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March 1, 2023

Via: Electronic Filing

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street
Harrisburg, PA 17120

M-2023-3037450

RE: Columbia Gas of Pennsylvania, Inc. (120700)
Annual Resource Planning Report Forms 1 & 2

Dear Ms. Chiavetta:

Enclosed for filing please find Columbia Gas of Pennsylvania, Inc.'s 2023 Annual Resource Planning Report, Forms 1 and 2, submitted in compliance with the Pennsylvania Public Utility Commission's regulations, the Commission's Emergency Order at Docket No. M-2020-3019262 and directives related to e-Filing documents with the Secretary's Bureau.

Should you have any questions, please do not hesitate to contact the undersigned at (223) 488-0794.

Very truly yours,

Candis A. Tunilo

Candis A. Tunilo

/kak
Enclosures
cc: Paul Diskin/Bureau of Technical Utility Services pdiskin@pa.gov
Office of Consumer Advocate consumer@paoca.org
Office of Small Business Advocate ra-sba@pa.gov
Richard Kanaskie/Bureau of Investigation and Enforcement rkanaskie@pa.gov

BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

Columbia Gas of Pennsylvania, Inc.
121 Champion Way, Suite 100
Canonsburg, PA 15317

ANNUAL RESOURCE PLANNING REPORT
Forms 1 & 2

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

COLUMBIA GAS OF PENNSYLVANIA, INC.

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Section 59.81: **General**

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

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

One courtesy copy should also be submitted to[2]:

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

Also submit one (1) copy to each of the following[3]:

Office of Consumer Advocate
555 Walnut Street
Forum Place, 5th Floor
Harrisburg, PA 17101-1923

Office of Small Business Advocate
555 Walnut Street
Forum Place, 1st Floor
Harrisburg, PA 17101

Bureau of Investigation and Enforcement
P.O. Box 3265
Harrisburg, PA 17101-3265

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[1] Pursuant to ordering paragraph seven (7) of the Commission's Emergency Order issued March 20, 2020, Columbia will e-file this report in lieu of a paper filing.
[2] Pursuant to ordering paragraph eight (8) of the Commission's Emergency Order issued March 20, 2020, Columbia will serve this report via electronic mail only
[3] *Id.*

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

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

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

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

Response: An original and one unbound copy of Forms 1A, 1B, 2A, 2B, and 2C along with a general discussion of the methodologies, data sources, and assumptions are being submitted to meet the requirements of the March 1 filing. The forms also are included on electronic media.[4]

General questions concerning the ARPR should be directed to Nicole M. Paloney, Director of Rates and Regulatory Affairs at (724) 416-6388. The following individuals will be available to answer questions concerning each section: Form 1A/B, - Michael Girata, Manager, Demand Forecasting (614) 653-3139 & Forms 2A/B/C, - Tina Monnig, Manager, Planning (614) 302-4065.

[4] Pursuant to the Commission's Emergency Order issued March 20, 2020, Columbia will e-file the contents of this report and serve notice of this report via electronic mail only.

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

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

Response: Please see the attached documentation and forms.

FORM-IRP-GAS-1A: ANNUAL GAS REQUIREMENTS
REPORTING UTILITY: COLUMBIA GAS OF PENNSYLVANIA, INC.
(volumes In Mmcf)

	Historical Data		Current Year	Three Year Forecast		
Index Year	-2	-1	0	1	2	3
Actual Year	2021	2022	2023	2024	2025	2026
Firm Sales						
Retail Residential	26,996	29,119	28,957	29,458	29,818	30,141
Retail Commercial	8,076	9,190	8,805	8,969	9,062	9,119
Retail Industrial	173	252	278	334	348	362
Electric Power Generation						
Exchanges with Other Utilities						
Unaccounted for Gas	2	720	543	554	564	572
Company Use	129	121	129	129	129	129
Subtotal Firm Sales	35,376	39,401	38,711	39,444	39,920	40,324
Interruptible Sales						
Retail	0	0	0	0	0	0
Electric Power Generation	0	0	0	0	0	0
Company's Own Plant						
Subtotal Interruptible Sales	0	0	0	0	0	0
SUBTOTAL FIRM AND INTERRUPTIBLE SALES:	35,376	39,401	38,711	39,444	39,920	40,324
Transportation						
Firm Residential	4,208	3,921	3,786	3,571	3,334	3,091
Firm Commercial	2,706	2,800	2,729	2,780	2,808	2,825
Firm Industrial						
Interruptible Residential						
Interruptible Commercial	10,836	11,483	11,081	11,306	11,449	11,535
Interruptible Industrial	21,743	22,584	22,301	22,403	22,510	22,501
Electric Power Generation	457	316	306	38	38	38
Subtotal Transportation	39,949	41,104	40,202	40,098	40,139	39,991
TOTAL GAS REQUIREMENTS	75,325	80,505	78,913	79,542	80,059	80,315
Increase (Decrease)		5,180	(1,592)	629	517	256
Percent Change (%)		6.9	(2.0)	0.8	0.6	0.3

