NOTICE OF CONFIDENTIALITY
AN ATTACHMENT TO THIS TESTIMONY HAS BEEN FILED UNDER SEAL

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF COLORADO

* * * * *

IN THE MATTER OF ADVICE NO. 993-GAS OF PUBLIC SERVICE COMPANY OF COLORADO TO REVISE ITS COLORADO PUC NO. 6-GAS TARIFF TO INCREASE JURISDICTIONAL BASE RATE REVENUES, IMPLEMENT NEW BASE RATES FOR ALL GAS RATE SCHEDULES, AND MAKE OTHER PROPOSED TARIFF CHANGES EFFECTIVE FEBRUARY 24, 2022	**)**	**PROCEEDING NO. 22AL-______G**

DIRECT TESTIMONY AND ATTACHMENTS OF JANNELL E. MARKS

ON

BEHALF OF

PUBLIC SERVICE COMPANY OF COLORADO

NOTICE OF CONFIDENTIALITY
AN ATTACHMENT TO THIS TESTIMONY HAS BEEN FILED UNDER SEAL

Confidential:
Attachment JEM-1C, Attachment JEM-4C

January 24, 2022

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO**

* * * * *

IN THE MATTER OF ADVICE NO. 993-GAS OF PUBLIC SERVICE COMPANY OF COLORADO TO REVISE ITS COLORADO PUC NO. 6-GAS TARIFF TO INCREASE JURISDICTIONAL BASE RATE REVENUES, IMPLEMENT NEW BASE RATES FOR ALL GAS RATE SCHEDULES, AND MAKE OTHER PROPOSED TARIFF CHANGES EFFECTIVE FEBRUARY 24, 2022	**)**	**PROCEEDING NO. 22AL-______G**

DIRECT TESTIMONY AND ATTACHMENTS OF JANNELL E. MARKS

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Attachment JEM-2	Regression Models and Associated Statistics - Sales
Attachment JEM-3	Regression Models and Associated Statistics – Customer Counts
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Attachment JEM-5	Weather Normalization of 2021 HTY Dth Throughput

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO**

*** * * * ***

IN THE MATTER OF ADVICE NO. 993-GAS OF PUBLIC SERVICE COMPANY OF COLORADO TO REVISE ITS COLORADO PUC NO. 6-GAS TARIFF TO INCREASE JURISDICTIONAL BASE RATE REVENUES, IMPLEMENT NEW BASE RATES FOR ALL GAS RATE SCHEDULES, AND MAKE OTHER PROPOSED TARIFF CHANGES EFFECTIVE FEBRUARY 24, 2022	**)**	**PROCEEDING NO. 22AL-______G**

<u>DIRECT TESTIMONY AND ATTACHMENTS OF JANNELL E. MARKS</u>

I. INTRODUCTION, QUALIFICATIONS, AND PURPOSE OF TESTIMONY

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Jannell E. Marks. My business address is 1800 Larimer Street, Denver, Colorado 80202.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT POSITION?

A. I am employed by Xcel Energy Services Inc. ("XES") as Director, Sales, Energy and Demand Forecasting. XES is a wholly-owned subsidiary of Xcel Energy Inc. ("Xcel Energy") and provides an array of support services to Public Service Company of Colorado ("Public Service" or the "Company") and the other utility operating company subsidiaries of Xcel Energy on a coordinated basis.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THE PROCEEDING?

A. I am testifying on behalf of Public Service.

Q. PLEASE SUMMARIZE YOUR RESPONSIBILITIES AND QUALIFICATIONS.

A. I am responsible for the development of forecasted sales data and economic indicators for Public Service and the other Xcel Energy utility operating companies and the presentation of this information to Xcel Energy's senior management, other Xcel Energy departments, and externally to various regulatory and reporting agencies. I also am responsible for Xcel Energy's Load Research function, which designs, maintains, monitors, and analyzes electric load research samples in the Xcel Energy operating companies' service territories. Additionally, I am responsible for developing and implementing forecasting, planning, and load analysis studies for regulatory proceedings. A description of my qualifications, duties, and responsibilities is included at the end of my Direct Testimony in my Statement of Qualifications.

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. The purpose of my Direct Testimony is to:

- describe the historical gas customer counts and dekatherm ("Dth") Throughput trends for Public Service's service territory;
- present and support the Company's gas customer count and Dth Throughput forecast for the test year ending December 31, 2022 ("2022 Current Test Year" or "2022 CTY"); and
- provide a description of the methodology the Company uses to weather normalize historical gas Dth Throughput, which is consistent with the Colorado Public Utilities Commission's ("Commission") decision with regard

to weather normalization in the Company's most recent gas rate case, Proceeding No. 20AL-0049G ("2020 Combined Gas Rate Case").[1]

Q. WHAT IS INCLUDED IN "DTH THROUGHPUT" FOR PURPOSES OF YOUR DIRECT TESTIMONY?

A. Public Service provides both gas sales and Transportation services. Gas sales service involves sales of natural gas procured by Public Service to its end-use customers. Transportation service allows Public Service's non-residential customers to purchase their gas directly from a producer or marketer and transport that gas across Public Service's system to their end-use facilities. "Dth Throughput" includes all deliveries of gas made from Public Service's system for end users located in Colorado, including both end-use sales of gas (i.e. gas sales) to Public Service customers as well as gas transportation volumes delivered by Public Service in Colorado that are subject to the Commission's jurisdiction.

Q. DOES PUBLIC SERVICE PROVIDE TRANSPORTATION SERVICE THAT IS NOT SUBJECT TO COMMISSION JURISDICTION?

A. Yes. Public Service also provides a small amount of gas transportation that is subject to the jurisdiction of the Federal Energy Regulatory Commission ("FERC"). This transportation involves deliveries to interconnections with interstate pipelines for subsequent delivery outside of Colorado. My Direct Testimony only addresses

[1] In the 2020 Combined Gas Rate Case, an historical test year ending September 30, 2019 ("2019 HTY") with certain known and measurable adjustments was approved by the Commission and agreed to by the parties as part of a comprehensive settlement ("2020 GRC Settlement"). As part of that settlement, the parties agreed to a 10-year weather normalization adjustment to test year revenue, including the test year weather normalization data in the 10-year period ended September 30, 2019. See Decision No. R20-0673 at p. 25, ¶¶ 71-72.

the Public Service intrastate gas business, which is subject to the Commission's jurisdiction. The Dth Throughput numbers I present do not reflect the FERC-jurisdictional transportation services that we provide.

Q. ARE YOU SPONSORING ANY ATTACHMENTS AS PART OF YOUR DIRECT TESTIMONY?

A. Yes, I am sponsoring Attachments JEM-1 through JEM-5, which were prepared by me or under my direct supervision. The attachments are as follows:

- Attachment JEM-1C: Confidential Version Monthly 2022 CTY Gas Customer Counts and Dth Throughput by Class;
- Attachment JEM-1: Public Version of Monthly 2022 CTY Gas Customer Counts and Dth Throughput by Class;
- Attachment JEM-2: Regression Models and Associated Statistics – Sales;
- Attachment JEM-3: Regression Models and Associated Statistics – Customer Counts;
- Attachment JEM-4C: Confidential Version 2022 CTY Gas Customer Counts and Dth Throughput by Tariff Rate Schedule Level;
- Attachment JEM-4: Public Version of 2022 CTY Gas Customer Counts and Dth Throughput by Tariff Rate Schedule Level; and
- Attachment JEM-5: Weather Normalization of 2021 HTY Dth Throughput.

II. HISTORICAL CUSTOMER COUNT AND DTH THROUGHPUT TRENDS

Q. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR DIRECT TESTIMONY?

