306	289,581	402,548						
7	33	344,300	346,064	(1,764)	3,113,274	(5)	22	10,650	21,207	324,857	367,272	317,823	374,306	289,581	402,548						
8	34	356,549	357,074	(525)	275,266	(4)	14	8,965	17,852	339,222	374,926	328,832	385,315	300,590	413,557						
9	34	354,093	357,074	(2,981)	8,883,844	(4)	14	8,965	17,852	339,222	374,926	328,832	385,315	300,590	413,557						
10	34	394,810	357,074	37,737	1,424,053,494	(4)	14	8,965	17,852	339,222	374,926	328,832	385,315	300,590	413,557						
11	34	354,509	357,074	(2,565)	6,577,746	(4)	14	8,965	17,852	339,222	374,926	328,832	385,315	300,590	413,557						
12	34	359,583	357,074	2,510	6,298,666	(4)	14	8,965	17,852	339,222	374,926	328,832	385,315	300,590	413,557						
13	34	374,998	357,074	17,925	321,290,441	(4)	14	8,965	17,852	339,222	374,926	328,832	385,315	300,590	413,557						
14	35	355,990	368,083	(12,093)	146,240,224	(3)	7	7,427	14,789	353,294	382,872	339,841	396,325	311,600	424,566						
15	35	320,645	368,083	(47,438)	2,250,385,562	(3)	7	7,427	14,789	353,294	382,872	339,841	396,325	311,600	424,566						
16	35	383,370	368,083	15,287	233,702,986	(3)	7	7,427	14,789	353,294	382,872	339,841	396,325	311,600	424,566						
17	35	373,059	368,083	4,976	24,765,112	(3)	7	7,427	14,789	353,294	382,872	339,841	396,325	311,600	424,566						
18	35	398,878	368,083	30,795	948,328,919	(3)	7	7,427	14,789	353,294	382,872	339,841	396,325	311,600	424,566						
19	35	376,010	368,083	7,927	62,835,798	(3)	7	7,427	14,789	353,294	382,872	339,841	396,325	311,600	424,566						
20	35	392,770	368,083	24,687	609,438,892	(3)	7	7,427	14,789	353,294	382,872	339,841	396,325	311,600	424,566						
21	35	368,945	368,083	862	743,746	(3)	7	7,427	14,789	353,294	382,872	339,841	396,325	311,600	424,566						
22	36	352,566	379,092	(26,526)	703,629,441	(2)	3	6,147	12,240	366,852	391,332	350,851	407,334	322,609	435,575						
23	36	373,407	379,092	(5,685)	32,319,774	(2)	3	6,147	12,240	366,852	391,332	350,851	407,334	322,609	435,575						
24	37	398,274	390,101	8,173	66,794,332	(1)	1	5,314	10,582	379,519	400,684	361,860	418,343	333,618	446,585						
25	37	360,577	390,101	(29,524)	871,669,695	(1)	1	5,314	10,582	379,519	400,684	361,860	418,343	333,618	446,585						
26	37	385,646	390,101	(4,456)	19,855,027	(1)	1	5,314	10,582	379,519	400,684	361,860	418,343	333,618	446,585						
27	37	407,450	390,101	17,349	300,971,336	(1)	1	5,314	10,582	379,519	400,684	361,860	418,343	333,618	446,585						
28	37	375,049	390,101	(15,053)	226,586,035	(1)	1	5,314	10,582	379,519	400,684	361,860	418,343	333,618	446,585						
29	37	412,195	390,101	22,094	488,132,602	(1)	1	5,314	10,582	379,519	400,684	361,860	418,343	333,618	446,585						
30	37	374,021	390,101	(16,080)	258,581,880	(1)	1	5,314	10,582	379,519	400,684	361,860	418,343	333,618	446,585						
31	37	379,882	390,101	(10,219)	104,431,423	(1)	1	5,314	10,582	379,519	400,684	361,860	418,343	333,618	446,585						
32	38	369,581	401,111	(31,529)	994,095,860	0	0	5,151	10,258	390,853	411,369	372,869	429,352	344,627	457,594						
33	39	411,626	412,120	(494)	244,133	1	2	5,716	11,382	400,738	423,502	383,878	440,362	355,637	468,603						
34	39	424,011	412,120	11,891	141,395,918	1	2	5,716	11,382	400,738	423,502	383,878	440,362	355,637	468,603						
35	40	418,656	423,129	(4,473)	20,006,305	2	5	6,829	13,599	409,530	436,729	394,888	451,371	366,646	479,612						
36	41	449,790	434,138	15,651	244,962,935	3	11	8,273	16,475	417,664	450,613	405,897	462,380	377,655	490,622						
37	42	436,899	445,148	(8,248)	68,035,253	4	18	9,904	19,722	425,426	464,870	416,906	473,389	388,665	501,631						
38	42	481,485	445,148	36,337	1,320,381,310	4	18	9,904	19,722	425,426	464,870	416,906	473,389	388,665	501,631						
39	43	451,955	456,157	(4,202)	17,659,626	5	28	11,643	23,186	432,971	479,343	427,915	484,399	399,674	512,640						
40	44	442,443	467,166	(24,724)	611,253,366	6	39	13,449	26,782	440,384	493,948	438,925	495,408	410,683	523,649						
41	44	490,882	467,166	23,716	562,448,570	6	39	13,449	26,782	440,384	493,948	438,925	495,408	410,683	523,649						
42	46	475,927	489,185	(13,257)	175,755,182	8	69	17,176	34,204	454,981	523,388	460,943	517,426	432,702	545,688						
43	47	503,750	500,194	3,556	12,642,740	9	86	19,075	37,984	462,210	538,178	471,952	528,436	443,711	556,677						
44	48	522,949	511,203	11,746	137,970,739	10	106	20,989	41,795	469,409	552,998	482,962	539,445	454,720	567,686						
45	49	500,210	522,213	(22,002)	484,095,218	11	127	22,913	45,627	476,585	567,840	493,971	550,454	465,729	578,696						
46	50	544,956	533,222	11,734	137,682,922	12	151	24,847	49,477	483,744	582,699	504,980	561,463	476,739	589,705						
65		698,361	(698,361)	487,707,626,441	27	744	54,248	108,024	590,337	806,385	670,119	726,602	641,877	754,844							

**Tot/Avg** 38 397,999 368,427 36,689,074,695 308 t = 1.99

Xm = 38

Population Variance= **797,588,580**

Population Standard Deviation of Regression = 28,242

Upper Range	Lower Range
1s 426,241	369,758
2s 454,483	341,516

Standard error of sendout projection **34,732**

T-factor **1.99**

(T factor) \* (Std error of projection) 69,162

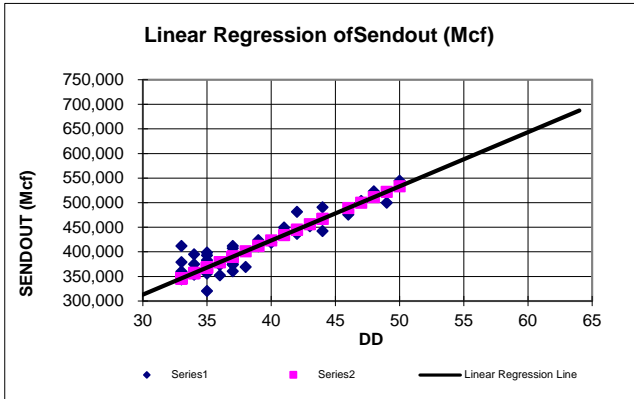
# Regression Results

## Winter 17-20

Based On Data for Daily Temperatures <= 32 Degrees Fahrenheit

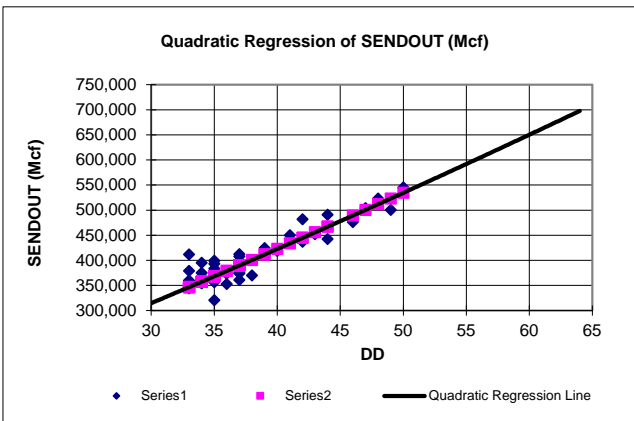
<b>Regression Output:</b>		<b>Quadratic</b>		<b>Cubic</b>			
Regression Output:		Regression Output:		Regression Output:			
Constant	(17,241)	Constant	13,995	Constant	618,636		
Std Err of Y Est	36,351	Std Err of Y Est	339,780	Std Err of Y Est	3,035,995		
R Squared	0.7507	R Squared	1	R Squared	1		
No. of Observations	46	No. of Observations	46	No. of Observations	46		
Degrees of Freedom	44	Degrees of Freedom	43	Degrees of Freedom	42		
X Coefficient(s)	11,009	X Coefficient(s)	X X^2 9434.1773 20	X Coefficient(s)	X X^2 X^3 (36,065) 1,150 (9)		
Std Err of Coef.	956	Std Err of Coef.	17060.1143 211	Std Err of Coef.	227,646 5,642 46		
Zero Degree Temp Sendout	698,361		709,613		588,031		
DD	65						

**Regression Chart Analysis**  
Based Upon Data For Temperatures Of <=32 Degrees F.  
Winters 17-20



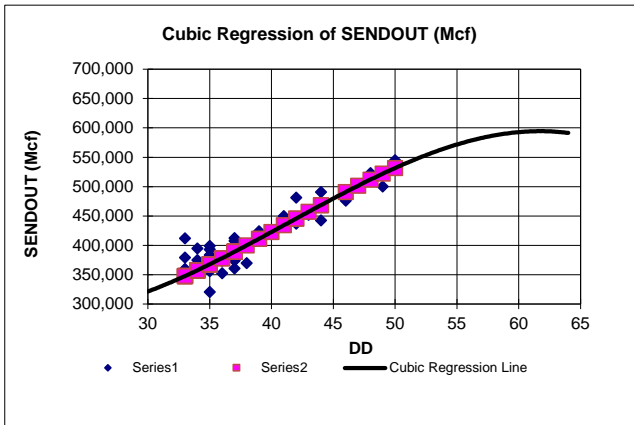
**Linear Regression Output**

Constant	(17,241)
Std. Error of Y Estimate	36,351
R Squared	0.751
Number of Observations	46
Degrees of Freedom	44
	<b>X</b>
X Coefficient	11009
Std. Err. Of Coefficeint	956



**Quadratic Regression Output**

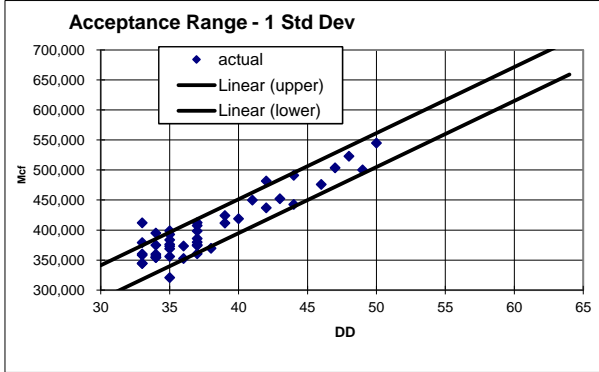
Constant	13,995	
Std. Error of Y Estimate	339,780	
R Squared	0.751	
Number of Observations	46	
Degrees of Freedom	43	
	<b>X</b>	<b>X ^ 2</b>
X Coefficient	9,434	20
Std. Err. Of Coefficeint	17,060	211