FORM-IRP-GAS-1B: PEAK DAY REQUIREMENTS
REPORTING UTILITY: COLUMBIA GAS OF PENNSYLVANIA, INC.
(volumes In Mmcf)

	Historical Data		Current Year	Three Year Forecast		
Index Year	-2	-1	0	1	2	3
Actual Year	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26
Firm Sales						
Retail Residential	231.0	250.8	291.9	344.5	351.2	357.8
Retail Commercial	76.3	89.5	107.8	124.8	125.6	126.4
Retail Industrial	0.9	0.9	1.0	1.1	1.1	1.1
Electric Power Generation	0.0	0.0	0.0	0.0	0.0	0.0
Exchanges with Other Utilities	0.0	0.0	0.0	0.0	0.0	0.0
Unaccounted for Gas	1.7	1.8	1.5	1.5	1.5	1.5
Company Use	0.7	0.6	1.3	1.3	1.3	1.3
Other	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal Firm Sales	310.6	343.6	403.5	473.2	480.7	488.1
Interruptible Sales						
Retail	0.0	0.0	0.0	0.0	0.0	0.0
Electric Power Generation	0.0	0.0	0.0	0.0	0.0	0.0
Company's Own Plant	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal Interruptible Sales	0.0	0.0	0.0	0.0	0.0	0.0
SUBTOTAL FIRM AND INTERRUPTIBLE SALES:	310.6	343.6	403.5	473.2	480.7	488.1
Transportation						
Firm Residential	67.8	82.8	80.8	87.7	82.1	76.5
Firm Commercial	24.2	35.5	33.3	38.6	38.8	38.9
Firm Industrial	0.0	0.0	0.0	0.0	0.0	0.0
Interruptible Residential	0.0	0.0	0.0	0.0	0.0	0.0
Interruptible Commercial	63.0	72.7	79.9	91.6	91.8	92.8
Interruptible Industrial	56.4	70.9	83.7	96.1	95.2	93.8
Electric Power Generation	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal Transportation	211.4	261.9	277.7	314.0	307.9	302.0
TOTAL GAS REQUIREMENTS	522.0	605.5	681.2	787.2	788.6	790.1
Increase (Decrease)		83.5	75.7	106.0	1.4	1.5
Percent Change (%)		16.00%	12.50%	15.56%	0.18%	0.19%

Note: Firm volumes shown excludes CPA's firm obligations under its Standby Sales and Elective Balancing Services.

DEMAND FORECASTING METHODOLOGY AND ASSUMPTIONS

BASIC ASSUMPTIONS

Columbia Gas of Pennsylvania, Inc. (CPA) obtains historic and forecasted data for national, state and local economic and demographic concepts from IHS Markit Ltd (IHS). CPA obtains historic and forecasted data for energy efficiency concepts from Itron, Inc. (Itron). Both IHS and Itron are well-known and reputable firms in the utility forecasting industry. CPA also obtains historic and forecasted natural gas prices from the U.S. Energy Information Administration (EIA). These data are used in building econometric models that are used in the demand forecasts on Form 1A. The basis for the peak day demand forecast on Form 1B is explained in a separate section.

PENNSYLVANIA AND SERVICE AREA PROJECTIONS

<u>CPA Economic Growth</u> - CPA relies upon IHS's state-level and county-level forecasts of a series of economic variables, including number of households, housing starts, income, population, commercial employment, gross county product, and industrial production. These forecasts are consistent with IHS’s national forecasts.

<u>CPA Energy Prices</u> - Historical and forecasted natural gas price data are collected from EIA based on class (residential, commercial, industrial) and territory (state). Afterward, the price of natural gas is divided by the consumer price index to yield an inflation – adjusted price of gas.