A. The purpose of this section of my Direct Testimony is to provide relevant background regarding historical customer counts, sales and Dth Throughput trends, focusing on the five years from 2016 through 2020.[2] These historical trends help put the remainder of my Direct Testimony in context.

Q. WHY THE FOCUS ON 2016 THROUGH 2020?

A. When analyzing historical customer counts, sales and Dth Throughput trends, we typically focus on the most recent five full years of actual data. Here, we are using five full years of actual data for 2016 through 2020.[3] While I discuss 2021 trends later in my Direct Testimony, historical trends are thus focused on 2016 through 2020.

Q. PLEASE DISCUSS THE TRENDS IN THE COMPANY'S CUSTOMER COUNTS.

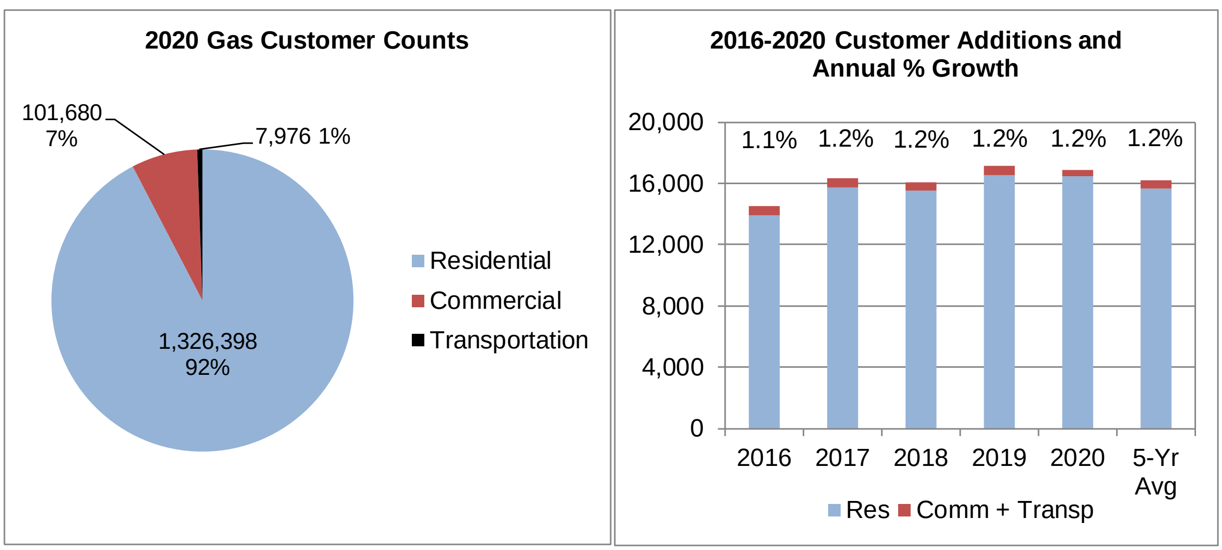
A. Total gas customer counts in the Company's service territory averaged 1,436,054 customers per month in 2020.[4] Total customer counts increased an average of 16,176 customers per year for the 2016 through 2020 time period, for an average annual growth rate of 1.2 percent. The largest class of customers is the Residential class, which averaged 1,326,398 customers per month during 2020 and represents 92.4 percent of total customer counts. The average growth rate for

[2] The forecasting methodology used to prepare the forecasts is discussed in Section IV of my Direct Testimony.
[3] At the time the Company conducted its semi-annual forecasting process, actual results for June through December 2021 were not available.
[4] For purposes within this testimony, a gas customer is generally defined as a unique combination of debtor, premise, and tariff.

Residential customer counts was 1.2 percent, or 15,646 additions, per year during the time period of 2016 through 2020. This increase in Residential customer counts accounts for more than 96 percent of the Company's total customer count growth during this time period. Commercial sales customer counts averaged growth of 0.3 percent, or 281 additions, per year during the time period of 2016 through 2020.[5] The number of Transportation customers increased 3.5 percent, or 250 additions, per year during the time period of 2016 through 2020.

Figure JEM-D-1 provides a summary of the historical customer count statistics from 2016 through 2020.

Figure JEM-D-1:
Historical Customer Count Statistics



[5] Unless otherwise noted, the term "Commercial sales" includes Commercial Gas Service Small, Commercial Gas Service Large, Commercial Gas Outdoor Lighting Service, Interruptible Industrial Gas Service, Firm Gas Transportation Service Small (Backup Sales and Interruptible TFS Sales), Firm Gas Transportation Service Large (Backup Sales and Interruptible TFL Sales), Interruptible Gas Transportation Service (Interruptible TI Sales), and Interdepartmental sales.

Q. WHAT FACTORS HAVE BEEN DRIVING RESIDENTIAL CUSTOMER COUNT GROWTH SINCE 2016?

A. Residential customer counts are highly correlated with population. The increase in the number of residential customers over the past five years is the result of increasing population at the aggregated metropolitan statistical area ("MSA") level for the MSAs included in the Company's gas service territory (calculated as the sum of the Denver, Boulder, Fort Collins, Pueblo, and Grand Junction MSAs). Both Residential customer counts and aggregated MSA population increased at a 1.2 percent average annual rate during the 2016 to 2020 time period and are highly correlated, with a correlation coefficient of 0.9951.

Q. PLEASE DISCUSS THE COMPANY'S GAS DTH THROUGHPUT TRENDS FROM 2016 THROUGH 2020.

A. Figure JEM-D-2 provides a summary of the historical Dth Throughput statistics and Table JEM-D-1 provides annual Dth Throughput, annual percent growth, and the compound annual growth rate ("CAGR") by class for 2016 through 2020. After normalizing for weather – a process I explain further below – the Company's total gas sales have increased an average of 1.4 percent per year over the past five years.[6] Residential sales have averaged annual growth of 1.5 percent and Commercial sales have increased at an average rate of 0.9 percent over the 2016 through 2020 time period. Total Transportation volumes, which are composed of both third-party Transportation and Transportation for Public Service electric

[6] The 2016 to 2020 Dth sales discussed in this section of my Direct Testimony have been weather normalized using 10-year average normal weather.

generation, have increased at an average annual rate of 6.7 percent during the time period of 2016 through 2020. Dth Throughput (weather-normalized sales plus Transportation volumes) has increased at an average annual rate of 3.9 percent over the past five years, driven mostly by growth in the Transportation sector.