**Cubic Regression Output**

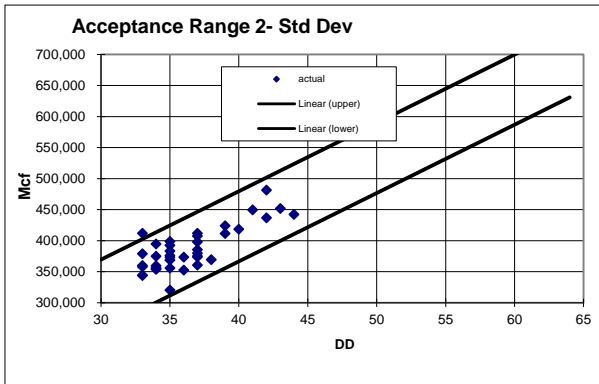
Constant	618,636		
Std. Error of Y Estimate	3,035,995		
R Squared	0.751		
Number of Observations	46		
Degrees of Freedom	42		
	<b>X</b>	<b>X ^ 2</b>	<b>X ^ 3</b>
X Coefficient	-36065	1150	-9
Std. Err. Of Coefficeint	227646	5642	46

**Regression Chart Analysis**  
Based Upon Data For Temperatures Of <=32 Degrees F.  
Winters 17-20



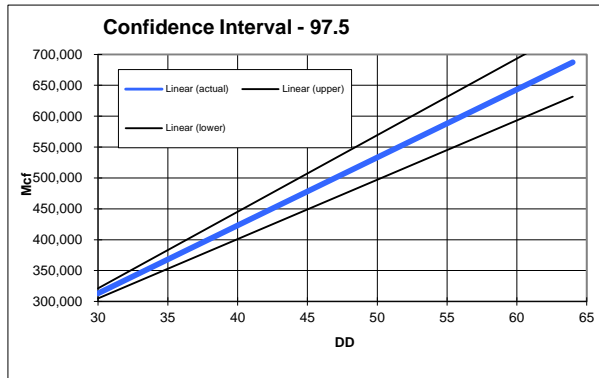
**Acceptance Range @ 1 Standard Deviation**

Regression Squared	797,588,580
Regression	28,242
Upper Range 1sd	426,241
Lower Range 1sd	369,758



**Acceptance Range @ 2 Standard Deviation**

Regression Squared	797,588,580
Regression	28,242
Upper Range 2sd	454,483
Lower Range 2sd	341,516



**Confidence Interval: 97.5%**

Regression Squared	797,588,580
Standard error of sendout projection	34,732
X Mean	38
T Distribution	1.99

**Philadelphia Gas Works**

Pennsylvania Public Utility Commission  
52 Pa. Code § 53.61, et seq.

**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:**

Attached is the Siemens assessment of PGW's Peak Day Regression Model Review dated January 14, 2019.

**MEMO TO:** PHILADELPHIA GAS WORK (PGW)  
**FROM:** Holt Bradshaw, Amit Gohil  
**DATE:** 1/14/2019  
**SUBJECT:** PGW'S PEAK DAY REGRESSION MODEL REVIEW

---

This memorandum describes Siemens' assessment of the PGWs peak day regression analysis, and an evaluation of the regression models developed by PGW.

### **Executive Summary**

We carried out the evaluation of the three regression models provided by PGW in two steps – the first step was the preliminary (or intuitive) evaluation; and the second step was the more rigorous evaluation to test the statistical validity of the regression parameters and the overall model. We also carried out an independent regression analysis using MS Excel based on the weather and send out data provided by PGW and verified the completeness and accuracy of the regression parameters and the associated statistical results for each of the three regression models developed by PGW.

We also believe that the selection of the zero degree day condition for planning purposes is prudent given that the probability of the actual system send out exceeding the capacity as predicted by the zero degree day condition is extremely low (once in 80 years).

In our preliminary evaluation, we concluded that the Linear model confirms the intuitive positive relationship between severity of weather, as measured by HDDs, and natural gas demand. It also explains over 75% of the historical variability observed in peak send outs. Adding polynomials of higher orders to the liner model does not improve the "goodness of fit" as measured by Adjusted  $R^2$ . So, we conclude that the Linear model is preferred based on our preliminary evaluation.

Next, we conducted tests for statistical significance of the regression coefficients and the overall regression model. The Linear, Quadratic, and Cubic regression models that PGW developed are progressively nested. While comparing nested models, where an additional independent variable is added to the regression model, the t-test performs better than the overall F-test. The t-tests indicated that the regression coefficients of independent variables such as  $HDD^2$  and  $HDD^3$  (see Table 1) in the Quadratic and Cubic models cannot be statistically claimed to be different from zero.

A good, parsimonious regression model is preferred over complicated models with multiple independent variables, especially when these variables do not add to the explanatory or predictive value of the model. In the light of the statistical tests, we recommend that PGW use the Linear regression model specified in Table 1.

In summary, after our evaluation of PGW's regression models, we conclude that the Linear Model developed by PGW is fit for the purpose it is required to serve, which is to reliably predict the peak requirements that PGW's system should be prepared to serve during a design winter scenario.

## PGW's Peak Day Analysis

PGW performs a peak day analysis on an annual basis to determine its projected send out requirements during peak conditions. Essentially this process is completed by collecting send out and average temperature data for all days where the temperature is at or below 32 degrees Fahrenheit, excluding holidays and weekends. All interruptible transportation volumes are removed from total send out to arrive at firm send out on a daily basis.

For this analysis, PGW utilized data from the period winter of FY 15-16 through FY 18-19 which would reflect the most current consumption behaviors of its customers. This period yielded 51 data points where the average temperature was at or below 32 degrees Fahrenheit. A standard linear regression was performed on the data using the calculated Heating Degree-Days (HDDs) and the actual firm daily send out information. Additionally, in order to confirm the accuracy of the analysis, and to smooth the charting of the data, a Quadratic and a Cubic regression analysis were also completed. The resulting models are presented in the following table.

**Table 1: PGW's Regression Models**

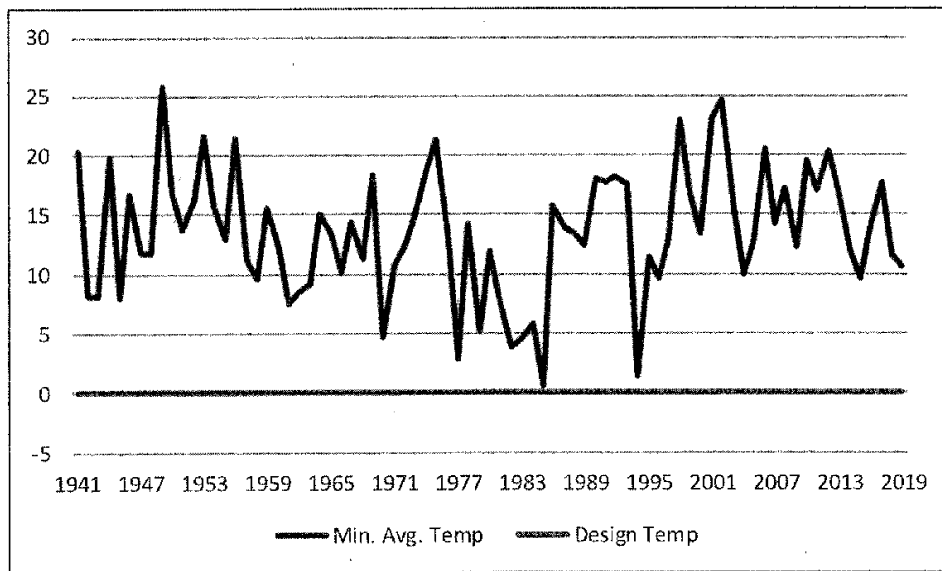
Linear	$y = -20,428.25 + 11,020.93 x$	where y = actual firm send out in Mcf; x = HDD; $x^2 = HDD^2$ ; and $x^3 = HDD^3$
Quadratic	$y = -17,841.06 + 10,889.99 x + 1.63 x^2$	
Cubic	$y = -302,369.81 + 32,332.30 x - 531.69 x^2 + 4.38 x^3$	

Source: PGW

PGW performs its capacity planning using the "Design Day" methodology, which assumes that peak demand for planning purposes occurs on the day(s) when the average daily temperature is 0 degree Fahrenheit - this is equivalent to a winter day with 65 heating degree days (HDDs). As can be seen from Exhibit 1, the probability of meeting design day conditions remains approximately once in 80 years based on the data from National Oceanic and Atmospheric Administration (NOAA). This probability may even be lower given the historical data only consider data from the past 80 years. Selection of such a low probability event, to determine the largest amount of gas that PGW must deliver to meet system requirements and maintain system integrity, is prudent in our opinion.



Exhibit 1: Coldest Days in Philadelphia By Year



Source: National Climatic Data Center (NCDC), National Oceanic and Atmospheric Administration (NOAA)

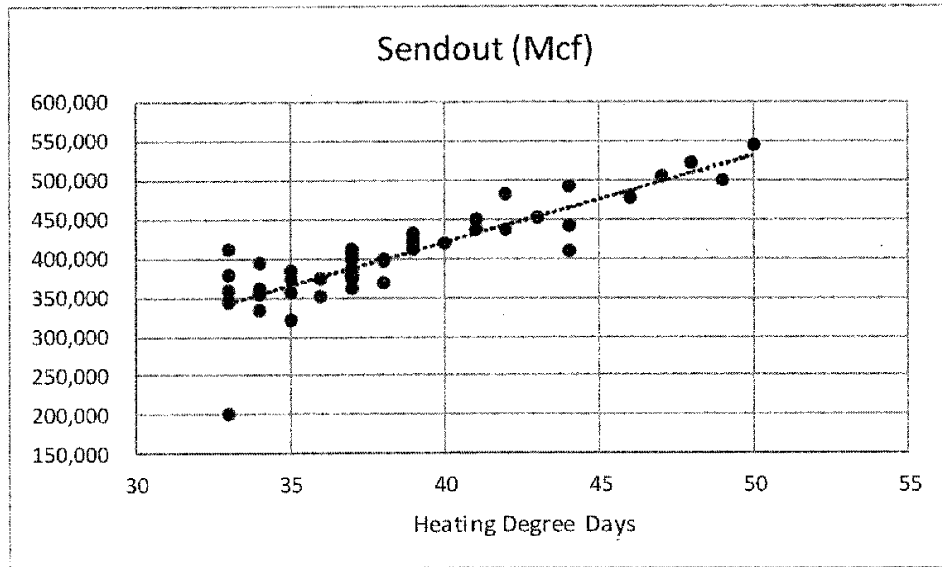
In the following sections, we review the underlying methodology of PGW's Linear, Quadratic, and Cubic models, evaluate their relative statistical significance and present our observations and recommendations.

We carry out the evaluation of the regression model in two steps – the first step is the preliminary (or sometimes referred to as intuitive) evaluation; and the second step is the more rigorous evaluation to test the statistical validity of the regression parameters and the overall model.

### Preliminary Evaluation

In our preliminary evaluation, we are testing if the dependent variable can be intuitively explained by the independent variable(s) considered in the regression model(s). In the Peak Day Analysis, PGW's actual firm send out on the peak day is the explained (or dependent) variable, whereas the HDDs representing the number of degrees that a day's average temperature is below 65° Fahrenheit, which is the temperature below which buildings need to be heated, is the independent variable. The scatter plot presented in Exhibit 2 provides reasonable visual evidence of a linear relationship between the 2 variables. In addition to the linear relationship, PGW has considered a quadratic and cubic relationship between the firm send out and HDDs.

Exhibit 2: Scatter Plot



Source: PGW

In our preliminary evaluation, we also examine the Coefficient of Determination or commonly known as the  $R^2$ . For the Quadratic and Cubic models, we use the  $R^2$  adjusted for the number of terms in the model. The  $R^2$  or the Adjusted  $R^2$  measures the percentage of variation in the dependent variable that can be explained by the variation in the independent variables in the regression model. We also examine the magnitude and sign of each regression coefficient and the results are presented in the table below.