RESIDENTIAL AND COMMERCIAL DEMAND FORECAST METHODOLOGY

The demand forecast for the residential and commercial classes of customers has two main components: the number of customers and the average gas use per customer (UPC). The analytical work that supports the demand forecast is based upon data accumulated for CPA's service territory. The forecast insights and trends from this analysis are then used as the basis to project demand for the company.

CUSTOMERS

Residential and commercial customer forecasts were developed using monthly econometric models of total customer count. The residential monthly econometric model of total customers specifies monthly total customer count as a function of number of households, and monthly fluctuations in the intercepts (using binary variables). The commercial monthly econometric model of total customers specifies monthly total customers as a function of real gross county product, and monthly fluctuations in the intercepts (using binary variables).

CPA Residential Monthly Customers $= a_0 + ß_1 \times (HHC) + ß_i \times M_i + ß_j \times D_j$

CPA Commercial Monthly Customers $= a_0 + ß_1 \times (RGCP) + ß_i \times M_i + ß_j \times D_j$

where:

a_n, $ß_n$ = model coefficients
M_i = a set of binary variables to quantify the monthly shifts in customers for the models
D_j = a set of binary variables to quantify the structural break points
HHC = numbers of households at county level
RGCP = Real Gross County Product

USE PER CUSTOMER

One econometric model of total UPC is estimated for the total residential class, and one econometric model of total UPC is estimated for the total commercial class. Each model is monthly, allowing forecasts of July and August values from these models to provide the basis for calculating non-temperature-sensitive UPC and allowing forecasts of UPC values for the remaining months to provide the basis for calculating temperature-sensitive UPC.

The monthly econometric models specify actual UPC as a function of independent variables chosen from a set of variables representing real gas prices, gas-using equipment efficiency, monthly fluctuations in the intercepts (using binary variables), and weather. The residential and commercial UPC equations have the following form:

CPA Residential Monthly UPC $= a_0 + ß_1 \times (P_r) + ß_2 \times (MAR) + ß_3 \times (HDD) + ß_i \times M_i + ß_j \times D_j$
CPA Commercial Monthly UPC $= a_0 + ß_1 \times (P_c) + ß_2 \times (HDD) + ß_i \times M_i + ß_j \times D_j$

where:

a_n, $ß_n$ = model coefficients
M_i = a set of binary variables to quantify the monthly shifts in volumes for the models
D_j = a set of binary variables to quantify the structural break points
MAR = energy intensity variable
P_r = real average price of natural gas (Residential)
P_c = real average price of natural gas (Commercial)
HDD = heating degree days

VOLUMES

Gas volume is calculated monthly by multiplying forecasted UPC by forecasted customers. The reasonableness of the forecasted volumes are gauged by ensuring that forecast patterns are reflective of recent historical patterns as well as the company's new business department's intelligence on future projects. Calendar month demands are obtained by adding an adjustment for unbilled volume.

Transportation Volume

The models described thus far are used to forecast total throughput. This section describes the methodologies used to forecast transportation volume that is subtracted from the throughput forecast to arrive at tariff sales volume.

Traditional (non-Choice) transportation volume for the commercial class is forecasted based on forecasts of large transportation customers provided by the Large Customer Relations group, past levels, and trend. Similarly Forecasted Choice Transportation volume is forecasted based on past levels and trend.

INDUSTRIAL FORECASTING METHODOLOGY

The monthly industrial forecast is provided by CPA's Large Customer Relations group by incorporating information generated through individual customer interviews concerning expectations of future industrial gas demand. Since the Large Customer Relations group cover over 90% of the total industrial volumes, it is assumed that the remaining industrial customers grow at the same rate as those forecasted by the Large Customer Relations group.

Transportation volume for the industrial class is forecasted based on forecasts of large transportation customers provided by the Large Customer Relations group, past levels, and trend. Forecasted transportation volume is subtracted from total industrial demand to arrive at tariff sales volume.

DESIGN DAY FORECASTING METHODOLOGY AND ASSUMPTIONS

Each year, a five-year estimate of the requirements anticipated under CPA's design day operating conditions is prepared to ensure that adequate supplies are contracted at a level so that CPA can fulfill its utility obligation to its firm customer requirements at Design Day Conditions. The projected demands, as generated in CPA's 2022 Design Day Forecast (DDF) and shown on Form 1B (attached), represent the sum total of CPA's Design Day Demand calculated at the Design Current Day Temperature, Design Prior Day Temperature, Design Current Day Wind Speed, and assume Design Day occurrence on a weekday for each of CPA's eight Pipeline Scheduling Points (PSPs).