Figure JEM-D-2
Historical Dth Throughput Statistics

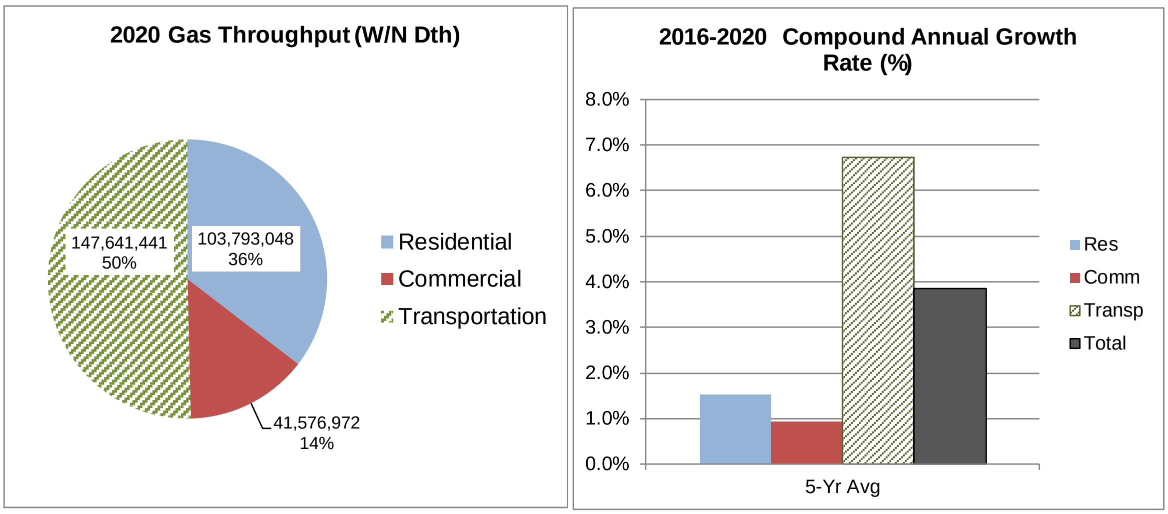


Table JEM-D-1
Historical W/N Dth Throughput by Class 2016-2020

Customer Class	2016	2017	2018	2019	2020	2016-2020 CAGR
Residential Sales	95,543,644	98,259,267	98,389,566	100,553,992	103,793,048	
Annual % Change	*-0.7%*	*2.8%*	*0.1%*	*2.2%*	*3.2%*	*1.5%*
Commercial Sales	39,579,730	41,036,373	41,109,723	42,813,597	41,576,972	
Annual % Change	*-0.2%*	*3.7%*	*0.2%*	*4.1%*	*-2.9%*	*0.9%*
Total Sales	**135,123,374**	**139,295,640**	**139,499,289**	**143,367,588**	**145,370,020**	
Annual % Change	***-0.5%***	***3.1%***	***0.1%***	***2.8%***	***1.4%***	***1.4%***
Total Transportation	**113,329,929**	**119,760,842**	**141,732,059**	**150,518,881**	**147,641,441**	
Annual % Change	***6.3%***	***5.7%***	***18.3%***	***6.2%***	***-1.9%***	***6.7%***
Dth Throughput	**248,453,303**	**259,056,482**	**281,231,348**	**293,886,469**	**293,011,461**	
Annual % Change	***2.5%***	***4.3%***	***8.6%***	***4.5%***	***-0.3%***	***3.9%***

Q. PLEASE SUMMARIZE PUBLIC SERVICE'S 2020 DTH THROUGHPUT AS COMPARED TO 2019, SHOWN IN TABLE JEM-D-1.

A. Residential sales increased 3.2 percent during 2020, while Commercial sales declined 2.9 percent, resulting in total retail (end-user) sales increasing 1.4 percent. Both Transportation volumes and Dth Throughput during 2020 showed the only year of decline in the 2016 to 2020 time period, with Transportation volumes decreasing 1.9 percent and Dth Throughput decreasing 0.3 percent.

Q. WHAT IS THE PRIMARY CONTRIBUTOR TO THE INCREASE IN RESIDENTIAL SALES BETWEEN 2016 AND 2020?

A. As discussed below, Residential use per customer has been mostly flat over the last five years. Thus, the primary contributor to the increase in sales between 2016 and 2020 was growth in customer counts.

Q. WHAT DROVE RESIDENTIAL SALES GROWTH BETWEEN 2019 AND 2020?

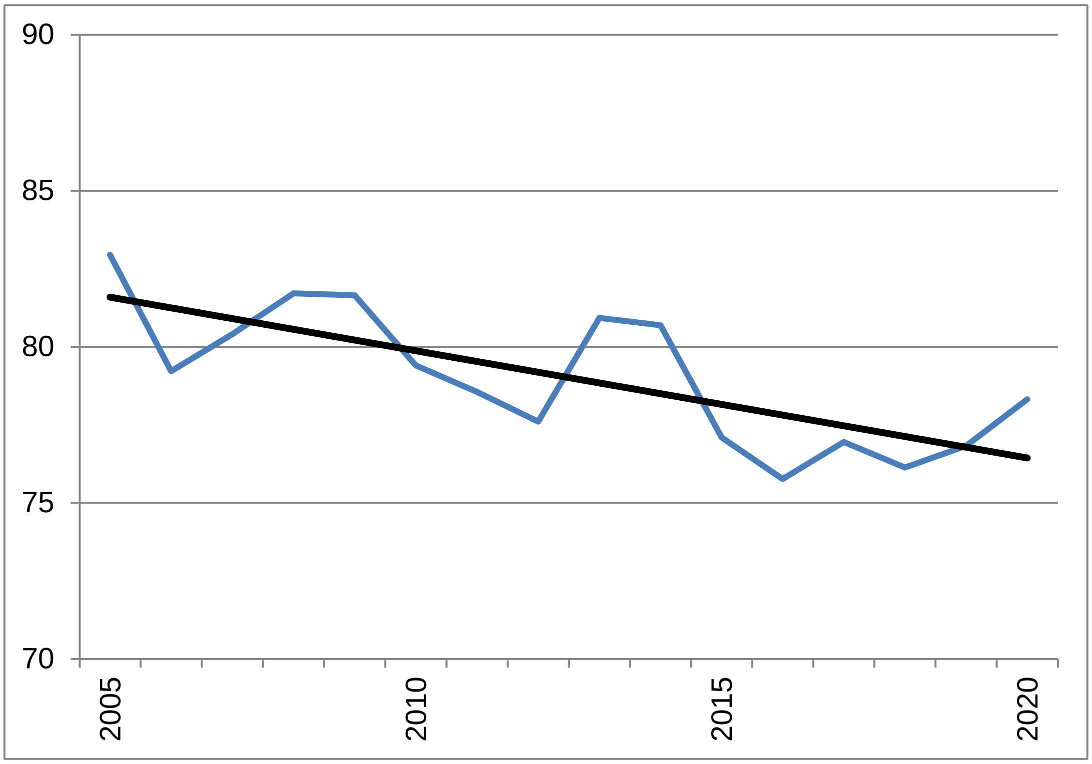
A. In 2020, Residential use per customer increased 1.9 percent, possibly due to more Residential customers working from home. This 1.9 percent increase in use per customer, combined with an increase of 1.3 percent in the average number of customer counts resulted in the 3.2 percent increase in Residential sales in 2020.

Q. IS THE 2020 INCREASE IN RESIDENTIAL USE PER CUSTOMER CONSISTENT WITH RECENT HISTORY?

A. No. Residential use per customer has exhibited a declining trend for many years. Even with the uptick in 2020, 2020 use per customer was more than 5 percent lower than use per customer in 2005. That being said, most of the decrease between 2005 and 2020 occurred in the 2005-2015 period. Over the past five years, Residential use per customer has been mostly flat.

Figure JEM-D-3 presents historical weather-normalized Residential use per customer (light line) and the historical declining trend in Residential use per customer (heavy line). While there have been individual years when use per customer increased, the long-term trend shows declining use per customer.