Table 2: Preliminary Evaluation Results

Regression Model	% Variation Explained	Effect on Explained Variable
Linear	75.44 % of variation in send out explained by <i>HDDs</i>	Send out positively affected by <i>HDD</i>
Quadratic	74.41 % of variation in send out explained by a combination of <i>HDD</i> , and <i>HDD<sup>2</sup></i> variables	Send out positively affected by <i>HDD</i> and <i>HDD<sup>2</sup></i> variables
Cubic	73.88 % of variation in send out explained by a combination of <i>HDD</i> , <i>HDD<sup>2</sup></i> , and <i>HDD<sup>3</sup></i> variables	Send out positively affected by <i>HDD</i> , negatively affected by <i>HDD<sup>2</sup></i> , and positively affected by <i>HDD<sup>3</sup></i> variables

Source: PGW

As can be seen from Table 2, adding polynomials of higher orders to the regression equation does not improve the “goodness of fit” as measured by Adjusted  $R^2$ . The Linear model confirms the intuitive positive relationship between severity of weather, as measured by HDDs, and

natural gas load. It also explains a large portion of the historical variability observed in peak send outs, so it is the preferred model based on our preliminary evaluation.

Next, we perform a more rigorous statistical evaluation of the 3 models.

## Statistical Evaluation

### Testing for Statistical Significance of Slope Coefficients

The second step in our evaluation is to test for statistical significance of the coefficients of the independent variables in the regression models. It should be noted that the regression analysis only provides point estimates of these regression coefficients, so it becomes important to statistically test how representative are these of the true coefficients. This is achieved by computing confidence intervals for the regression coefficients and conducting hypothesis testing using p-values.

### Confidence Intervals

To determine whether the independent variable(s) truly have an effect on the explained variable, we find a confidence interval around the point estimates of each of the coefficients of the independent variables in the regression. If the confidence interval contains 0, then we have significant statistical evidence to believe that the independent variable in question has no effect on the dependent variable. The 97.5% confidence intervals displayed in Table 3 are calculated using:

$$(\text{point estimate}) \pm (t - \text{critical value}) \times (\text{standard error})$$

with n-k degrees of freedom, where k is the number of parameters that are being estimated (number of regression coefficients in this case).

**Table 3: Confidence Intervals Surrounding the Regression Coefficients**

Model	HDD		HDD <sup>2</sup>		HDD <sup>3</sup>	
	Lower Endpoint	Upper Endpoint	Lower Endpoint	Upper Endpoint	Lower Endpoint	Upper Endpoint
Linear	8,943.68	13,098.19	N/A	N/A	N/A	N/A
Quadratic	-23,964.40	45,744.39	-431.44	434.70	N/A	N/A
Cubic	-455,118.95	519,783.54	-12,631.93	11,568.55	-94.86	103.61

Source: PGW

As can be clearly seen from Table 3, with 97.5% confidence, we cannot rule out that the coefficients of the independent variables in the Quadratic and Cubic models will not assume a value of 0. In this instance, only the Linear model has a statistically significant coefficient which is not zero. We can be 97.5% confident, that using the Linear model a unit increase in HDD will lead to an increase in send out ranging between 8,944 and 13,098 Mcf.

## Hypothesis Testing

In addition to the confidence intervals, we also use Hypothesis Testing to determine whether the independent variable(s) truly have an effect on the explained variable. If there is no relationship between these variables, the coefficients of the independent variables will be 0 and vice versa. In order to statistically test the relationship, we construct a hypothesis as follows:

Determine if there is overwhelming evidence at the 0.05 significance level ( $\alpha = 0.05$ ) of a linear relationship between the peak day send out and the HDDs observed on that day (or HDD<sup>2</sup> or HDD<sup>3</sup>).

$$H_0: \beta_i = 0$$

$$H_a: \beta_i \neq 0$$

$$\alpha = 0.05$$

We will use a *t*-test with *n-k* degrees of freedom, where *k* is the number of parameters that are being estimated (number of regression coefficients in this case). Our sample test statistic is given in the “*t* Stat” column in Table 4. We will use the *p*-value method to test the above hypothesis. The *P*-value is the probability of observing a test statistic more extreme than what was observed during the regression analysis assuming that the null hypothesis is true. Thus, at a 0.05 significance level, if the *p*-value is less than 0.05, we reject the null hypothesis  $H_0$  that  $\beta_i = 0$ .

**Table 4: Hypothesis Testing Results**

Model	HDD		HDD <sup>2</sup>		HDD <sup>3</sup>	
	t Stat	P-value	t Stat	P-value	t Stat	P-value
Linear	12.27	1.4915E-16	N/A	N/A	N/A	N/A
Quadratic	0.72	0.47	0.01	0.99	N/A	N/A
Cubic	0.15	0.88	-0.10	0.92	0.10	0.92

Source: PGW

From the *p*-values in Table 4, it is evident that at 0.05 significance level we cannot reject the null hypothesis that the coefficient of HDD<sup>2</sup> and HDD<sup>3</sup> in the Quadratic and Cubic models is zero. Only the HDD coefficient in the Linear model can be concluded to be non-zero at the 0.05 significance level.

### Overall Test of Significance of the Regression Model

The *F*-test of overall significance indicates whether the given linear regression model provides a better fit to the data than a model that contains no independent variables (i.e. an “intercept-only” model). The *p*-values for all the three models are significantly lower than the 0.05 significance level and indicate that all the three models are statistically significant.

It should be noted that the Linear, Quadratic, and Cubic models that PGW has considered are progressively nested – the Linear model is nested within Quadratic and Cubic; the Quadratic model is nested within the Cubic model. While comparing nested models, where an additional independent variable is added to the regression model to test if the more complex model has a better fit of the given data, the *t*-test performs better than the overall *F*-test. As we discussed

earlier, the F-test assesses the overall significance of all the regression coefficients jointly, whereas the t-test examines each coefficient individually.

As we saw in the previous section, the t-tests have indicated that the regression coefficients of independent variables such as  $HDD^2$  and  $HDD^3$  cannot be statistically claimed to differ from zero. It is always recommended that a good, parsimonious regression model is preferred over complicated models with multiple independent variables, especially when these variables do not add to the explanatory or predictive value of the model. In the light of the t-tests, we recommend that PGW use the Linear model specified in Table 1.

## Summary

As noted above, our preliminary evaluation concluded that the Linear model explains over 75% of the historical variability observed in peak send outs. Further, we noted that adding polynomials of higher orders to the linear model does not improve the "goodness of fit" as measured by Adjusted  $R^2$ .

In our second analysis, we tested the statistical significance of the regression coefficients and model using the t-tests. The t-tests revealed that the regression coefficients of independent variables in the Quadratic and Cubic models cannot be statistically claimed to be different from zero. Since the analysis indicates that adding variables would not improve the statistical results, we recommend that PGW continue to use the Linear regression model specified in Table 1.

**Philadelphia Gas Works**

Pennsylvania Public Utility Commission  
52 Pa. Code § 53.61, et seq.

**Item 53.64(i)**

Utilities shall comply with the following:

- (1) Thirty days prior to the filing of a tariff reflecting increases or decreases in purchased gas expenses, gas utilities under 66 Pa.C.S. § 1307(f) recovering expenses under that section shall file a statement for the 12-month period ending 2 months prior to the filing date under 66 Pa.C.S. § 1307(f) as published in accordance with subsection(b) which shall specify:
  - (i) The total revenues received under 66 Pa.C.S. § 1307(a), (b) or (f), including fuel revenues received, whether shown on the bill as 66 Pa.C.S. § 1307(f) as published in accordance with subsection (b) which shall specify:
  - (ii) The total gas expenses incurred.
  - (iii) The difference between the amounts in sub paragraphs (i) and (ii).
  - (iv) Evidence explaining how actual costs incurred differ from the costs allowed under subparagraph (ii).
  - (v) How these costs are consistent with a least cost fuel procurement policy, as required by 66 Pa.C.S. § 1318 (relating to determination of just and reasonable natural gas rates).

**Response:**

Please see attached schedule. Additionally, please refer to Item 53.64(c)(6) for a detailed discussion regarding the Company's least cost fuel procurement policy.

**CALENDAR YEAR 2019  
PHILADELPHIA GAS WORKS  
C-FACTOR RECONCILIATION**

	NET COST OF FUEL	TOTAL GCR REVENUE BILLED	C FACTOR % of GCR	C FACTOR REVENUE BILLED	LOAD BALANCING REVENUE	LNG SALES GCR BILLED REVENUE	TOTAL C FACTOR REVENUE BILLED	NATURAL GAS REFUNDS	OVER/ (UNDER) RECOVERY
	1	2	3	4 = ( 2 * 3 )	5	6	7 = ( 4 + 5 + 6 )	8	9 = ( 7 + 8 - 1 )
	(\$)	(\$)		(\$)	(\$)	(\$)	(\$)	(\$)	(\$)
<b>MONTH</b>									
<b>JANUARY 2020</b>	22,279,369	33,867,325	99.1%	33,567,239	214,524	0	33,781,763	0	11,502,394
<b>FEBRUARY</b>	18,806,211	31,149,694	99.1%	30,873,688	217,993	0	31,091,681	0	12,285,470
<b>MARCH</b>	14,781,334	20,698,926	99.7%	20,644,407	216,107	0	20,860,513	0	6,079,179
<b>APRIL</b>	12,460,126	13,680,885	100.5%	13,747,871	218,025	0	13,965,896	9,649	1,515,419
<b>MAY</b>	9,209,682	9,836,103	100.5%	9,884,264	222,086	0	10,106,350	0	896,668
<b>JUNE</b>	7,381,387	4,556,636	99.9%	4,554,210	221,439	0	4,775,649	7,260,413	4,654,676
<b>JULY</b>	6,871,143	3,114,149	99.4%	3,094,235	176,662	0	3,270,897	9,505,503	5,905,257
<b>AUGUST</b>	6,450,113	2,919,876	99.4%	2,901,204	181,004	0	3,082,208	(1,342,969)	(4,710,874)
<b>SEPTEMBER</b>	7,245,938	3,289,245	110.7%	3,641,395	184,574	0	3,825,969	0	(3,419,969)
<b>OCTOBER</b>	8,115,784	3,973,305	122.7%	4,876,143	202,086	0	5,078,229	2,460	(3,035,095)
<b>NOVEMBER</b>	12,822,898	9,232,940	122.7%	11,330,904	216,074	0	11,546,979	0	(1,275,919)
<b>DECEMBER</b>	<u>21,051,077</u>	<u>20,210,590</u>	119.4%	<u>24,135,160</u>	<u>125,692</u>	<u>0</u>	<u>24,260,852</u>	<u>0</u>	<u>3,209,775</u>
<b>Totals</b>	147,475,062	156,529,672		163,250,720	2,396,267	0	165,646,987	15,435,056	33,606,982

**STATEMENT OF RECONCILIATION  
UNIVERSAL SERVICES & ENERGY CONSERVATION SURCHARGE  
CALENDAR YEAR 2020**

Month	USC Applicable Volumes	USC Charge	USC Revenue Billed	USC Expenses	Monthly Over/(Under) Recovery	Cumulative Over/(Under) Recovery
December 2019						(\$2,023,477)
January 2020	Actual 8,154,457	\$ 0.9826	\$ 8,012,507	\$ 12,323,589	\$ (4,311,082)	(\$6,334,560)
February	Actual 7,509,470	\$ 0.9826	\$ 7,378,747	\$ 12,918,550	\$ (5,539,803)	(\$11,874,362)
March	Actual 5,575,763	\$ 1.0768	\$ 6,004,239	\$ 8,583,702	\$ (2,579,463)	(\$14,453,825)
April	Actual 4,026,854	\$ 1.1711	\$ 4,715,849	\$ 4,851,043	\$ (135,194)	(\$14,589,019)
May	Actual 2,857,151	\$ 1.1711	\$ 3,346,010	\$ 2,059,642	\$ 1,286,367	(\$13,302,652)
June	Actual 1,405,930	\$ 1.1742	\$ 1,650,858	\$ (600,645)	\$ 2,251,503	(\$11,051,149)
July	Actual 1,028,875	\$ 1.1773	\$ 1,211,316	\$ (1,528,632)	\$ 2,739,948	(\$8,311,202)
August	Actual 949,950	\$ 1.1773	\$ 1,118,396	\$ 2,255,154	\$ (1,136,758)	(\$9,447,959)
September	Actual 1,133,164	\$ 1.4085	\$ 1,596,062	\$ (592,982)	\$ 2,189,044	(\$7,258,916)
October	Actual 1,401,507	\$ 1.6397	\$ 2,298,051	\$ 1,362,442	\$ 935,609	(\$6,323,307)
November	Actual 3,139,406	\$ 1.6397	\$ 5,147,684	\$ 4,984,526	\$ 163,158	(\$6,160,149)
December	Actual 6,248,495	\$ 1.7832	\$ 11,142,004	\$ 9,472,609	\$ 1,669,395	(\$4,490,754)