<u>Design Current Day Temperature</u> results from the Gumbel Distribution of annual minimum temperatures for all available years of history through heating season 2014/2015 for the National Weather Service Stations located at Hagerstown, Maryland; Morgantown, West Virginia; and Harrisburg, Pittsburgh, and Bradford, Pennsylvania. These are the weather stations within or having proximity to CPA's service territory that are used to discern customers' sensitivities to the weather variables of temperature and wind speed. The Design Current Day Temperature is premised upon a risk level having a 1 in 15 probability of occurrence. That is, the probability is 6.7 percent, or 1 in 15, that any given winter will have one or more days with an average daily temperature equal to or colder than CPA's design temperature. CPA's company-wide Design Current Day Temperature is -5 degrees Fahrenheit.

<u>Design Prior Day Temperature</u> results from the mean temperature difference between historical cold days and their associated prior days. Cold days are defined as those days that are no warmer than the Design Current Day Temperature plus 5 degrees Fahrenheit. This resultant average difference is then added to the Design Current Day Temperature to give Design Prior Day Temperature. CPA's company-wide Design Prior Day Temperature is 6 degrees Fahrenheit.

Consistent with the Design Prior Day Temperature methodology, the approach of using an average of cold days is used to establish Design Current Day Wind Speed. Because Wind Speed data has only been available since 1991/92, Design Current Day Temperature plus five degrees Fahrenheit does not give many observations for a representative average. Using Cold Days defined as 15 degrees plus Design Current Day Temperature provides more observations per station. CPA's company-wide Design Current Day Wind Speed is 11 mph.

These design conditions are developed for each of the aforementioned National Weather Service Stations used by CPA. The associated factors for each station are then weighted as a function of the firm demand associated with each weather station to arrive at the design conditions for each PSP and CPA in aggregate.

The DDF methodology has the following eight steps.

Step 1. Obtaining Actual Total Daily Demand

The first step in the preparation of the DDF is to obtain the actual total daily demand that was observed in the months of December through February from the most recent two heating seasons. CPA derives the actual total daily demand by cumulating daily supply data from all sources. Based on twelve months ending December 2021, CPA has 97% of its total deliveries daily measured at the **P**oint **o**f **D**elivery (POD). The volumes that are monthly read are allocated to a daily volume using a base load / heat load allocation process. The daily volume for every POD is summarized to produce the actual total daily demand for each for each PSP.

Step 2. Obtaining Non-Firm Daily Demand

The second step is the calculation of the daily demand for CPA’s industrial and commercial customers receiving services (sales and banking and balancing service) from the Company on a non-firm basis. Approximately 81% of CPA’s total non-firm customer demand is subject to daily measurement. This percentage is based on the actual January 2022 throughput for all such customers. For those non-firm customers with monthly meter read capability, CPA estimates their daily consumption using a base load / heat load allocation process.

Step 3. Calculation of Daily Firm Demand

Daily Firm Demand is calculated at the PSP level by subtracting the daily non-firm customer (industrial and commercial) demand, as described above, from the actual total daily demand. The resultant daily demand is considered to be firm customer demand, for supply planning purposes, and is utilized in the regression process described below.

CPA has an additional firm obligation under its Standby Service contracts and **E**lective **B**alancing **S**ervice (EBS) contracts with transportation customers. This is an obligation that CPA stands ready to fulfill on any given day, and is considered in CPA’s supply/capacity portfolio. For this reason it is categorized separately from the previously described daily system firm demand. Both Standby Service and EBS projections for each forecast season are held constant at the aggregate customer contract level at the time the DDF is prepared.

Step 4. Regression of Three Demand Components

Using IBM’s SPSS Modeler software, regressions are made to obtain coefficients for each PSP, for the following demand components:

1. Daily Firm Demand;
2. Daily Industrial Customer Non-firm Demand; and
3. Daily Commercial Customer Non-firm Demand.

Daily demand data for the months of December, January, and February from the past two heating seasons is analyzed and the three demand components are regressed against a group of four explanatory variables:

1. Current Day Temperature: the average daily temperature for the current day;
2. Prior Day Temperature: the average daily temperature for the prior day;
3. Wind Speed: the average daily wind speed for the current day; and
4. Day Type: weekdays, weekends, and holidays. The major holidays are the period December 24 through January 1.