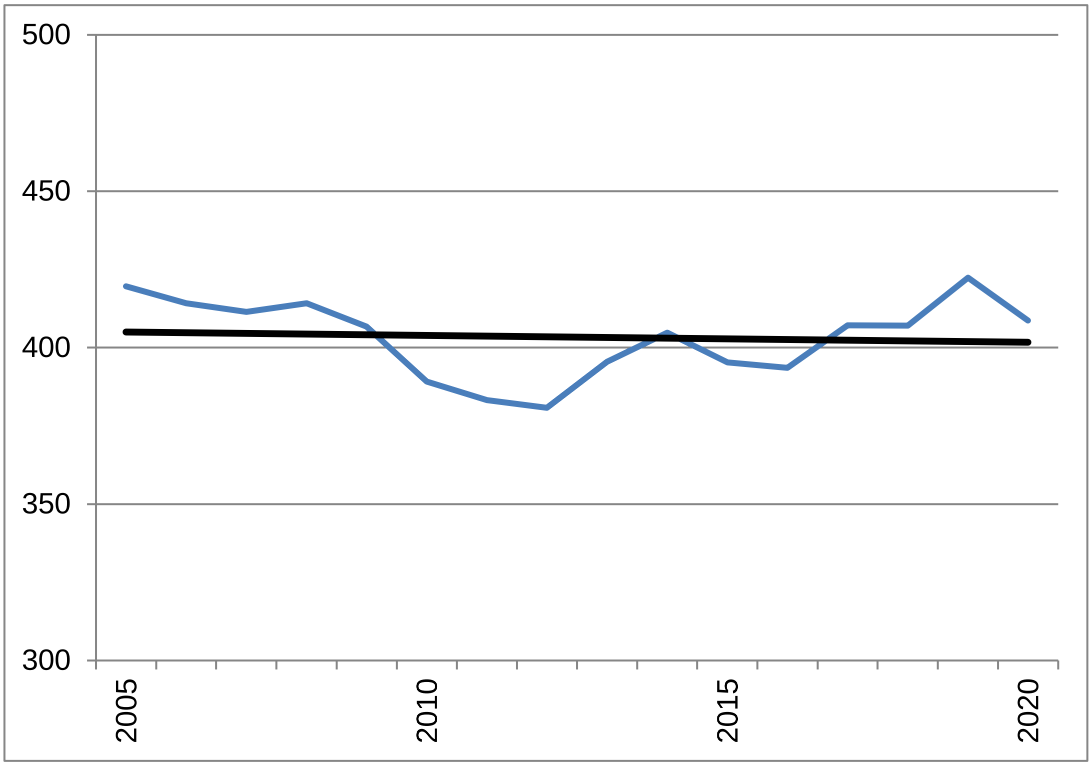
Figure JEM-D-3
Residential Use Per Customer
(Weather-Normalized Dth)



Q. WHAT WERE THE DRIVERS OF COMMERCIAL SALES GROWTH BETWEEN 2016 AND 2020?

A. The growth in Commercial sales generally was driven by increasing use per customer. As shown in Figure JEM-D-4, use per customer showed a declining trend until 2012, but has been generally increasing since that time, but for a large decline in 2020.

Figure JEM-D-4
Commercial Sales Use Per Customer
(Weather-Normalized Dth)



Q. WHAT DROVE THE LARGE DECLINE IN 2020 USE PER CUSTOMER FOR COMMERCIAL CUSTOMERS?

A. As reflected in Table JEM-D-1 and Figure JEM-D-4, Commercial sales declined 2.9 percent in 2020 as compared to 2019. Reduced commercial and industrial activities due to COVID-19 restrictions were a possible contributor to the decline in Commercial 2020 use per customer. However, even though Commercial use per customer declined in 2020, it remained higher than 2018 levels.

Q. WHAT WAS THE PRIMARY DRIVER OF ANNUAL CHANGES IN THE TOTAL TRANSPORTATION SECTOR?

A. The primary driver of annual changes in the total Transportation sector were year-over-year changes in gas transported for electric generation. The amount of gas used for electric generation is dependent on several factors, such as gas prices and the dispatch of other types of generation, including renewables.

III. CUSTOMER COUNT AND DTH THROUGHPUT FORECASTS

Q. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR DIRECT TESTIMONY?

A. The purpose of this section of my Direct Testimony is to provide the Company's 2022 CTY customer count and Dth Throughput forecasts for the Residential, Commercial, and Transportation customer classes. The gas customer count and Dth Throughput forecasts contained in Confidential Attachment JEM-1 and Public Attachment JEM-1 are used by Company witness Mr. Arthur P. Freitas to calculate retail base revenue for the 2022 CTY. In addition to providing the 2022 CTY forecasts, I also discuss the 2021 forecast, which is comprised of actual results through May 2021 and forecasted values for June through December 2021. The 2021 forecast was completed in July 2021 as part of the Company's semi-annual forecasting process.

Q. WHAT IS PUBLIC SERVICE'S FORECAST OF GAS CUSTOMER COUNTS AND DTH THROUGHPUT FOR THE 2022 CTY?

A. Confidential Attachment JEM-1 and Public Attachment JEM-1 summarize projected 2022 CTY monthly number of gas customers and gas Dth Throughput for the Residential, Small Commercial, Large Commercial, Interdepartmental, and total Transportation customer classes. Total gas customer counts are projected to average 1,464,487 per month and Dth Throughput is projected to be 252,009,280 Dth.

Q. HOW DOES PUBLIC SERVICE'S PROJECTED GAS CUSTOMER COUNT GROWTH COMPARE WITH HISTORICAL CUSTOMER COUNT GROWTH?

A. The average number of total gas customers is expected to increase 1.1 percent, or 15,635 customers, during 2021 and to increase 0.9 percent, or 12,799 customers, during the 12-month period ending December 31, 2022. This reflects a slower annual growth rate in both 2021 and 2022 as compared to the average growth seen between 2016 and 2020. As I stated earlier, the Company's total number of gas customers increased at an average annual rate of 1.2 percent from 2016 through 2020, or 16,176 customers per year. The slower forecasted rate of growth in 2021 and 2022 compared to the average growth from 2016 to 2020 follows a slower growth trend of the underlying population forecast.

Q. WHAT IS PUBLIC SERVICE'S FORECAST OF GAS DTH THROUGHPUT FOR 2021 AND THE 2022 CTY?

A. Table JEM-D-2 below provides the Company's weather-normalized Dth sales and annual growth rates by class by year for 2019 through 2022.

Residential sales are projected to decline 0.3 percent in 2021 as use per customer declines from the increased 2020 levels, and then to increase 2.1 percent in the 2022 CTY due to growth in both use per customer and customer counts. Commercial sales are expected to recover from the decline seen in 2020, increasing 1.1 percent in 2021 and increasing an additional 3.9 percent in the 2022 CTY due to growth in use per customer. Both Residential and Commercial sales growth in the 2022 CTY is expected to be stronger than the historical average growth. Total gas sales to Public Service customers are expected to increase 0.1

percent in 2021 compared to 2020 weather-normalized gas sales, and then increase 2.6 percent in the 12-month period ending December 31, 2022.

Separately, total Transportation volumes are expected to decrease in both 2021 and the 2022 CTY. The projected decrease is primarily due to projected higher gas prices and higher generation by other fuel types including renewable generation. As a result, total gas Dth Throughput (sales plus Transportation volumes) is expected to decline 7.8 percent in 2021 and decline another 6.7 percent in the 2022 CTY. I explain the methodologies used to develop the customer count and Dth Throughput forecasts in Section IV of my Direct Testimony.

TABLE JEM-D-2
Weather-Normalized Sales by Class (Dth)

Customer Class	**2019 W/N Actual**	**2020 W/N Actual**	**2021 Forecast[7]**	**2022 CTY**
Residential Sales	100,553,992	103,793,048	103,431,268	105,623,343
Annual % Change	*2.2%*	*3.2%*	*-0.3%*	*2.1%*
Commercial Sales	42,813,597	41,576,972	42,016,577	43,670,192
Annual % Change	*4.1%*	*-2.9%*	*1.1%*	*3.9%*
Total Sales	**143,367,588**	**145,370,020**	**145,447,845**	**149,293,535**
Annual % Change	***2.8%***	***1.4%***	***0.1%***	***2.6%***
Total Transportation	**150,518,881**	**147,641,441**	**124,667,160**	**102,715,744**
Annual % Change	***6.2%***	***-1.9%***	***-15.6%***	***-17.6%***
Dth Throughput	**293,886,469**	**293,011,461**	**270,115,005**	**252,009,280**
Annual % Change	***4.5%***	***-0.3%***	***-7.8%***	***-6.7%***

[7] As mentioned earlier, this includes actuals through May 2021.