USC Expenses	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Total
ELIRP Expense	\$ 40,960	\$ 1,207,567	\$ 669,221	\$ 319,392	\$ 258,903	\$ 132,158	\$ 66,448	\$ 1,278,944	\$ 1,661	\$ 694,650	\$ 911,900	\$ 5,768	\$ 5,587,572
ELIRP Labor	\$ 15,486	\$ 16,569	\$ 14,373	\$ 14,312	\$ 21,452	\$ 13,229	\$ 16,554	\$ 15,509	\$ 8,143	\$ 8,815	\$ 6,628	\$ 6,649	\$ 157,719
Conservation Incentive Credit	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 212,300	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 212,300
CRP Discount	\$ 10,903,197	\$ 10,457,560	\$ 6,628,267	\$ 3,525,469	\$ 749,769	\$ (1,829,089)	\$ (2,596,908)	\$ (2,774,156)	\$ (1,656,782)	\$ (430,516)	\$ 3,202,962	\$ 8,297,918	\$ 34,477,692
CRP Forgiveness	\$ 890,992	\$ 788,561	\$ 946,916	\$ 758,533	\$ 877,485	\$ 791,483	\$ 921,875	\$ 3,677,656	\$ 989,799	\$ 998,895	\$ 674,746	\$ 827,227	\$ 13,144,168
Senior Citizen Discount	\$ 472,954	\$ 448,293	\$ 324,925	\$ 233,337	\$ 152,033	\$ 79,274	\$ 63,400	\$ 57,201	\$ 64,197	\$ 90,598	\$ 188,291	\$ 335,047	\$ 2,509,549
Bad Debt Expense Offset*	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total	\$ 12,323,589	\$ 12,918,550	\$ 8,583,702	\$ 4,851,043	\$ 2,059,642	\$ (600,645)	\$ (1,528,632)	\$ 2,255,154	\$ (592,982)	\$ 1,362,442	\$ 4,984,526	\$ 9,472,609	\$ 56,089,000

<b>CRP Participation</b>													
Rate Case Participation Rate	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000
Actual Participation Rate*	55,069	53,843	54,250	54,885	55,324	55,638	55,750	55,845	55,748	55,925	56,226	56,577	
CRP Under(Over) Participation	4,931	6,157	5,750	5,115	4,676	4,362	4,250	4,155	4,252	4,075	3,774	3,423	
<b>Average Shortfall Per CRP Participant</b>													
CRP Discount	\$ 10,903,197	\$ 10,457,560	\$ 6,628,267	\$ 3,525,469	\$ 749,769	\$ (1,829,089)	\$ (2,596,908)	\$ (2,774,156)	\$ (1,656,782)	\$ (430,516)	\$ 3,202,962	\$ 8,297,918	
Actual Participation Rate	55,069	53,843	54,250	54,885	55,324	55,638	55,750	55,845	55,748	55,925	56,226	56,577	
Average Shortfall per CRP Participant	\$ 198	\$ 194	\$ 122	\$ 64	\$ 14	\$ (33)	\$ (47)	\$ (50)	\$ (30)	\$ (8)	\$ 57	\$ 147	
Shortfall*	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Bad Debt Expense Offset* 7.5%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

\*Bad Debt Expense Offset Applicable When Actual CRP Participation Exceeds 60,000



**CALENDAR YEAR 2020  
PHILADELPHIA GAS WORKS  
C-FACTOR RECONCILIATION**

	NET COST OF FUEL	TOTAL GCR REVENUE BILLED	C FACTOR % of GCR	C FACTOR REVENUE BILLED	LOAD BALANCING REVENUE	LNG SALES GCR BILLED REVENUE	TOTAL C FACTOR REVENUE BILLED	NATURAL GAS REFUNDS	OVER/ (UNDER) RECOVERY
	1	2	3	4 = ( 2 * 3 )	5	6	7 = ( 4 + 5 + 6 )	8	9 = ( 7 + 8 - 1 )
	(\$)	(\$)		(\$)	(\$)	(\$)	(\$)	(\$)	(\$)
<b>MONTH</b>									
<b>JANUARY 2020</b>	22,279,369	33,867,325	99.1%	33,567,239	214,524	0	33,781,763	0	11,502,394
<b>FEBRUARY</b>	18,806,211	31,149,694	99.1%	30,873,688	217,993	0	31,091,681	0	12,285,470
<b>MARCH</b>	14,781,334	20,698,926	99.7%	20,644,407	216,107	0	20,860,513	0	6,079,179
<b>APRIL</b>	12,460,126	13,680,971	100.5%	13,747,957	218,025	0	13,965,982	9,649	1,515,505
<b>MAY</b>	9,209,682	9,836,103	100.5%	9,884,264	222,086	0	10,106,350	0	896,668
<b>JUNE</b>	7,381,387	4,556,636	99.9%	4,554,210	221,439	0	4,775,649	7,260,413	4,654,676
<b>JULY</b>	6,871,143	3,114,149	99.4%	3,094,235	176,662	0	3,270,897	9,505,503	5,905,257
<b>AUGUST</b>	6,450,113	2,919,876	99.4%	2,901,204	181,004	0	3,082,208	(1,342,969)	(4,710,874)
<b>SEPTEMBER</b>	7,245,938	3,289,245	110.7%	3,641,395	184,574	0	3,825,969	0	(3,419,969)
<b>OCTOBER</b>	8,115,784	3,973,305	122.7%	4,876,143	202,086	0	5,078,229	2,460	(3,035,095)
<b>NOVEMBER</b>	12,822,898	9,232,942	122.7%	11,330,907	216,074	0	11,546,981	0	(1,275,917)
<b>DECEMBER</b>	<u>21,051,077</u>	<u>20,210,590</u>	119.4%	<u>24,135,160</u>	<u>125,692</u>	<u>0</u>	<u>24,260,852</u>	<u>0</u>	<u>3,209,775</u>
<b>Totals</b>	147,475,062	156,529,760		163,250,809	2,396,267	0	165,647,076	15,435,056	33,607,070

**STATEMENT OF RECONCILIATION  
UNIVERSAL SERVICES & ENERGY CONSERVATION SURCHARGE  
CALENDAR YEAR 2020**

Month	USC Applicable Volumes	USC Charge	USC Revenue Billed	USC Expenses	Monthly Over/(Under) Recovery	Cumulative Over/(Under) Recovery (\$2,023,477)
December 2019						
January 2020	Actual 8,154,457	\$ 0.9826	\$ 8,012,507	\$ 12,323,589	\$ (4,311,082)	(\$6,334,560)
February	Actual 7,509,470	\$ 0.9826	\$ 7,378,747	\$ 12,918,550	\$ (5,539,803)	(\$11,874,362)
March	Actual 5,575,763	\$ 1.0768	\$ 6,004,239	\$ 8,583,702	\$ (2,579,463)	(\$14,453,825)
April	Actual 4,026,660	\$ 1.1711	\$ 4,715,622	\$ 4,851,043	\$ (135,421)	(\$14,589,246)
May	Actual 2,857,151	\$ 1.1711	\$ 3,346,010	\$ 2,059,642	\$ 1,286,367	(\$13,302,879)
June	Actual 1,405,930	\$ 1.1742	\$ 1,650,858	\$ (600,645)	\$ 2,251,503	(\$11,051,376)
July	Actual 1,028,875	\$ 1.1773	\$ 1,211,316	\$ (1,528,632)	\$ 2,739,948	(\$8,311,429)
August	Actual 949,950	\$ 1.1773	\$ 1,118,396	\$ 2,255,154	\$ (1,136,758)	(\$9,448,186)
September	Actual 1,133,164	\$ 1.4085	\$ 1,596,062	\$ (592,982)	\$ 2,189,044	(\$7,259,143)
October	Actual 1,401,507	\$ 1.6397	\$ 2,298,051	\$ 1,362,442	\$ 935,609	(\$6,323,534)
November	Actual 3,139,376	\$ 1.6397	\$ 5,147,635	\$ 4,984,526	\$ 163,109	(\$6,160,425)
December	Actual 6,248,495	\$ 1.7832	\$ 11,142,004	\$ 9,472,609	\$ 1,669,395	(\$4,491,030)

USC Expenses	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Total
ELIRP Expense	\$ 40,960	\$ 1,207,567	\$ 669,221	\$ 319,392	\$ 258,903	\$ 132,158	\$ 66,448	\$ 1,278,944	\$ 1,661	\$ 694,650	\$ 911,900	\$ 5,768	\$ 5,587,572
ELIRP Labor	\$ 15,486	\$ 16,569	\$ 14,373	\$ 14,312	\$ 21,452	\$ 13,229	\$ 16,554	\$ 15,509	\$ 8,143	\$ 8,815	\$ 6,628	\$ 6,649	\$ 157,719
Conservation Incentive Credit	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 212,300	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 212,300
CRP Discount	\$ 10,903,197	\$ 10,457,560	\$ 6,628,267	\$ 3,525,469	\$ 749,769	\$ (1,829,089)	\$ (2,596,908)	\$ (2,774,156)	\$ (1,656,782)	\$ (430,516)	\$ 3,202,962	\$ 8,297,918	\$ 34,477,692
CRP Forgiveness	\$ 890,992	\$ 788,561	\$ 946,916	\$ 758,533	\$ 877,485	\$ 791,483	\$ 921,875	\$ 3,677,656	\$ 989,799	\$ 998,895	\$ 674,746	\$ 827,227	\$ 13,144,168
Senior Citizen Discount	\$ 472,954	\$ 448,293	\$ 324,925	\$ 233,337	\$ 152,033	\$ 79,274	\$ 63,400	\$ 57,201	\$ 64,197	\$ 90,598	\$ 188,291	\$ 335,047	\$ 2,509,549
Bad Debt Expense Offset*	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total	\$ 12,323,589	\$ 12,918,550	\$ 8,583,702	\$ 4,851,043	\$ 2,059,642	\$ (600,645)	\$ (1,528,632)	\$ 2,255,154	\$ (592,982)	\$ 1,362,442	\$ 4,984,526	\$ 9,472,609	\$ 56,089,000

<b>CRP Participation</b>													
Rate Case Participation Rate	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000
Actual Participation Rate*	55,069	53,843	54,250	54,885	55,324	55,638	55,750	55,845	55,748	55,925	56,226	56,577	
CRP Under(Over) Participation	4,931	6,157	5,750	5,115	4,676	4,362	4,250	4,155	4,252	4,075	3,774	3,423	
<b>Average Shortfall Per CRP Participant</b>													
CRP Discount	\$ 10,903,197	\$ 10,457,560	\$ 6,628,267	\$ 3,525,469	\$ 749,769	\$ (1,829,089)	\$ (2,596,908)	\$ (2,774,156)	\$ (1,656,782)	\$ (430,516)	\$ 3,202,962	\$ 8,297,918	
Actual Participation Rate	55,069	53,843	54,250	54,885	55,324	55,638	55,750	55,845	55,748	55,925	56,226	56,577	
Average Shortfall per CRP Participant	\$ 198	\$ 194	\$ 122	\$ 64	\$ 14	\$ (33)	\$ (47)	\$ (50)	\$ (30)	\$ (8)	\$ 57	\$ 147	
Shortfall*	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Bad Debt Expense Offset* 7.5%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

\*Bad Debt Expense Offset Applicable When Actual CRP Participation Exceeds 60,000

Docket No. R-2021-XXXXXXX  
Item 53.65(1)

**Philadelphia Gas Works**

Pennsylvania Public Utility Commission  
52 Pa. Code § 53.61, et seq.