The analysis is performed twice. First, CPA uses all observed days during December through February, and then just those days having average temperatures below 31 degrees Fahrenheit to better capture customer responsiveness to colder temperatures.

Step 5. Design Actual

The PSP regressed coefficients are then applied to the PSP Design Day Conditions to determine the resulting Design Actual demand. The purpose of calculating the "Design Actual" demand is to quantify, based on actual experience, what the Design Day Demand would equate to if Design Day Conditions had occurred for the subject period of time. CPA uses the 2021/22 Design Actual for firm (exclusive of Standby Service and EBS quantities) and total (sum of firm plus non-firm) demand along with prior winters' Design Actuals as inputs in the growth process to project the 2022/23 - 2026/27 Design Day Demand.

Step 6. Determination of Design Day Demand by Revenue Class

Once the regressions have been performed and the Firm Design Actual and the two (commercial and industrial) non-firm customers' Design Actual demands are known, the allocation of demand types within a revenue class is performed.

Four steps are performed to allocate Firm Demand. In **Step 6a**, the classification Other is calculated. Other includes two categories, Company Use, and Unaccounted-For Gas. Company Use Design Day load is projected to be 1/20th of the January requirement from the 2023 Gas Estimate. The Design Day load of Unaccounted-For Gas is 1/365th of the annual Unaccounted-For Gas load from the Gas Estimate. Other Demand, like Residential Demand, is entirely firm; i.e., it contains no non-firm component.

In **Step 6b**, Industrial Firm Sales is developed by regression analysis of the estimated daily industrial firm sales demand of the most recent winter (derived from monthly billing data for December 2021 through February 2022) against the gas-day average temperature. The design temperature is then applied to the regression equation to arrive at the design industrial firm sales demand.

In **Step 6c**, the remainder of Firm Demand (Firm Demand less Industrial Firm Demand less Other) is allocated to Residential and Firm Commercial based on the estimates of residential and commercial demands as found in the Gas Estimate inclusive of Choice. Once the allocation is complete, the Firm Demand is equal to the sum of the revenue classes' (Residential, Commercial, Industrial, and Other) firm demand component.

In **Step 6d**, the Firm Demand is then further categorized between sales and Choice customer demand. The Choice demands are derived from the input used in the development of CPA's 2023 Gas Estimate. The total Choice Design Day Demand is anticipated to be 114.9 MDth by the last heating season (2026/27) of the 2022 forecast.

Step 7. Design Day Forecast

Several years of the historical Design Actual Demands for each PSP are utilized as the basis for the regressions to determine the Design Day Forecast. The analyses at the PSP level is needed for planning purposes and allows for identifying variances in customer demand over the historical period studied. In the process, the impact on the annual Design Actual Demands of four variables is determined. Those variables are:

(1) Customer count in the month of January;
(2) Actual weather in the two months (December and January) when the design peak day is most likely to occur;
(3) Actual gas costs; and
(4) Non-farm employment in the core winter months of December through February.

Note that for the purpose of forecasting both Firm and Non-Firm Design Day Demand, the gas cost is the forecasted January NYMEX Gas Monthly Price at Henry Hub (NGI Bidweek Prices). Historical and forecasted non-farm employment values come from the 2022 IHS Global Insight County Forecast and are the average of the December, January, and February values aggregated to the PSP level.

Step 8. Adjustment to Forecast

The 2022 Design Day Forecast includes an adjustment to capture occurrences not entirely reflected in the historical input data. The forecast of CPA's non-firm customer demand has given consideration to a current projection of existing and expected new customer load.

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 that the utility estimates will become available, displayed by component parts.

Response: Please see the attached documentation and forms.