Q. WHY IS THERE A FORECASTED INCREASE IN SALES DURING THE 2022 CTY?

A. To develop the customer count and sales forecast, the Company relies on historical and forecasted economic and demographic variables that are obtained from IHS Markit, Inc. ("IHS Markit") a respected economic forecasting firm frequently relied on by forecasting professionals and by the Company since the 1990s. Economic data from IHS Markit forecasts moderate growth in 2021 and continued growth in 2022 to at or above pre-pandemic levels. This data further supports forecasted sales increases for the 2022 CTY.

IV. CUSTOMER COUNT AND DTH THROUGHPUT FORECASTING METHODOLOGY

Q. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR DIRECT TESTIMONY?

A. The purpose of this section of my Direct Testimony is to explain and provide support for the customer count and Dth Throughput forecasting methodology used to prepare the forecasts included within my Direct Testimony.

A. Customer Count and Dth Throughput Forecast

Q. WHAT IS THE SOURCE OF THE CUSTOMER COUNT AND DTH THROUGHPUT FORECAST YOU ARE PRESENTING IN THIS CASE?

A. The customer count and Dth Throughput forecast was based on actual data through May 2021. The forecast was completed in July 2021 as part of the Company's semi-annual forecasting process. The regression modeling technique discussed next relied on at least thirteen years of monthly actual data ending in May 2021, which was the most current month available at the time the forecasting process began.

Q. PLEASE DESCRIBE IN GENERAL TERMS THE METHODS USED BY THE COMPANY TO FORECAST DTH THROUGHPUT AND CUSTOMER COUNTS.

A. The preparation of the Dth Throughput and customer count forecast utilizes a combination of econometric and statistical forecasting techniques and analyses. The primary forecasting technique used is regression modeling developed within a statistical software package.[8] Regression models are designed to identify and quantify the statistical relationship between historical sales or customer counts,

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[8] Metrix ND 4.7, Copyright © 1997-2016, Itron, Inc., http://www.itron.com.

and a set of independent predictor variables, such as historical economic and demographic indicators, historical natural gas prices, and historical weather. Once this relationship is defined, a forecast is developed by simulating the relationship over the forecast period using projected levels of the independent predictor variables.

Regression techniques are very well known and proven methods of forecasting and are commonly accepted by forecasters throughout the utility industry. This method provides reliable, accurate projections, accommodates the use of predictor variables, such as economic or demographic indicators and weather, and allows clear interpretation of the model. The Company has been using these types of forecasting models for more than twenty-five years.

Q. PLEASE PROVIDE A MORE DETAILED DESCRIPTION OF HOW THE VOLUMETRIC FORECASTS WERE DEVELOPED FOR THE RESIDENTIAL AND THE COMMERCIAL SECTORS.

A. In discussing the Commercial sector in this portion of my Direct Testimony, I am referring to both gas sales and gas volumes transported to Public Service's Transportation full rate Commercial customers, as these customers can move in either direction between the Company's sales and Transportation services. Public Service's Residential sales forecast is calculated by multiplying average use per customer times the number of customers. The Residential average use per customer and Commercial sector forecasts were developed using a Statistically-Adjusted End-Use ("SAE") modeling approach. An SAE model is an econometric model that incorporates end-use concepts. The SAE method entails specifying natural gas use as a function of end-use variables (heating and other) and monthly weather impacts on natural gas sales.

The heating end-use variable is an index that incorporates economic indicators, natural gas prices, and heating appliance efficiency trends. It is defined as the product of a heating appliance index variable, which indicates relative saturation and efficiency of the stock of heating appliances, and a heating utilization variable, which reflects how the stock is utilized. The heating appliance index variable reflects both changes in saturation resulting from end-use competition, and improvements in heating appliance efficiency standards. The heating utilization variable is designed to capture natural gas consumption driven by the use of the heating appliance stock. For the Residential sector, the primary factors that impact heating appliance use are natural gas prices, household income, average household size, and monthly weather as measured by Heating Degree Days ("HDD"). For the Commercial sector, the utilization of the stock of heating equipment is a function of natural gas prices, business activity (as measured by service territory Gross Metropolitan Product ("GMP")), and weather.

The "other" end-use variable is developed in the same manner as the heating end-use variable. The appliance index variable reflects the changes in saturation of other gas appliances (such as water heaters, dryers, and cooking appliances), and the average efficiency of the existing stock of appliances based on seasonal usage. The utilization variable is designed to capture natural gas consumption of other appliances driven by the use of the appliance stock. For the Commercial sector, the primary factors that impact the use of other appliances are natural gas prices, business activity (as measured by service territory GMP), and the number of billing days in a month.

The Residential average use and the Commercial sector forecast models were estimated by regressing monthly natural gas usage by class on the end-use variables and other variables such as billing days, trend variables, and monthly seasonal variables. The regression models effectively calibrated the end-use concepts to actual monthly usage.

Q. DID YOU INCLUDE ANY SPECIAL VARIABLES TO ACCOUNT FOR THE COVID-19 PANDEMIC IMPACTS?

A. No. The pandemic impacts that occurred during the second and third quarters of 2020 coincided with the seasonally lower gas sales and so there was no statistically significant relationship between a pandemic-based variable and the sales in the regression model during that period of time.

Q. WHAT METHODOLOGY WAS USED TO DEVELOP THE REMAINDER OF THE CUSTOMER COUNT AND DTH THROUGHPUT FORECAST?

A. Regression models provided the foundation to forecast customer counts for the Residential and the Commercial customer classes, with service territory population used as the explanatory variable. In all the models, at least ten years of monthly historical data was used to conduct the regression analysis. The modeled relationships were simulated over the forecast period using projected levels of the independent predictor variables.

Q. PLEASE EXPLAIN HOW THE REMAINDER OF THE GAS TRANSPORTATION THROUGHPUT FORECAST WAS DEVELOPED.

A. As previously explained, throughput for customers capable of moving between the Company's sales and transportation services are forecasted as part of the total Commercial sector. The Transportation customers that are forecasted separately from the Commercial sector are predominantly large firm Transportation customers that typically do not shift between the Company's sales and transportation service. They include gas transportation services provided to most large industrial customers, including Public Service's gas-fired electric generation facilities and transportation gas deliveries to downstream Local Distribution Companies ("LDCs").

Except for gas Transportation deliveries to Public Service's generation facilities, which I discuss below, the foundation for the gas Transportation forecast is based on historical throughput data. Most large industrial Transportation customers operate on a fairly consistent basis, so forecasts for these are based on historical usage or historical trends.

Q. HOW IS TRANSPORTATION THROUGHPUT FOR DOWNSTREAM LDCS FORECAST?

A. Forecasting for a downstream LDC presents challenges, as we are essentially "blind" to the level of new customer connections occurring on the LDC's system behind the delivery meter, as well as the extent to which load is being offset by gas delivered directly into the LDC from an alternative supply source, such as a processing plant or pipeline. Therefore, we utilize historical throughput data as the basis for our LDC customers and apply adjustments for known changes. We typically apply a modest growth factor, which reflects an assumed level of new service connects.