**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, see response to 53.64(c)(1) for price of gas, transportation and storage.

Docket No. R-2021-XXXXXXX  
Item 53.65(2)

**Philadelphia Gas Works**

Pennsylvania Public Utility Commission  
52 Pa. Code § 53.61, et seq.

**Item 53.65(2)**

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

**Response:**

PGW has no affiliates and provided is a summary of all transport and storage.

**Philadelphia Gas Works**  
**Gas Supply Group – Supply and Transportation**  
**Abstract of Natural Gas Contracts**

This document contains confidential information for the use of the Gas Operations personnel only. It is important to note that this is a brief summary of the terms and conditions of our contracts. The pipeline tariffs and contract files should be referenced for complete information.

PHILA.GAS WORKS

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## TRANSPORTATION CONTRACTS

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PHILA.GAS WORKS

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PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
GAS SUPPLY CONTRACT

Name & Type of Service:	Tetco Gas Supply Contract #5
Delivery Pipeline & Contract #:	Tetco
Associated Transportation Contract:	Tetco FT and CDS
Contract Term:	Winter Supply
Initial Contract Date:	11/01/2019
Contract Expiration Date:	03/31/2020
Quality of Service:	Firm
Daily Maximum:	10,000 DT per Day Nov.-Mar.
Availability:	Winter Supply Contract
Fuel (%):	Subject to Tetco fuel rates
Minimum Take Level:	10,000 DT per Day
Nomination & Scheduling:	Nominations subject to Tetco rules.
Other Terms & Conditions:	Pricing for each month can be negotiated or defaults to <i>Inside FERC</i> 's First of Month index.
Most Recent Negotiation:	Contract expires on 03/31/20.

PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
GAS SUPPLY CONTRACT

Name & Type of Service:	Tetco Gas Supply Contract #26
Delivery Pipeline & Contract #:	Tetco
Associated Transportation Contract:	Tetco FT and CDS
Contract Term:	Winter Supply
Initial Contract Date:	11/01/2019
Contract Expiration Date:	03/31/2020
Quality of Service:	Firm
Daily Maximum:	11,000 DT per Day Nov.-Mar.
Availability:	Winter Supply Contract
Fuel (%):	Subject to Tetco fuel rates
Minimum Take Level:	11,000 DT per Day
Nomination & Scheduling:	Nominations subject to Tetco rules.
Other Terms & Conditions:	Pricing for each month can be negotiated or defaults to <i>Inside FERC</i> 's First of Month index.
Most Recent Negotiation:	Contract expired on 03/31/20.

PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
GAS SUPPLY CONTRACT

Name & Type of Service:	Tetco Gas Supply Contract #16
Delivery Pipeline & Contract #:	Tetco
Associated Transportation Contract:	Tetco FT and CDS
Contract Term:	Winter Supply
Initial Contract Date:	11/01/2019
Contract Expiration Date:	03/31/2020
Quality of Service:	Firm
Daily Maximum:	5,500 DT per Day Nov.-Mar.
Availability:	Winter Supply Contract
Fuel (%):	Subject to Tetco fuel rates
Minimum Take Level:	5,500 DT per Day
Nomination & Scheduling:	Nominations subject to Tetco rules.
Other Terms & Conditions:	Pricing for each month can be negotiated or defaults to <i>Inside FERC</i> 's First of Month index.
Most Recent Negotiation:	Contract expired on 03/31/20.

PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
GAS SUPPLY CONTRACT

Name & Type of Service:	Tetco Gas Supply Contract #28
Delivery Pipeline & Contract #:	Tetco
Associated Transportation Contract:	Tetco FT and CDS
Contract Term:	Winter Supply
Initial Contract Date:	11/01/2019
Contract Expiration Date:	03/31/2020
Quality of Service:	Firm
Daily Maximum:	5,500 DT per Day Nov.-Mar.
Availability:	Winter Supply Contract
Fuel (%):	Subject to Tetco fuel rates
Minimum Take Level:	5,500 DT per Day
Nomination & Scheduling:	Nominations subject to Tetco rules.
Other Terms & Conditions:	Pricing for each month can be negotiated or defaults to <i>Inside FERC</i> 's First of Month index.
Most Recent Negotiation:	Contract expired on 03/31/20.

PGW NATURAL GAS CONTRACT INFORMATION  
GAS SUPPLY CONTRACT

Name & Type of Service:	Tetco Gas Supply Contract #35
Delivery Pipeline & Contract #:	Tetco
Associated Transportation Contract:	Tetco FT and CDS
Contract Term:	Winter Supply
Initial Contract Date:	11/01/2019
Contract Expiration Date:	03/31/2020
Quality of Service:	Firm
Daily Maximum:	5,000 DT per Day Nov.-Mar.
Availability:	Winter Supply Contract
Fuel (%):	Subject to Tetco fuel rates
Minimum Take Level:	5,000 DT per Day
Nomination & Scheduling:	Nominations subject to Tetco rules.
Other Terms & Conditions:	Pricing for each month can be negotiated or defaults to <i>Inside FERC's</i> First of Month index.
Most Recent Negotiation:	Contract expired on 03/31/20.

PGW NATURAL GAS CONTRACT INFORMATION  
GAS SUPPLY CONTRACT

Name & Type of Service:	Tetco Gas Supply Contract #34
Delivery Pipeline & Contract #:	Tetco
Associated Transportation Contract:	Tetco FT and CDS
Contract Term:	Winter Supply
Initial Contract Date:	11/01/2019
Contract Expiration Date:	03/31/2020
Quality of Service:	Firm
Daily Maximum:	5,444 DT per Day Nov.-Mar.
Availability:	Winter Supply Contract
Fuel (%):	Subject to Tetco fuel rates
Minimum Take Level:	5,444 DT per Day
Nomination & Scheduling:	Nominations subject to Tetco rules.
Other Terms & Conditions:	Pricing for each month can be negotiated or defaults to <i>Inside FERC's</i> First of Month index.
Most Recent Negotiation:	Contract expired on 03/31/21.

PGW NATURAL GAS CONTRACT INFORMATION  
GAS SUPPLY CONTRACT

Name & Type of Service:	Tetco Gas Supply Contract #33
Delivery Pipeline & Contract #:	Tetco
Associated Transportation Contract:	Tetco FT and CDS
Contract Term:	Winter Supply
Initial Contract Date:	12/01/2020
Contract Expiration Date:	03/31/2020
Quality of Service:	Firm
Daily Maximum:	12,086 DT per Day Nov.-Mar.
Availability:	Winter Supply Contract
Fuel (%):	Subject to Tetco fuel rates
Minimum Take Level:	12,086 DT per Day
Nomination & Scheduling:	Nominations subject to Tetco rules.
Other Terms & Conditions:	Pricing for each month can be negotiated or defaults to <i>Inside FERC</i> 's First of Month index.
Most Recent Negotiation:	Contract expired on 03/31/20.

PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
GAS SUPPLY CONTRACT

Name & Type of Service:	Tetco Gas Supply Contract #24
Delivery Pipeline & Contract #:	Tetco
Associated Transportation Contract:	Tetco FT and CDS
Contract Term:	Summer Supply
Initial Contract Date:	04/01/2020
Contract Expiration Date:	10/31/2020
Quality of Service:	Firm
Daily Maximum:	5,000 DT per Day Apr-Oct.
Availability:	Summer Supply Contract
Fuel (%):	Subject to Tetco fuel rates
Minimum Take Level:	5,000 DT per Day
Nomination & Scheduling:	Nominations subject to Tetco rules.
Other Terms & Conditions:	Pricing for each month can be negotiated or defaults to <i>Inside FERC</i> 's First of Month index.
Most Recent Negotiation:	Contract expired on 10/31/2020.



PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
GAS SUPPLY CONTRACT

Name & Type of Service:	Tetco Gas Supply Contract #26
Delivery Pipeline & Contract #:	Tetco
Associated Transportation Contract:	Tetco FT and CDS
Contract Term:	Summer Supply
Initial Contract Date:	04/01/2020
Contract Expiration Date:	10/31/2020
Quality of Service:	Firm
Daily Maximum:	7,000 DT per Day Apr-Oct.
Availability:	Summer Supply Contract
Fuel (%):	Subject to Tetco fuel rates
Minimum Take Level:	7,000 DT per Day
Nomination & Scheduling:	Nominations subject to Tetco rules.
Other Terms & Conditions:	Pricing for each month can be negotiated or defaults to <i>Inside FERC</i> 's First of Month index.
Most Recent Negotiation:	Contract expired on 10/31/2020.

PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
GAS SUPPLY CONTRACT

Name & Type of Service:	Tetco Gas Supply Contract #1
Delivery Pipeline & Contract #:	Tetco
Associated Transportation Contract:	Tetco FT and CDS
Contract Term:	Summer Supply
Initial Contract Date:	04/01/2020
Contract Expiration Date:	10/31/2020
Quality of Service:	Firm
Daily Maximum:	10,000 DT per Day Apr-Oct.
Availability:	Summer Supply Contract
Fuel (%):	Subject to Tetco fuel rates
Minimum Take Level:	10,000 DT per Day
Nomination & Scheduling:	Nominations subject to Tetco rules.
Other Terms & Conditions:	Pricing for each month can be negotiated or defaults to <i>Inside FERC</i> 's First of Month index.
Most Recent Negotiation:	Contract expired on 10/31/2020.

PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
GAS SUPPLY CONTRACT

Name & Type of Service:	Tetco Gas Supply Contract #28
Delivery Pipeline & Contract #:	Tetco
Associated Transportation Contract:	Tetco FT and CDS
Contract Term:	Summer Supply
Initial Contract Date:	04/01/2020
Contract Expiration Date:	10/31/2020
Quality of Service:	Firm
Daily Maximum:	10,000 DT per Day Apr-Oct.
Availability:	Summer Supply Contract
Fuel (%):	Subject to Tetco fuel rates
Minimum Take Level:	10,000 DT per Day
Nomination & Scheduling:	Nominations subject to Tetco rules.
Other Terms & Conditions:	Pricing for each month can be negotiated or defaults to <i>Inside FERC</i> 's First of Month index.
Most Recent Negotiation:	Contract expired on 10/31/2020.

PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
GAS SUPPLY CONTRACT

Name & Type of Service:	Tetco Gas Supply Contract #34
Delivery Pipeline & Contract #:	Tetco
Associated Transportation Contract:	Tetco FT and CDS
Contract Term:	Summer Supply
Initial Contract Date:	04/01/2020
Contract Expiration Date:	10/31/2020
Quality of Service:	Firm
Daily Maximum:	3,000 DT per Day Apr-Oct.
Availability:	Summer Supply Contract
Fuel (%):	Subject to Tetco fuel rates
Minimum Take Level:	3,000 DT per Day
Nomination & Scheduling:	Nominations subject to Tetco rules.
Other Terms & Conditions:	Pricing for each month can be negotiated or defaults to <i>Inside FERC</i> 's First of Month index.
Most Recent Negotiation:	Contract expired on 10/31/2020.

PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
GAS SUPPLY CONTRACT

Name & Type of Service:	Tetco Gas Supply Contract #26
Delivery Pipeline & Contract #:	Tetco
Associated Transportation Contract:	Tetco FT and CDS
Contract Term:	1 Year
Initial Contract Date:	11/01/2019
Contract Expiration Date:	10/31/2020
Quality of Service:	Firm
Daily Maximum:	25,000 DT
Availability:	Year Round
Fuel (%):	Subject to Tetco fuel rates
Minimum Take Level:	None
Nomination & Scheduling:	Next day nomination change. Nominations subject to Tetco rules. No limit to amount of changes within the month.
Other Terms & Conditions:	Pricing for each day is priced at <i>Platts Gas Daily</i> midpoint index.
Most Recent Negotiation:	Contract expires on 10/31/2020.

PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
GAS SUPPLY CONTRACT

Name & Type of Service:	Tetco Gas Supply Contract #1
Delivery Pipeline & Contract #:	Tetco
Associated Transportation Contract:	Tetco FT and CDS
Contract Term:	1 Year
Initial Contract Date:	11/01/2019
Contract Expiration Date:	10/31/2020
Quality of Service:	Firm
Daily Maximum:	10,000 DT
Availability:	Year Round
Fuel (%):	Subject to Tetco fuel rates
Minimum Take Level:	None
Nomination & Scheduling:	Next day nomination change. Nominations subject to Tetco rules. No limit to amount of changes within the month.
Other Terms & Conditions:	Pricing for each day is priced at <i>Platts Gas Daily</i> midpoint index.
Most Recent Negotiation:	Contract expires on 10/31/2020.

PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
GAS SUPPLY CONTRACT

Name & Type of Service:	Transco Gas Supply Contract #30
Delivery Pipeline & Contract #:	Transco
Associated Transportation Contract:	Transco FT Contract 1003691
Contract Term:	Summer Supply
Initial Contract Date:	04/01/2020
Contract Expiration Date:	10/31/2020
Quality of Service:	Firm
Daily Maximum:	10,000 DT per Day Apr.-Oct.
Availability:	Summer Supply Contract
Fuel (%):	Subject to Transco fuel rates
Minimum Take Level:	10,000 DT per Day
Nomination & Scheduling:	Firm must take contract. Nominations subject to Transco rules.
Other Terms & Conditions:	Pricing for each month can be negotiated or defaults to <i>Inside FERC</i> 's First of Month index.
Most Recent Negotiation:	Contract expired on 10/31/2020.

PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
GAS SUPPLY CONTRACT

Name & Type of Service:	Transco Gas Supply Contract #14
Delivery Pipeline & Contract #:	Transco
Associated Transportation Contract:	Transco FT Contract 1003691
Contract Term:	Summer Supply
Initial Contract Date:	04/01/2020
Contract Expiration Date:	10/31/2020
Quality of Service:	Firm
Daily Maximum:	5,000 DT per Day Apr.-Oct.
Availability:	Summer Supply Contract
Fuel (%):	Subject to Transco fuel rates
Minimum Take Level:	5,000 DT per Day
Nomination & Scheduling:	Firm must take contract. Nominations subject to Transco rules.
Other Terms & Conditions:	Pricing for each month can be negotiated or defaults to <i>Inside FERC</i> 's First of Month index.
Most Recent Negotiation:	Contract expired on 10/31/2020.



PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
GAS SUPPLY CONTRACT

Name & Type of Service:	Transco Gas Supply Contract #29
Delivery Pipeline & Contract #:	Transco
Associated Transportation Contract:	Transco FT Contract 1003691
Contract Term:	Summer Supply
Initial Contract Date:	04/01/2020
Contract Expiration Date:	10/31/2020
Quality of Service:	Firm
Daily Maximum:	3,500 DT per Day Apr.-Oct.
Availability:	Summer Supply Contract
Fuel (%):	Subject to Transco fuel rates
Minimum Take Level:	3,500 DT per Day
Nomination & Scheduling:	Firm must take contract. Nominations subject to Transco rules.
Other Terms & Conditions:	Pricing for each month can be negotiated or defaults to <i>Inside FERC</i> 's First of Month index.
Most Recent Negotiation:	Contract expired on 10/31/2020.

PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
GAS SUPPLY CONTRACT

Name & Type of Service:	Transco Gas Supply Contract #37
Delivery Pipeline & Contract #:	Transco
Associated Transportation Contract:	Transco FT Contract 1003691
Contract Term:	Summer Supply
Initial Contract Date:	04/01/2020
Contract Expiration Date:	10/31/2020
Quality of Service:	Firm
Daily Maximum:	3,500 DT per Day Apr.-Oct.
Availability:	Summer Supply Contract
Fuel (%):	Subject to Transco fuel rates
Minimum Take Level:	3,500 DT per Day
Nomination & Scheduling:	Firm must take contract. Nominations subject to Transco rules.
Other Terms & Conditions:	Pricing for each month can be negotiated or defaults to <i>Inside FERC</i> 's First of Month index.
Most Recent Negotiation:	Contract expired on 10/31/2020.

PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
GAS SUPPLY CONTRACT

Name & Type of Service:	Transco Gas Supply Contract #37
Delivery Pipeline & Contract #:	Transco
Associated Transportation Contract:	Transco FT Contract 1003691
Contract Term:	Summer Supply
Initial Contract Date:	04/01/2020
Contract Expiration Date:	10/31/2020
Quality of Service:	Firm
Daily Maximum:	3,736 DT per Day Apr.-Oct.
Availability:	Summer Supply Contract
Fuel (%):	Subject to Transco fuel rates
Minimum Take Level:	3,736 DT per Day
Nomination & Scheduling:	Firm must take contract. Nominations subject to Transco rules.
Other Terms & Conditions:	Pricing for each month can be negotiated or defaults to <i>Inside FERC</i> 's First of Month index.
Most Recent Negotiation:	Contract expired on 10/31/2020.

PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
GAS SUPPLY CONTRACT

Name & Type of Service:	Transco Gas Supply Contract #37
Delivery Pipeline & Contract #:	Transco
Associated Transportation Contract:	Transco FT Contract 1003691
Contract Term:	Summer Supply
Initial Contract Date:	04/01/2020
Contract Expiration Date:	10/31/2020
Quality of Service:	Firm
Daily Maximum:	3,500 DT per Day Apr.-Oct.
Availability:	Summer Supply Contract
Fuel (%):	Subject to Transco fuel rates
Minimum Take Level:	3,500 DT per Day
Nomination & Scheduling:	Firm must take contract. Nominations subject to Transco rules.
Other Terms & Conditions:	Pricing for each month can be negotiated or defaults to <i>Inside FERC</i> 's First of Month index.
Most Recent Negotiation:	Contract expired on 10/31/2020.

PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
GAS SUPPLY CONTRACT

Name & Type of Service:	Transco Gas Supply Contract #37
Delivery Pipeline & Contract #:	Transco
Associated Transportation Contract:	Transco FT Contract 1003691
Contract Term:	Summer Supply
Initial Contract Date:	04/01/2020
Contract Expiration Date:	04/30/2020
Quality of Service:	Firm
Daily Maximum:	5,000 DT per Day Apr.
Availability:	Summer Supply Contract
Fuel (%):	Subject to Transco fuel rates
Minimum Take Level:	5,000 DT per Day
Nomination & Scheduling:	Firm must take contract. Nominations subject to Transco rules.
Other Terms & Conditions:	Pricing for each month can be negotiated or defaults to <i>Inside FERC</i> 's First of Month index.
Most Recent Negotiation:	Contract expired on 04/30/2020.

PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
GAS SUPPLY CONTRACT

Name & Type of Service:	Transco Gas Supply Contract #14
Delivery Pipeline & Contract #:	Transco
Associated Transportation Contract:	Transco FT Contract 1003691
Contract Term:	Winter Supply
Initial Contract Date:	11/01/2019
Contract Expiration Date:	03/31/2020
Quality of Service:	Firm
Daily Maximum:	10,000 DT per Day Nov.-Mar.
Availability:	Winter Supply Contract
Fuel (%):	Subject to Transco fuel rates
Minimum Take Level:	10,000 DT per Day
Nomination & Scheduling:	Firm must take contract. Nominations subject to Transco rules.
Other Terms & Conditions:	Pricing for each month can be negotiated or defaults to <i>Inside FERC</i> 's First of Month index.
Most Recent Negotiation:	Contract expired on 3/31/2020.

PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
GAS SUPPLY CONTRACT

Name & Type of Service:	Transco Gas Supply Contract #6
Delivery Pipeline & Contract #:	Transco
Associated Transportation Contract:	Transco FT Contract 1003691
Contract Term:	Winter Supply
Initial Contract Date:	11/01/2019
Contract Expiration Date:	03/31/2020
Quality of Service:	Firm
Daily Maximum:	10,000 DT per Day Nov.-Mar.
Availability:	Winter Supply Contract
Fuel (%):	Subject to Transco fuel rates
Minimum Take Level:	10,000 DT per Day
Nomination & Scheduling:	Firm must take contract. Nominations subject to Transco rules.
Other Terms & Conditions:	Pricing for each month can be negotiated or defaults to <i>Inside FERC</i> 's First of Month index.
Most Recent Negotiation:	Contract expired on 03/31/2020.

PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
GAS SUPPLY CONTRACT

Name & Type of Service:	Transco Gas Supply Contract #30
Delivery Pipeline & Contract #:	Transco
Associated Transportation Contract:	Transco FT Contract 1003691
Contract Term:	Winter Supply
Initial Contract Date:	11/01/2019
Contract Expiration Date:	03/31/2020
Quality of Service:	Firm
Daily Maximum:	1,413 DT per Day Nov.-Mar.
Availability:	Winter Supply Contract
Fuel (%):	Subject to Transco fuel rates
Minimum Take Level:	5,000 DT per Day
Nomination & Scheduling:	Firm must take contract. Nominations subject to Transco rules.
Other Terms & Conditions:	Pricing for each month can be negotiated or default to an index.
Most Recent Negotiation:	Contract expired on 3/31/2019.



PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
GAS SUPPLY CONTRACT

Name & Type of Service:	Transco Gas Supply Contract #37
Delivery Pipeline & Contract #:	Transco
Associated Transportation Contract:	Transco FT Contract 1003691
Contract Term:	Winter Supply
Initial Contract Date:	11/01/2019
Contract Expiration Date:	03/31/2020
Quality of Service:	Firm
Daily Maximum:	3,500 DT per Day Nov.-Mar.
Availability:	Winter Supply Contract
Fuel (%):	Subject to Transco fuel rates
Minimum Take Level:	3,500 DT per Day
Nomination & Scheduling:	Firm must take contract. Nominations subject to Transco rules.
Other Terms & Conditions:	Pricing for each month can be negotiated or default to an index.
Most Recent Negotiation:	Contract expired on 3/31/2019.

PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
GAS SUPPLY CONTRACT

Name & Type of Service:	Transco Gas Supply Contract #37
Delivery Pipeline & Contract #:	Transco
Associated Transportation Contract:	Transco FT Contract 1003691
Contract Term:	Winter Supply
Initial Contract Date:	11/01/2019
Contract Expiration Date:	03/31/2020
Quality of Service:	Firm
Daily Maximum:	8,000 DT per Day Nov.-Mar.
Availability:	Winter Supply Contract
Fuel (%):	Subject to Transco fuel rates
Minimum Take Level:	8,000 DT per Day
Nomination & Scheduling:	Firm must take contract. Nominations subject to Transco rules.
Other Terms & Conditions:	Pricing for each month can be negotiated or defaults to <i>Inside FERC</i> 's First of Month index.
Most Recent Negotiation:	Contract expired on 3/31/2020.

PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
GAS SUPPLY CONTRACT

Name & Type of Service:	Transco Gas Supply Contract #7
Delivery Pipeline & Contract #:	Transco
Associated Transportation Contract:	Transco FT Contract 1003691
Contract Term:	Winter Supply
Initial Contract Date:	11/01/2019
Contract Expiration Date:	03/31/2020
Quality of Service:	Firm
Daily Maximum:	10,000 DT per Day Nov.-Mar.
Availability:	Winter Supply Contract
Fuel (%):	Subject to Transco fuel rates
Minimum Take Level:	10,000 DT per Day
Nomination & Scheduling:	Firm must take contract. Nominations subject to Transco rules.
Other Terms & Conditions:	Pricing for each month can be negotiated or defaults to <i>Inside FERC</i> 's First of Month index.
Most Recent Negotiation:	Contract expired on 3/31/2020.

PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
GAS SUPPLY CONTRACT

Name & Type of Service:	Transco Gas Supply Contract #37
Delivery Pipeline & Contract #:	Transco
Associated Transportation Contract:	Transco FT Contract 1003691
Contract Term:	Winter Supply
Initial Contract Date:	11/01/2019
Contract Expiration Date:	03/31/2020
Quality of Service:	Firm
Daily Maximum:	10,000 DT per Nov.-Mar.
Availability:	Winter Supply Contract
Fuel (%):	Subject to Transco fuel rates
Minimum Take Level:	10,000 DT per Day
Nomination & Scheduling:	Firm must take contract. Nominations subject to Transco rules.
Other Terms & Conditions:	Pricing for the month defaulted to <i>Inside FERC's</i> First of Month index.
Most Recent Negotiation:	Contract expired 03/31/2020.

PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
GAS SUPPLY CONTRACT

Name & Type of Service:	Transco Gas Supply Contract #40
Delivery Pipeline & Contract #:	Transco
Associated Transportation Contract:	Transco FT Contract 1003691
Contract Term:	Winter Supply
Initial Contract Date:	11/01/2019
Contract Expiration Date:	11/30/2019
Quality of Service:	Firm
Daily Maximum:	12,086 DT per Day Nov.
Availability:	Winter Supply Contract
Fuel (%):	Subject to Transco fuel rates
Minimum Take Level:	12,086 DT per Day
Nomination & Scheduling:	Firm must take contract. Nominations subject to Transco rules.
Other Terms & Conditions:	Pricing for the month defaulted to <i>Inside FERC's</i> First of Month index.
Most Recent Negotiation:	Contract expired 11/30/2019.

PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
GAS SUPPLY CONTRACT

Name & Type of Service:	Transco Gas Supply Contract #39
Delivery Pipeline & Contract #:	Transco
Associated Transportation Contract:	Transco FT Contract 1003691
Contract Term:	Winter Supply
Initial Contract Date:	12/01/2019
Contract Expiration Date:	12/31/2019
Quality of Service:	Firm
Daily Maximum:	10,000 DT per Day Nov.
Availability:	Winter Supply Contract
Fuel (%):	Subject to Transco fuel rates
Minimum Take Level:	10,000 DT per Day
Nomination & Scheduling:	Firm must take contract. Nominations subject to Transco rules.
Other Terms & Conditions:	Pricing for the month defaulted to <i>Inside FERC's</i> First of Month index.
Most Recent Negotiation:	Contract expired 12/31/2019.

PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
GAS SUPPLY CONTRACT

Name & Type of Service:	Transco Gas Supply Contract #37
Delivery Pipeline & Contract #:	Transco
Associated Transportation Contract:	Transco FT Contract 1003691
Contract Term:	Winter Supply
Initial Contract Date:	02/01/2020
Contract Expiration Date:	03/31/2020
Quality of Service:	Firm
Daily Maximum:	3,500 DT per Day Nov.
Availability:	Winter Supply Contract
Fuel (%):	Subject to Transco fuel rates
Minimum Take Level:	3,500 DT per Day
Nomination & Scheduling:	Firm must take contract. Nominations subject to Transco rules.
Other Terms & Conditions:	Pricing for the month defaulted to <i>Inside FERC's</i> First of Month index.
Most Recent Negotiation:	Contract expired 03/31/2020.

PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
GAS SUPPLY CONTRACT

Name & Type of Service:	Transco Gas Supply Contract #7
Delivery Pipeline & Contract #:	Transco
Associated Transportation Contract:	Transco FT Contract # 1003691
Contract Term:	1 Year
Initial Contract Date:	11/01/2019
Contract Expiration Date:	10/31/2020
Quality of Service:	Firm
Daily Maximum:	25,000 DT per Day
Availability:	Year Round
Fuel (%):	Subject to Transco fuel rates
Minimum Take Level:	None
Nomination & Scheduling:	24 hour notice business day. Next day nomination change. Nominations subject to Transco rules. No limit to amount of changes within the month.
Other Terms & Conditions:	Pricing for each day is priced at <i>Platts Gas Daily</i> midpoint index.
Most Recent Negotiation:	Contract expired 10/31/20.



PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
GAS SUPPLY CONTRACT

Name & Type of Service:	Transco Gas Supply Contract #30
Delivery Pipeline & Contract #:	Transco
Associated Transportation Contract:	Transco FT Contract # 1003691
Contract Term:	1 Year
Initial Contract Date:	11/01/2019
Contract Expiration Date:	10/31/2020
Quality of Service:	Firm
Daily Maximum:	20,000 DT per Day
Availability:	Year Round
Fuel (%):	Subject to Transco fuel rates
Minimum Take Level:	None
Nomination & Scheduling:	24 hour notice business day. Next day nomination change. Nominations subject to Transco rules. No limit to amount of changes within the month.
Other Terms & Conditions:	Pricing for each day is priced at <i>Platts Gas Daily</i> midpoint index.
Most Recent Negotiation:	Contract expired 10/31/20.

PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
Transportation Contract

Name & Type of Service:	Transco FT
Delivery Pipeline & Contract #:	Transco FT 1003691
Associated Transportation Contract:	Transco Supply Contracts, WSS, ES, and Spot Supply contracts.
Contract Term:	13 Years
Initial Contract Date:	02/01/1992
Contract Expiration Date:	03/31/2005
Quality of Service:	Firm
Daily Maximum:	165,212 DT
Availability:	Year Round
Fuel (%):	Subject to Transco fuel rates
Minimum Take Level:	N/A
Nomination & Scheduling:	GISB Standards.
Other Terms & Conditions:	N/A
Most Recent Negotiation:	Contract is now in the evergreen state.

PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
Transportation Contract

Name & Type of Service:	Transco Peaking Service FT
Delivery Pipeline & Contract #:	Transco FT 1005001
Associated Transportation Contract:	Transco Supply Contracts, WSS, ES, and Spot Supply contracts.
Contract Term:	13 Years
Initial Contract Date:	02/01/1992
Contract Expiration Date:	03/31/2005
Quality of Service:	Firm
Daily Maximum:	1,967 DT
Availability:	Winter Peaking Dec-Feb
Fuel (%):	Subject to Transco fuel rates
Minimum Take Level:	N/A
Nomination & Scheduling:	GISB Standards.
Other Terms & Conditions:	N/A
Most Recent Negotiation:	Contract is now in the evergreen state.

PHILA.GAS WORKS  
PGW NATURAL GAS CONTRACT INFORMATION  
Interruptible Transportation Contract

Name & Type of Service:	Transco Interruptible Transportation
Delivery Pipeline & Contract #:	Transco IT 1002427
Associated Transportation Contract:	Transco Supply Contracts, WSS, ES, and Spot Supply contracts.
Contract Term:	13 Years
Initial Contract Date:	02/01/1992
Contract Expiration Date:	03/31/2005
Quality of Service:	Firm
Daily Maximum:	See Transco Tariff
Availability:	See Transco Tariff
Fuel (%):	Subject to Transco fuel rates
Minimum Take Level:	N/A
Nomination & Scheduling:	GISB Standards.
Other Terms & Conditions:	N/A
Most Recent Negotiation:	Contract is now in the evergreen state.

PHILA.GAS WORKS  
NATURAL GAS CONTRACT INFORMATION  
Comprehensive Delivery Service

Name & Type of Service:	Tetco CDS
Delivery Pipeline & Contract #:	Tetco #800232
Associated Transportation Contract:	Tetco Supply Contracts, Spot Supply contracts.
Contract Term:	2.8 Years
Initial Contract Date:	12/15/1998
Contract Expiration Date:	10/31/2001
Quality of Service:	Firm
Daily Maximum:	75,000 DT per Day
Availability:	See Tetco Tariff
Fuel (%):	Subject to Tetco fuel rates
Minimum Take Level:	N/A
Nomination & Scheduling:	GISB Standards.
Other Terms & Conditions:	See Tetco Tariff
Most Recent Negotiation:	Contract is now in the evergreen state.

PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
Firm Transportation

Name & Type of Service:	Tetco FT 1
Delivery Pipeline & Contract #:	Tetco #800233
Associated Transportation Contract:	Tetco Supply Contracts, Spot Supply contracts.
Contract Term:	2.8 Years
Initial Contract Date:	12/15/1998
Contract Expiration Date:	10/31/2001
Quality of Service:	Firm
Daily Maximum:	23,822 DT per Day
Availability:	See Tetco Tariff
Fuel (%):	Subject to Tetco fuel rates
Minimum Take Level:	N/A
Nomination & Scheduling:	GISB Standards.
Other Terms & Conditions:	See Tetco Tariff
Most Recent Negotiation:	Contract is now in the evergreen state.

PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
Firm Transportation

Name & Type of Service:	Tetco FT 1
Delivery Pipeline & Contract #:	Tetco #800514
Associated Transportation Contract:	Tetco Supply Contracts & Spot Supply contracts.
Contract Term:	7.8 Years
Initial Contract Date:	12/15/1996
Contract Expiration Date:	10/31/2003
Quality of Service:	Firm
Daily Maximum:	18,000 DT per Day
Availability:	See Tetco Tariff
Fuel (%):	Subject to Tetco fuel rates
Minimum Take Level:	N/A
Nomination & Scheduling:	GISB Standards.
Other Terms & Conditions:	See Tetco Tariff
Most Recent Negotiation:	Contract in Evergreen state.

PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
Firm Transportation

Name & Type of Service:	Tetco FT 1
Delivery Pipeline & Contract #:	Tetco #800515
Associated Transportation Contract:	Tetco Supply Contracts & Spot Supply contracts.
Contract Term:	10.8 Years
Initial Contract Date:	12/15/1996
Contract Expiration Date:	10/31/2007
Quality of Service:	Firm
Daily Maximum:	18,000 DT per Day
Availability:	See Tetco Tariff
Fuel (%):	Subject to Tetco fuel rates
Minimum Take Level:	N/A
Nomination & Scheduling:	GISB Standards.
Other Terms & Conditions:	See Tetco Tariff
Most Recent Negotiation:	Contract in Evergreen state.



PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
Firm Transportation

Name & Type of Service:	Tetco FTS 2
Delivery Pipeline & Contract #:	Tetco #800232
Associated Contract:	
Contract Term:	8.75 Years
Initial Contract Date:	06/01/1993
Contract Expiration Date:	03/31/2002
Quality of Service:	Firm
Daily Maximum:	5,394 DT per Day
Availability:	See Tetco Tariff
Fuel (%):	Subject to Tetco fuel rates
Minimum Take Level:	N/A
Nomination & Scheduling:	GISB Standards.
Other Terms & Conditions:	See Tetco Tariff
Most Recent Negotiation:	Contract in Evergreen state.

PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
Firm Transportation

Name & Type of Service:	Tetco FTS 7
Delivery Pipeline & Contract #:	Tetco #331725
Associated Contract:	Dominion GSS
Contract Term:	10 Years
Initial Contract Date:	08/07/1996
Contract Expiration Date:	03/31/2005
Quality of Service:	Firm
Daily Maximum:	7,788 DT per Day
Availability:	See Tetco Tariff
Fuel (%):	Subject to Tetco fuel rates
Minimum Take Level:	N/A
Nomination & Scheduling:	GISB Standards.
Other Terms & Conditions:	See Tetco Tariff
Most Recent Negotiation:	Contract in Evergreen state.

PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
Firm Transportation

Name & Type of Service:	Tetco FTS 8
Delivery Pipeline & Contract #:	Tetco #331822
Associated Contract:	Dominion GSS
Contract Term:	10 Years
Initial Contract Date:	08/07/1996
Contract Expiration Date:	03/31/2005
Quality of Service:	Firm
Daily Maximum:	25,709 DT per Day
Availability:	See Tetco Tariff
Fuel (%):	Subject to Tetco fuel rates
Minimum Take Level:	N/A
Nomination & Scheduling:	GISB Standards.
Other Terms & Conditions:	See Tetco Tariff
Most Recent Negotiation:	Contract in Evergreen state.

PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
Interruptible Transportation

Name & Type of Service:	Tetco IT
Delivery Pipeline & Contract #:	Tetco #710468
Associated Contract:	Supply Contracts, Spot Supply
Contract Term:	1 Year
Initial Contract Date:	04/01/1993
Contract Expiration Date:	03/31/1994
Quality of Service:	Interruptible
Daily Maximum:	See Tetco Tariff
Availability:	See Tetco Tariff
Fuel (%):	Subject to Tetco fuel rates
Minimum Take Level:	N/A
Nomination & Scheduling:	GISB Standards.
Other Terms & Conditions:	See Tetco Tariff
Most Recent Negotiation:	Contract in Evergreen status.

PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
Underground Storage Contract

Name & Type of Service: Dominion GSS Storage Service

Delivery Pipeline & Contract #: Tetco

Associated Contract: Tetco FTS 7 Contract#331725  
Tetco FTS 8 Contract#331822

Contract Term: 13 Years

Initial Contract Date: 09/30/1993

Contract Expiration Date: 03/31/2006

Quality of Service: Firm (Unbundled)

Daily Maximum Withdrawal: 34,047 DT Inventory % W/D Rate  
>35% 34,047  
<35% 31,323  
<16% 23,833  
<10% 21,450

Availability (Withdrawal/Injection): Year round

Daily Maximum Injection: 21,772 DT <50%  
18,313 DT >50%

Maximum Storage Quantity: 3,918,971 DT

Fuel (%): 1.95 % injection

Nomination & Scheduling: GISB Standards.  
  
Within day nomination changes may be accomplished as long as both Tetco and Dominion parties are notified and can confirm.

Other Terms & Conditions: Contract in Evergreen state.

PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
Underground Storage Contract

Name & Type of Service: SS1

Delivery Pipeline & Contract #: Tetco Contract #400121

Associated Contract: None

Contract Term: 19 Years

Initial Contract Date: 06/01/1993

Contract Expiration Date: 04/30/2012

Quality of Service: Firm (Bundled)

Daily Maximum Withdrawal: 44,118 DT Inventory % W/D Rate  
100% > 20% 44,118  
< 20% >= 10% 36,764  
< 10% >= 0% 29,413

Availability (Withdrawal/Injection): Year round

Daily Maximum Injection: 13,606 DT

Maximum Storage Quantity: 2,647,080 DT

Fuel (%) Injection & Withdrawal: Subject to Tetco Tariff Revisions

Nomination & Scheduling: GISB Standards.

Other Terms & Conditions: Storage is a No Notice Service

PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
Underground Storage Contract

Name & Type of Service: SS1

Delivery Pipeline & Contract #: Tetco Contract #400209

Associated Contract: None

Contract Term: 19 Years

Initial Contract Date: 06/01/1993

Contract Expiration Date: 04/30/2012

Quality of Service: Firm (Bundled)

Daily Maximum Withdrawal: 20,847 DT Inventory % W/D Rate  
100% > 20% 20,847  
< 20% >= 10% 17,372  
< 10% >= 0% 13,899

Availability (Withdrawal/Injection): Year round

Daily Maximum Injection: 12,656 DT

Maximum Storage Quantity: 2,462,120 DT

Fuel (%) Injection & Withdrawal: Subject to Tetco Tariff Revisions

Nomination & Scheduling: GISB Standards.

Other Terms & Conditions: Storage is a No Notice Service

PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
Underground Storage Contract

Name & Type of Service: GSS

Delivery Pipeline & Contract #: Transco Contract #1000791

Associated Contract: None

Contract Term: 10 Years

Initial Contract Date: 07/09/2012

Contract Expiration Date: 03/31/2023

Quality of Service: Firm (Bundled)

Daily Maximum Withdrawal: 61,567 DT

	<u>Inventory %</u>	<u>W/D Rate</u>
	100%>35%	61,567
	35%>=20%	60,951
	20%>= 7%	45,560
	7%>=0%	33,862

Availability (Withdrawal/Injection): Year round

Daily Maximum Injection:

<50%	22,910
>50%	19,270

Maximum Storage Quantity: 4,123,733 DT

Fuel (%) Injection : Subject to Transco Tariff Revisions

Nomination & Scheduling: GISB Standards.

Other Terms & Conditions: Storage is a No Notice Service



PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
Underground Storage Contract

Name & Type of Service: S 2

Delivery Pipeline & Contract #: Transco Contract #1000943

Associated Contract: None

Contract Term: 5 Years

Initial Contract Date: 04/16/1996

Contract Expiration Date: 04/15/2001

Quality of Service: Firm (Bundled)

Daily Maximum Withdrawal: 5,191 DT Inventory % W/D Rate  
100% > 20% 5,191  
20% >= 10% 4,238  
10% >= 0% 3,482

Availability (Withdrawal/Injection): Injection from April 16 to Nov 15  
Withdrawal from Nov 16 to April 15

Daily Maximum Injection: 3,900 DT

Maximum Storage Quantity: 466,548 DT

Fuel (%) Injection & Withdrawal: Subject to Transco Tariff Revisions

Nomination & Scheduling: GISB Standards.

Other Terms & Conditions: Contract is now in the evergreen state.  
Storage is a No Notice Service.

PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
Underground Storage Contract

Name & Type of Service: WSS

Delivery Pipeline & Contract #: Transco Contract #1038582

Associated Contract: Transco 1003691 & 1005001

Contract Term: 1 Year

Initial Contract Date: 04/01/2001

Contract Expiration Date: 03/31/2002

Quality of Service: Firm (Unbundled)

Daily Maximum Withdrawal: 35,115 Inventory % W/D Rate

100% > 80%	35,115
80% >= 60%	31,471
60% >= 40%	28,512
40% >= 20%	23,828
20% >= 0 %	19,283

Availability (Withdrawal/Injection): Year Round

Daily Maximum Injection:

<50%	18,533
>50%	15,588

Maximum Storage Quantity: 3,335,909 DT

Fuel (%) Injection : Subject to Transco Tariff Revisions

Nomination & Scheduling: GISB Standards.

Other Terms & Conditions: Storage converted to Part 284G. Contract is now in the evergreen state.

PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
Underground Storage Contract

Name & Type of Service:	ES
Delivery Pipeline & Contract #:	Transco Contract #1010416
Associated Contract:	Transco 1003691 & 1005001
Contract Term:	Contract Pending
Initial Contract Date:	N/A
Contract Expiration Date:	10/31/2016
Quality of Service:	Firm (Unbundled)
Daily Maximum Withdrawal:	38,327 DT non-ratcheted
Availability (Withdrawal/Injection):	Year Round
Daily Maximum Injection:	3,198 DT
Maximum Storage Quantity:	323,416 DT
Fuel (%) Injection :	Subject to Transco Tariff Revisions
Nomination & Scheduling:	GISB Standards.
Other Terms & Conditions:	Storage contract 1010416 has been abandoned back to the pipeline.

PHILA.GAS WORKS

PGW NATURAL GAS CONTRACT INFORMATION  
Underground Storage Contract

Name & Type of Service:	ES
Delivery Pipeline & Contract #:	Transco Contract #1039085
Associated Contract:	Transco 1003691 & 1005001
Contract Term:	June 1, 2001 through March 31, 2005
Initial Contract Date:	06/01/2001
Contract Expiration Date:	03/31/2016
Quality of Service:	Firm (Unbundled)
Daily Maximum Withdrawal:	52,077 DT non-ratcheted
Availability (Withdrawal/Injection):	Year Round
Daily Maximum Injection:	4,346 DT
Maximum Storage Quantity:	439,455 DT
Fuel (%) Injection :	Subject to Transco Tariff Revisions
Nomination & Scheduling:	GISB Standards.
Other Terms & Conditions:	Storage contract 1039085 has been abandoned back to the pipeline.

**Philadelphia Gas Works**

Pennsylvania Public Utility Commission  
52 Pa. Code § 53.61, et seq.

**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. Also, see the response to 53.64(c)(6) outlining PGW's current least cost fuel procurement practices.

**Philadelphia Gas Works**

Pennsylvania Public Utility Commission  
52 Pa. Code § 53.61, et seq.

**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. Also, see the response to 53.64(c)(6) outlining PGW's current least cost fuel procurement practices.

**Philadelphia Gas Works**

Pennsylvania Public Utility Commission  
52 Pa. Code § 53.61, et seq.

**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 has no affiliates.

PGW operates two LNG Peak shaving facilities with a total usable storage capacity of 3.9 Bcf, 18.63 percent of PGW's total storage capacity. When pipeline and underground storage deliveries are insufficient to meet sendout requirements, LNG storage withdrawals will be considered. These LNG storage withdrawals are based upon incremental costs, weather forecasts, inventory balances, distribution system requirements, and other variables such as plant maintenance and operating requirements all of which can influence the vaporization and liquefaction rates of PGW's LNG facilities.

PGW used a total of 1,081,801 Mcf of LNG to meet city sendout requirements during fiscal year 2020.

**Philadelphia Gas Works**

Pennsylvania Public Utility Commission  
52 Pa. Code § 53.61, et seq.

**Item 1317(a)**

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.



**Philadelphia Gas Works**

Pennsylvania Public Utility Commission  
52 Pa. Code § 53.61, et seq.

**Item 1317(a)**

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.

**Philadelphia Gas Works**

Pennsylvania Public Utility Commission  
52 Pa. Code § 53.61, et seq.

**Item 1317(a)**

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.

**Philadelphia Gas Works**

Pennsylvania Public Utility Commission  
52 Pa. Code § 53.61, et seq.

**Item 1317(a)**

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.

**Philadelphia Gas Works**

Pennsylvania Public Utility Commission  
52 Pa. Code § 53.61, et seq.

**Item 1317(b)**

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.

**Philadelphia Gas Works**

Pennsylvania Public Utility Commission  
52 Pa. Code § 53.61, et seq.

**Item 1317(b)**

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.

**Item 1317(b)**

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.

**Philadelphia Gas Works**

Pennsylvania Public Utility Commission  
52 Pa. Code § 53.61, et seq.

**Item 1317(c)**

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.

**Item 1317(c)**

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).



Docket No. R-2021-XXXXXXX  
Item 1317(d)

**Philadelphia Gas Works**

Pennsylvania Public Utility Commission  
52 Pa. Code § 53.61, et seq.

**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 Item 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.

**Item 1318(a)**

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 Item 53.64(c)(4) contained in this filing.

**Philadelphia Gas Works**

Pennsylvania Public Utility Commission  
52 Pa. Code § 53.61, et seq.

**Item 1318(a)**

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.

**Philadelphia Gas Works**

Pennsylvania Public Utility Commission  
52 Pa. Code § 53.61, et seq.

**Item 1318(a)**

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.

**Philadelphia Gas Works**

Pennsylvania Public Utility Commission  
52 Pa. Code § 53.61, et seq.

**Item 1318(a)**

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.

**Philadelphia Gas Works**

Pennsylvania Public Utility Commission  
52 Pa. Code § 53.61, et seq.

**Item 1318(b)**

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.

**Philadelphia Gas Works**

Pennsylvania Public Utility Commission  
52 Pa. Code § 53.61, et seq.

**Item 1318(b)**

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.

**Item 1318(b)**

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.



**Philadelphia Gas Works**

Pennsylvania Public Utility Commission  
52 Pa. Code § 53.61, et seq.

**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.