FORM-IRP-GAS-2A: NATURAL GAS SUPPLY
TABLE 1: ANNUAL SUPPLY
REPORTING UTILITY: COLUMBIA GAS OF PENNSYLVANIA, INC.
(volumes In Mmcf)

	Historical Data		Current Year	Three Year Forecast		
Index Year	-2	-1	0	1	2	3
Actual Year	2021	2022	2023	2024	2025	2026
Gas Supply for Sales Service						
Supplier A	6,793.8	6,777.2	2,373.0			
Supplier B	2,571.4	2,806.2	429.7			
Supplier C	3,983.3	5,728.2	0.0			
Supplier D	1,817.5	3,743.1	0.0			
Supplier E	1,495.2	3,331.3	0.0			
Supplier F	1,099.5	2,241.5	0.0			
Supplier G	2,755.4	992.8	0.0			
Supplier H	547.3	948.5	0.0			
Spot Purchases	17,126.3	9,835.7	36,536.8	39,489.6	40,056.5	40,484.0
Storage Withdrawals	18,971.1	23,714.6	20,512.0	21,205.4	21,260.8	21,171.5
LNG/SNG/Propane Purchases						
Company Production						
Local Purchases	243.0	244.0	244.0	244.7	244.0	244.0
Exchanges						
Other						
Total Gas Supply for Sales	57,403.7	60,363.3	60,095.5	60,939.7	61,561.3	61,899.5
Total Transportation Service	39,949.1	41,104.1	40,201.9	40,098.1	40,139.0	39,991.2
TOTAL SALES, GAS SUPPLY AND TRANSPORTATION SERVICE	97,352.8	101,467.3	100,297.4	101,037.8	101,700.4	101,890.7
Deductions						
Curtailments						
Underground Storage Injections	22,027.7	20,961.9	21,384.9	21,495.7	21,641.1	21,575.5
LNG Liquefaction						
Sales to other LDCs						
Off-System Sales						
Total Deductions	22,027.7	20,961.9	21,384.9	21,495.7	21,641.1	21,575.5
NET GAS SUPPLY	75,325.1	80,505.5	78,912.5	79,542.1	80,059.3	80,315.2

FORM-IRP-GAS-2A: NATURAL GAS SUPPLY
TABLE 2: PEAK DAY SUPPLY
REPORTING UTILITY: COLUMBIA GAS OF PENNSYLVANIA, INC.
(volumes In Mmcf)

	Historical Data		Current Year	Three Year Forecast		
Index Year	-2	-1	0	1	2	3
Actual Year	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26
Gas Supply for Sales Service						
Columbia Gas Transmission 1/	33.8	31.3	75.8	73.8	76.9	79.9
Tennessee	18.4	18.4	18.4	18.4	18.4	18.4
Texas Eastern	18.4	19.6	19.5	19.5	19.5	19.5
National Fuel	4.0	5.6	5.6	5.6	5.6	5.6
Eastern Gas Transmission & Storage	4.4	4.5	4.5	5.0	5.0	5.0
Equitrans Transmission	34.3	34.3	34.3	34.3	34.3	34.3
Spot Purchases	0.0	0.0	0.0	0.0	0.0	0.0
Storage Withdrawals	196.7	229.3	244.8	316.0	320.3	324.7
LNG/SNG/Propane Purchases	0.0	0.0	0.0	0.0	0.0	0.0
Company Production	0.0	0.0	0.0	0.0	0.0	0.0
Local Purchases	0.7	0.7	0.7	0.7	0.7	0.7
Exchanges with other LDCs	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	0.0
Total Gas Supply for Sales	310.6	343.6	403.5	473.2	480.7	488.1
Total Transportation Service 2/	211.4	261.9	277.7	314.0	307.9	302.0
TOTAL SALES, GAS SUPPLY AND TRANSPORTATION SERVICE	522.0	605.5	681.2	787.2	788.6	790.1
Deductions						
Curtailments	0.0	0.0	0.0	0.0	0.0	0.0
Underground Storage Injections	0.0	0.0	0.0	0.0	0.0	0.0
LNG Liquefaction	0.0	0.0	0.0	0.0	0.0	0.0
Sales to other LDCs	0.0	0.0	0.0	0.0	0.0	0.0
Total Deductions	0.0	0.0	0.0	0.0	0.0	0.0
NET GAS SUPPLY	522.0	605.5	681.2	787.2	788.6	790.1

1/ Excludes capacity offered to Choice marketers

2/ Total Transportation Service includes "Choice" balancing provided by CPA storage withdrawals.