Q. HOW ARE GAS TRANSPORTATION VOLUMES FOR THE COMPANY'S ELECTRIC GENERATION RESOURCES FORECAST?

A. The information contained in the gas Transportation forecast reflects estimated gas use for each of the electric generation plants (either owned by Public Service or for which Public Service is responsible for acquiring natural gas supplies) as calculated from the PLEXOS® production cost model of the anticipated electric dispatch.

Q. WERE ANY ADJUSTMENTS MADE TO THE FORECAST MODEL RESULTS?

A. Yes. The Residential and the Commercial sales forecast results were adjusted to reflect the expected incremental impact of Demand-Side Management ("DSM") programs as developed by the Company.

B. <u>Statistically Modeled Forecasts</u>

Q. PLEASE DESCRIBE THE REGRESSION MODELS AND ASSOCIATED ANALYSIS USED IN PUBLIC SERVICE'S STATISTICAL PROJECTIONS OF SALES AND CUSTOMER COUNTS.

A. The regression models and associated statistics used in the Company's projections of Residential sales and Commercial sector volumes are provided in Attachment JEM-2, and the regression models and associated statistics used in the Company's projections of gas customer counts are provided in Attachment JEM-3. These schedules include, by class, the models with their summary statistics and output, and descriptions for each variable included in the model.

Q. WHAT TECHNIQUES DID PUBLIC SERVICE EMPLOY TO EVALUATE THE VALIDITY OF ITS QUANTITATIVE FORECASTING MODELS AND PROJECTIONS?

A. There are a number of quantitative and qualitative validity tests that are applicable to regression analysis. I will describe several of the more common tests the Company uses.

The coefficient of determination ("R-squared") test statistic is a measure of the quality of the model's fit to the historical data. It represents the proportion of the variation of the historical sales around their mean value that can be attributed to the functional relationship between the historical sales and the explanatory variables included in the model. If the R-squared statistic is high, the set of explanatory variables specified in the model is explaining a high degree of the historical sales variability. The regression models used to develop the customer count and sales forecasts demonstrated very high R-squared statistics, ranging between 0.9885 and 0.9999.

The t-statistic of each variable indicates the degree of correlation between that variable's data series and the sales data series being modeled. The t-statistic is a measure of the statistical significance of each variable's individual contribution to the prediction model. Generally, the absolute value of each t-statistic should be greater than 1.98 to be considered statistically significant at the 95 percent confidence level and greater than 1.66 to be considered statistically significant at the 90 percent confidence level. This criterion was applied in the development of the regression models used to develop the customer count and sales forecast. The final regression models used to develop the customer count and sales forecast tested satisfactorily under this standard. All variables were statistically significant at greater than the 95 percent confidence level.

Each model was inspected for the presence of first-order autocorrelation, as measured by the Durbin-Watson (“DW”) test statistic. Autocorrelation refers to the correlation of the model’s error terms for different time periods. For example, under the presence of first-order autocorrelation, an overestimate in one time period is likely to lead to an overestimate in the succeeding time period, and vice versa. Thus, when forecasting with regression models, absence of autocorrelation between the error terms is important. The DW test statistic ranges between 0 and 4 and provides a measure to test for autocorrelation. In the absence of first-order autocorrelation, the DW test statistic equals 2.0. Autocorrelation was present in each of the Company’s initial regression models. Therefore, the Company applied an autocorrelation correction process so that the final regression models used to develop the sales forecast tested satisfactorily for the absence of first-order autocorrelation, as measured by the DW test statistic.

Q. IS A MODEL REJECTED IF FIRST-ORDER AUTOCORRELATION IS PRESENT?

A. No, not if the model is otherwise theoretically and statistically valid. It is not uncommon for autocorrelation to be present in time-series data. Because the observations are ordered chronologically, there are likely to be intercorrelations among successive observations, especially if the time interval between successive observations is short, such as a month, rather than a year. If the overall regression model is theoretically and statistically sound in all facets except for the presence of autocorrelation, then it is a common forecasting practice to correct for the autocorrelation by applying an autocorrelation correction process. The use of an autocorrelation correction process effectively removes the correlation from the error terms and produces a more reliable forecast.

Q. WHAT OTHER ANALYSIS DID PUBLIC SERVICE RELY ON TO EVALUATE THE VALIDITY OF THE FORECASTING MODELS AND SALES PROJECTIONS?

A. Graphical inspection of each model's error terms (*i.e.,* actual less predicted) was used to verify that the models were not mis-specified and that statistical assumptions pertaining to constant variance among the residual terms and their random distribution with respect to the predictor variables were not violated. Analysis of each model's residuals indicated that the residuals were homoscedastic (constant variance) and randomly distributed, indicating that the regression modeling technique was an appropriate selection for each customer class's sales that were statistically modeled.

The statistically modeled sales forecasts for each customer class were reviewed for reasonableness, as compared to the respective monthly sales history for that class. The annual total forecast sales were compared to their respective historical trends for consistency. Similar qualitative tests for reasonableness and consistency were performed for the customer count projections.

Q. HAS THE COMPANY RELIED ON FORECASTS OF GAS SALES AND TRANSPORTATION VOLUMES IN OTHER REGULATORY FILINGS?

A. Yes. The Company has relied on forecasts of gas sales and/or Transportation volumes for DSM Cost Adjustment filings, the Gas Purchase Plan, and Gas Cost Adjustment filings.

Q. FROM YOUR PERSPECTIVE AS A FORECASTER, DO THE METHODOLOGIES USED BY THE COMPANY PROVIDE ACCURATE FORECASTS?

A. Yes. I believe the Company's methodologies for forecasting sales and customer counts are sufficiently robust to provide accurate forecasts for this proceeding. The Company's forecasts rely upon the analysis of relationships between sales and customer counts and several explanatory variables, such as weather, price, and economic indicators. These relationships and their ultimate explanatory power have been tested, as described above, and they provide viable, reasonable results.

C. Forecast By Tariff Rate Schedule

Q. DID PUBLIC SERVICE PREPARE A FORECAST AT THE TARIFF RATE SCHEDULE LEVEL OF DETAIL?

A. Yes. The tariff rate schedule level of detail is needed to appropriately estimate sales revenues. For example, the Residential customer class of service is an aggregation of two rate schedules: Residential Gas Service and Residential Gas Outdoor Lighting Service. Confidential Attachment JEM-4C and Public

Attachment JEM-4 provide the 2022 CTY customer count and Dth Throughput forecast by month at the tariff rate schedule level of detail. Table JEM-D-3 provides the rate schedule to customer class mapping.

Table JEM-D-3
Rate Schedule to Customer Class Mapping

Customer Class	Rate Schedules within Customer Class
Residential	º Residential Gas Service º Residential Gas Outdoor Lighting Service
Commercial Sales	º Commercial Gas Service Small º Commercial Gas Service Large º Commercial Gas Outdoor Lighting Service º Interruptible Industrial Gas Service º Firm Gas Transportation Service Small (Backup Sales/Interruptible TFS Sales) º Firm Gas Transportation Service Large (Backup Sales/Interruptible TFL Sales) º Interruptible Gas Transportation Service (Interruptible TI Sales)
Public Service Electric Transportation	º Firm Gas Transportation Service Large º Interruptible Gas Transportation Service
Third-Party Transportation	º Firm Gas Transportation Service Small º Firm Gas Transportation Service Large º Interruptible Gas Transportation Service

Q. HOW WAS THE TARIFF RATE SCHEDULE LEVEL FORECAST DERIVED FROM THE CLASS LEVEL DATA?

A. After the customer class level sales and customer count forecasts were completed, the tariff rate schedule level forecasts were developed. Monthly tariff rate schedule sales and customer count allocation factors were developed based on tariff rate schedule level sales and customer count data obtained from Company billing system reports. The monthly tariff rate allocation factors were based on several years of historical actual data, and these allocation factors were then applied to the class level forecasts to derive the tariff rate schedule level forecasts. The Transportation forecast is developed at the rate schedule level of detail, so no additional derivation for that service is necessary.

D. <u>Data Preparation</u>

Q. PLEASE DESCRIBE THE DATA AND DATA SOURCES THE COMPANY RELIED ON TO DEVELOP THE GAS CUSTOMER COUNT AND DTH THROUGHPUT FORECASTS.

A. Historical billing month throughput (sales), monthly number of customers, and billing month rate revenues by rate class were obtained from Company billing system reports. Historical natural gas prices for the Residential and the Commercial sales classes were calculated by dividing the billing month rate revenues by total sales volumes. The forecast of gas prices was based on the monthly change in prices from a Weighted Average Cost of Gas forecast and adjusted for losses and base rate inflation.

Q. WHAT WAS YOUR SOURCE OF ECONOMIC AND DEMOGRAPHIC DATA?

A. Historical and forecasted economic and demographic variables for the MSAs in the Company's gas service territory were obtained from IHS Markit. The forecasts from IHS Markit were obtained in May 2021, and reflected the most current information available at the time the forecast was developed. The variables used in the model include population, household size, real personal income per household, and real Gross Metropolitan Product. This information is used to determine the historical relationship between customer counts and sales, and economic and demographic measures.

Q. WHAT WAS THE COMPANY'S MEASURE OF WEATHER AND WHAT WAS THE SOURCE?

A. Weather is measured in HDD, which are calculated using a 65 degree Fahrenheit temperature base. Daily weather was obtained from the National Oceanic and Atmospheric Administration ("NOAA") and was measured at the Denver International Airport ("DIA") weather station. HDD were calculated for each day by subtracting the average daily temperature from 65 degrees Fahrenheit. For example, if the average daily temperature was 45 degrees Fahrenheit, then 20 HDD (65 minus 45) were calculated for that day. If the average daily temperature was greater than 65 degrees Fahrenheit, then that day recorded zero HDD.

Q. DID THE WEATHER REFLECT THE SAME BILLING DAYS AS THE SALES DATA?

A. Yes. The HDD were weighted by the number of times a particular day was included in a particular billing month. These weighted HDD were divided by the total billing cycle days to arrive at average HDD for a billing month.

Q. WHY IS IT APPROPRIATE TO USE THE DIA WEATHER STATION TO REPRESENT THE COMPANY'S SERVICE TERRITORY?

A. Public Service uses data from the DIA weather station because a large majority (90.0 percent) of its Residential gas sales is within the Front Range region[9] or the

[9] This includes the Company's Boulder, Denver Metro, Front Range, High Plains, Home Light & Power, Northern, North Metro, Southeast Metro, and Southwest Metro operating divisions.

eastern part of the state where the DIA weather station is located. Based on total Residential gas sales in 2020, only 9.9 percent of sales were made to customers located outside the Front Range region. These include the Western Division (4.9 percent), the San Luis Valley Division (0.6 percent), and the Mountain Division (4.4 percent). Since these sales represent such a small proportion of the total, it is appropriate to only use the weather station at DIA.

Q. WHAT WEATHER ASSUMPTION WAS USED FOR THE FORECAST PERIOD?

A. Normal weather was used for the forecast period, where normal is defined as a 10-year average of historical values. Daily normal HDD were calculated by averaging 10 years of daily HDD using data from 2011 to 2020, which was the most current historical 10-year calendar year time-period available at the time the forecast was developed. These daily normal HDD were weighted by billing cycle information to derive normal billing month HDD in the same manner as the historical actual HDD were calculated.

Q. IS THIS THE SAME NORMAL WEATHER ASSUMPTION THAT THE COMPANY USED TO DEVELOP SALES FORECASTS PROVIDED IN PREVIOUS GAS RATE CASE PROCEEDINGS?

A. No. The Company started using the 10-year average normal weather assumption for gas sales forecasting in Spring 2020. Previously, the Company’s gas forecast was based on a normal weather assumption defined as the 30-year average of historical values. However, in the Company’s 2019 Electric Phase I rate case, the

Commission ordered a 10-year average for weather normalization.[10] Also, in the Company's 2020 Combined Gas Rate Case, the Commission approved the 2020 Settlement, which included an agreement to use a 10-year average for weather normalization.[11]

While the normal weather discussion in these past two proceedings was focused on the weather normalization of historical test year sales, the normal weather assumption affects both sales forecasting and weather normalization. Therefore, to be consistent with these recent outcomes, the Company has replaced its use of a 30-year average of historical values to define normal weather with the use of a 10-year average of historical values for purposes of both forecasting sales and weather normalizing historical sales. As I previously explained, for the sales forecast presented in this proceeding, the Company used the 10-year time period from 2011 to 2020 to define normal weather, which was the most current sales information available at the time the forecast was developed.

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[10] Proceeding No. 19AL-0268E, Decision No. C20-0096, Ordering Point No. 277, page 94, adopted December 11 and 17, 2019.

[11] Proceeding No. 20AL-0049G, Decision No. R20-0673 at p. 25, ¶¶ 71-72.

V. WEATHER NORMALIZATION OF 2021 HISTORICAL TEST YEAR SALES

Q. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR DIRECT TESTIMONY?

A. The purpose of this section of my Direct Testimony is to explain the Company's weather normalization methodology and its application to the 12 months ended June 30, 2021 (the "2021 Historical Test Year" or "2021 HTY") sales and revenues in this proceeding. The 2021 HTY is being filed for informational purposes only.

Q. HOW ARE HISTORICAL DTH SALES WEATHER NORMALIZED?

A. In order to exclude the impact of weather on the Company's sales growth calculations from year to year, the Company estimates the Dth impact of the deviation from normal weather, or "weather-normalized" sales. The Company uses actual and normal weather, along with the actual number of customers and weather response coefficients, to conduct this weather normalization of historical sales. The weather normalization is performed for both the Residential sales class and the Commercial sales class, as well as Public Service's Transportation full rate Commercial customers.

The weather response coefficients are developed using regression models with the class-level sales as the dependent variable and monthly actual weather as the explanatory variables. The weather variables are expressed as HDD, with a different variable defined for each month that exhibits a statistically significant weather response. Each coefficient effectively represents the monthly average Dth of weather response per HDD per customer.

The Company uses the MetrixND statistical software package to develop the regression models. The weather response coefficients are updated annually to incorporate the most recent year of actual sales, actual customer counts, and actual weather data. This annual update process results in coefficients that reflect the current relationship between sales and weather.

In the weather normalization regression models, each month's HDD are used as individual variables (*i.e.*, January HDD, February HDD, etc.). This allows each model to identify and quantify a unique weather response for each month, which is appropriate because our customers' response to weather varies from month to month.

The impact of the deviation from normal weather is calculated by multiplying the weather response coefficient for a given month times the number of customers in the month times the deviation in HDD from normal. This impact is then applied to the actual billed sales to derive weather-normalized sales. If weather is warmer than normal, the normalization process results in weather-normalized gas sales that are higher than actual sales. Conversely, if weather is colder than normal, the normalization process results in weather-normalized gas sales that are lower than actual sales.

Q. IS THIS WEATHER NORMALIZATION PROCESS A NEW PROCESS FOR THE COMPANY?

A. No. The Company has been using this weather normalization methodology for gas and electric sales for business analysis and internal and external reporting purposes since 2001. It is also the same normalization methodology used in the Company's recent rate cases.[12]

While the weather normalization methodology has not changed, the normal weather assumption has changed as a result of the outcomes of Proceeding Nos. 20AL-0049G and 19AL-0268E, as I explained previously. For the weather normalization of 2021 HTY sales, the Company defined normal weather as the 10-year average of historical weather from July 2011 through June 2021, that is, the most recent 10-year period including the 2021 HTY.