FORM-IRP-GAS-2B: NATURAL GAS TRANSPORTATION [1]
REPORTING UTILITY: COLUMBIA GAS OF PENNSYLVANIA, INC.
(volumes In Mmcf)

	Historical Data				Current Year		Three Year Forecast					
Index Year	-2		-1		0		1		2		3	
Actual Year	2021		2022		2023		2024		2025		2026	
City Gate Transportation Contracts:	Annual	Peak	Annual	Peak	Annual	Peak	Annual	Peak	Annual	Peak	Annual	Peak
Columbia Gas Transmission Corporation	19,307.6	52.9	19,287.3	52.8	19,287.3	52.8	19,340.1	52.8	19,287.3	52.8	19,287.3	52.8
Columbia Gas Transmission Corporation					13,725.8	37.6	13,763.4	37.6	13,725.8	37.6	13,725.8	37.6
Equitrans Pipeline Company			6,577.1	18.0	6,577.1	18.0	6,595.1	18.0	6,577.1	18.0	6,577.1	18.0
Equitrans Pipeline Company			5,925.3	16.2	5,925.3	16.2	5,941.6	16.2	5,925.3	16.2	5,925.3	16.2
Columbia Gas Transmission Corporation	4,652.4	12.7	4,647.5	12.7	4,647.5	12.7	4,660.3	12.7	4,647.5	12.7	4,647.5	12.7
Texas Eastern Pipeline Co.	4,100.8	11.2	4,096.5	11.2	4,096.5	11.2	4,107.7	11.2	4,096.5	11.2	4,096.5	11.2
Tennessee Gas Pipeline Co.	4,080.9	11.2	4,076.6	11.2	4,076.6	11.2	4,087.8	11.2	4,076.6	11.2	4,076.6	11.2
Columbia Gas Transmission Corporation	4,070.4	11.2	4,066.2	11.1	4,066.2	11.1	4,077.3	11.1	4,066.2	11.1	4,066.2	11.1
Columbia Gas Transmission Corporation	3,489.2	9.6	3,485.5	9.5	3,485.5	9.5	3,495.0	9.5	3,485.5	9.5	3,485.5	9.5
Tennessee Gas Pipeline Co.	2,651.8	7.3	2,649.0	7.3	2,649.0	7.3	2,656.2	7.3	2,649.0	7.3	2,649.0	7.3
Texas Eastern Pipeline Co.	2,616.9	7.2	2,614.1	7.2	2,614.1	7.2	2,621.3	7.2	2,614.1	7.2	2,614.1	7.2
Eastern Gas Transmission & Storage	1,744.6	4.8	1,742.7	4.8	1,742.7	4.8	1,747.5	4.8	1,742.7	4.8	1,742.7	4.8
National Fuel Gas Supply	1,501.7	4.1	1,500.2	4.1	1,500.2	4.1	1,504.3	4.1	1,500.2	4.1	1,500.2	4.1
National Fuel Gas Supply			547.6	1.5	547.6	1.5	549.1	1.5	547.6	1.5	547.6	1.5
Texas Eastern Pipeline Co.					418.3	1.1	419.4	1.1	418.3	1.1	418.3	1.1
Eastern Gas Transmission & Storage			88.9	0.2	88.9	0.2	89.1	0.2	88.9	0.2	88.9	0.2
Texas Eastern Pipeline Co.			34.9	0.1	34.9	0.1	35.0	0.1	34.9	0.1	34.9	0.1
TOTAL	48,216.2	132.1	61,215.6	167.7	75,359.7	206.5	75,566.1	206.5	75,359.7	206.5	75,359.7	206.5
Upstream Transportation Contracts:												
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tennessee Gas Pipeline	1,501.7	4.1	1,500.2	4.1	1,500.2	4.1	1,504.3	4.1	1,500.2	4.1	1,500.2	4.1
Texas Eastern Pipeline Co.	1,075.4	2.9	1,074.2	2.9	1,074.2	2.9	1,077.2	2.9	1,074.2	2.9	1,074.2	2.9
TOTAL	2,577.1	7.1	2,574.4	7.1	2,574.4	7.1	2,581.4	7.1	2,574.4	7.1	2,574.4	7.1
Storage-Related Transportation Contracts:												
Columbia Gas Transmission Corp.	115,448.8	422.1	103,349.7	377.9	103,349.7	377.9	103,727.6	377.9	103,349.7	377.9	103,349.7	377.9
Equitrans Pipeline Company	2,761.3	18.3	2,758.4	18.3	2,758.4	18.3	2,776.7	18.3	2,758.4	18.3	2,758.4	18.3
Eastern Gas Transmission & Storage	2,165.2	14.3	2,162.9	14.3	2,162.9	14.3	2,177.2	14.3	2,162.9	14.3	2,162.9	14.3
Eastern Gas Transmission & Storage	866.1	5.7	865.2	5.7	865.2	5.7	870.9	5.7	865.2	5.7	865.2	5.7
Eastern Gas Transmission & Storage	692.9	4.6	692.1	4.6	692.1	4.6	696.7	4.6	692.1	4.6	692.1	4.6
Eastern Gas Transmission & Storage	433.0	2.9	432.6	2.9	432.6	2.9	435.4	2.9	432.6	2.9	432.6	2.9
National Fuel	350.6	2.3	350.2	2.3	350.2	2.3	352.6	2.3	350.2	2.3	350.2	2.3
TOTAL	122,717.9	470.3	110,611.1	426.0	110,611.1	426.0	111,037.1	426.0	110,611.1	426.0	110,611.1	426.0