Q. DID THE COMPANY NORMALIZE DTH THROUGHPUT VOLUMES FOR THE TRANSPORTATION FULL RATE COMMERCIAL CUSTOMERS?

A. Yes. Similar to the Company's 2017 Gas Phase I rate case,[13] the Company also has weather normalized the Dth Throughput volumes for the Transportation full rate Commercial customers. The Transportation full rate Commercial customers can choose to receive sales or transport volumes, and, therefore, exhibit weather sensitivity similar to the Commercial sales customers. The Company has identified the transportation volumes for this group of Transportation full rate Commercial customers and included this group in the weather normalization process.

Q. DOES THE COMPANY WEATHER NORMALIZE HISTORICAL GAS TRANSPORTATION VOLUMES DELIVERED TO LDCS?

A. No. The Company does not weather normalize LDC deliveries for any internal or external reporting purposes. Third-party LDCs typically acquire gas supplies from

[12] Proceeding Nos. 20AL-0049G, 19AL-0268E, 17AL-0363G, 15AL-0135G, 14AL-0660E, 12AL-1268G, and 11AL-947E.
[13] Proceeding No. 17AL-0363G.

other sources. Therefore, Public Service's transportation of gas to these LDCs can be driven by factors other than weather, and the statistical approaches used to weather normalize other classes does not work well with the LDC deliveries.

Q. DOES THE COMPANY WEATHER NORMALIZE SALES FOR PURPOSES OTHER THAN STATE REGULATORY PROCEEDINGS?

A. Yes. The Company also weather normalizes sales for business analysis and internal and external reporting purposes. Public Service uses the same weather-normalization methodology for all these purposes. In addition, the weather response coefficients are used in the Company's monthly accounting process to estimate unbilled sales, calendar month sales, and, ultimately, the calendar month revenues that are included in the Company's financial reports, such as the Securities Exchange Commission 10-K filings. As such, oversight of the weather response coefficients is part of the Company's internal controls over financial reporting.

Q. WHAT ARE THE RESULTS OF THE WEATHER NORMALIZATION OF 2021 HTY SALES?

A. The 12-months ended June 2021 actual HDD were 3.6 percent higher than normal. The colder-than-normal winter weather resulted in weather-normalized sales being lower than actual sales by 3,440,270 Dth, or 1.9 percent. This results in weather-normalized revenue that is $5.6 million lower than actual revenue. The work papers supporting the weather normalization of the 2021 HTY sales are provided as Attachment JEM-5.

Q. HOW DOES PUBLIC SERVICE EVALUATE THE VALIDITY OF ITS WEATHER NORMALIZATION REGRESSION MODELS FOR HISTORICAL SALES?

A. The Company uses the same techniques that I described earlier with the forecasting models, including the R-squared test statistic, the t-statistic of each variable, the DW test statistic, and graphical inspection of each model's error terms.

Q. PLEASE DESCRIBE THE DATA AND DATA SOURCES THE COMPANY RELIED ON TO DEVELOP ITS HISTORICAL SALES WEATHER NORMALIZATION REGRESSION MODELS.

A. The data used in the regression models include historical billing month sales and monthly number of customers from Company billing system reports, number of billing days in each month from Company meter ready schedules, and weather variables based on weather data from NOAA measured at the DIA weather station. The weather data reflected the same billing days as the sales data.

Q. WHAT WEATHER ASSUMPTIONS WERE USED TO WEATHER NORMALIZE THE 2021 HTY SALES PRESENTED IN THIS PROCEEDING?

A. As I explained previously, normal weather was used for the 2021 HTY period, where normal is defined as a 10-year average of historical values including the 2021 HTY period. Daily normal HDD were calculated by averaging 10 years of daily HDD using data from July 2011 to June 2021. These daily normal HDD were weighted by billing cycle information to derive normal billing month HDD in the same manner as the historical actual HDD were calculated.

VI. CONCLUSION

Q. WHAT ARE YOUR CONCLUSIONS WITH RESPECT TO YOUR DIRECT TESTIMONY?

A. I conclude that the Company's forecasts of customer counts and Dth Throughput for the 2022 CTY, as reflected in Confidential Attachment JEM-1 and Public Attachment JEM-1, are appropriate for the purpose of determining the revenue requirement and final rates in this proceeding.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, it does.

Statement of Qualifications

Jannell E. Marks

I have served as Director, Sales, Energy and Demand Forecasting for Xcel Energy since 2007. In this position I am responsible for developing load analysis and energy sales forecasting policies, proposals, and strategies to meet corporate financial planning, budgeting, and internal earnings forecasting requirements as well as to support the Company's regulatory objectives and comply with regulatory requirements. I am also responsible for the development and presentation of load research and forecasted data for Xcel Energy's operating companies and reporting historical and statistical information to various regulatory agencies and others.

Prior to my current position, I served as Manager, Energy Forecasting for Xcel Energy from 2000–2007 and as Manager, Demand, Energy and Customer Forecasts for New Century Energies, Inc. from 1997–2000. I began my career in 1982 as a Research Analyst with Public Service Company of Colorado and was promoted to Senior Research Analyst in 1991.

I received my Bachelor of Science in Statistics from Colorado State University in 1982. I am a member of Itron's Energy Forecasting Group and the Edison Electric Institute's Forecasting Group and have attended the Institute for Professional Education's Economic Modeling and Forecasting Class; Itron's Forecasting Workshops; and the Electric Power Research Institute's REEPS (Residential End-Use Energy Planning System), COMMEND (Commercial End-Use Planning System), and INFORM (Industrial End-Use Forecasting Model) Training Classes and User Group Meetings.

I have testified on forecasting issues before the Colorado Public Utilities Commission, the Public Utility Commission of Texas, the Minnesota Public Utilities Commission, the North Dakota Public Service Commission, the South Dakota Public Utilities Commission, the Public Service Commission of Wisconsin, and the New Mexico Public Regulation Commission.

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO

* * * *

IN THE MATTER OF ADVICE NO. 993-GAS OF PUBLIC SERVICE COMPANY OF COLORADO TO REVISE ITS COLORADO PUC NO. 6-GAS TARIFF TO INCREASE JURISDICTIONAL BASE RATE REVENUES, IMPLEMENT NEW BASE RATES FOR ALL GAS RATE SCHEDULES, AND MAKE OTHER PROPOSED TARIFF CHANGES EFFECTIVE FEBRUARY 24, 2022	**PROCEEDING NO. 22AL-______G**

AFFIDAVIT OF JANNELL E. MARKS ON BEHALF OF PUBLIC SERVICE COMPANY OF COLORADO

I, Jannell E. Marks, being duly sworn, state that the Direct Testimony and attachments were prepared by me or under my supervision, control, and direction; that the Direct Testimony and attachments are true and correct to the best of my information, knowledge and belief; and that I would give the same testimony orally and would present the same attachments if asked under oath.

Dated at Denver, Colorado, this 11 day of January, 2022.

Jannell E. Marks
Jannell E. Marks
Director, Sales, Energy and Demand Forecasting

Subscribed and sworn to before me this 11 day of January, 2022.

RSF
Notary Public

My Commission expires 4. 28. 24

RICHARD S. FINNILA
NOTARY PUBLIC - STATE OF COLORADO
Notary ID #20044008427
My Commission Expires 4/28/2024

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