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

FORM-IRP-GAS-2B: NATURAL GAS TRANSPORTATION
REPORTING UTILITY: COLUMBIA GAS OF PENNSYLVANIA, INC.
(volumes In Mmcf)

	Contract Expiration Date
City Gate Transportation Contracts:	
Columbia Gas Transmission Corporation	03/31/26
Columbia Gas Transmission Corporation	03/31/27
Equitrans Pipeline Company	03/31/25
Equitrans Pipeline Company	03/31/25
Columbia Gas Transmission Corporation	10/31/26
Texas Eastern Pipeline Co.	10/31/24
Tennessee Gas Pipeline Co.	10/31/24
Columbia Gas Transmission Corporation	10/31/27
Columbia Gas Transmission Corporation	10/31/26
Tennessee Gas Pipeline Co.	10/31/27
Texas Eastern Pipeline Co.	10/31/28
Dominion Transmission	03/31/30
National Fuel Gas Supply	10/31/22
National Fuel Gas Supply	03/31/31
Texas Eastern Pipeline Co.	12/31/27
Dominion Transmission	03/31/30
Texas Eastern Pipeline Co.	10/31/24
Upstream Transportation Contracts:	
Tennessee Gas Pipeline	10/31/24
Texas Eastern Pipeline Co.	10/31/24
Storage-Related Transportation Contracts:	
Columbia Gas Transmission Corp.	03/31/25
Equitrans Pipeline Company	03/31/25
Dominion Transmission	03/31/30
Dominion Transmission	03/31/28
Dominion Transmission	03/31/29
Dominion Transmission	10/31/28
National Fuel Gas Supply	03/31/31

FORM-IRP-GAS-2C: NATURAL GAS STORAGE [1]
REPORTING UTILITY: COLUMBIA GAS OF PENNSYLVANIA, INC.
(volumes In Mmcf)

	Historical Data				Current Year		Three Year Forecast					
Index Year	-2		-1		0		1		2		3	
Actual Year	2021		2022		2023		2024		2025		2026	
	Annual	Peak	Annual	Peak	Annual	Peak	Annual	Peak	Annual	Peak	Annual	Peak
Columbia Gas Transmission Corporation	24,224.4	422.1	24,198.9	377.9	23,388.6	377.9	23,388.6	377.9	23,388.6	377.9	23,388.6	377.9
Equitrans Pipeline Company	1,911.9	18.3	1,909.9	18.3	1,909.9	18.3	1,909.9	18.3	1,909.9	18.3	1,909.9	18.3
Eastern Gas Transmission & Storage	899.7	8.6	898.8	8.6	898.8	8.6	898.8	8.6	898.8	8.6	898.8	8.6
Eastern Gas Transmission & Storage	889.0	14.3	888.1	14.3	888.1	14.3	888.1	14.3	888.1	14.3	888.1	14.3
Eastern Gas Transmission & Storage	229.4	4.6	229.2	4.6	229.2	4.6	229.2	4.6	229.2	4.6	229.2	4.6
National Fuel	255.4	2.3	255.1	2.3	255.1	2.3	255.1	2.3	255.1	2.3	255.1	2.3
TOTAL	28,409.8	470.3	28,379.9	426.0	27,569.5	426.0	27,569.5	426.0	27,569.5	426.0	27,569.5	426.0

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

	Contract Expiration Date
Columbia Gas Transmission Corporation	03/31/25
Equitrans Pipeline Company	03/31/25
Eastern Gas Transmission & Storage	03/31/28
Eastern Gas Transmission & Storage	03/31/30
Eastern Gas Transmission & Storage	03/31/29
National Fuel	03/31/31