BEFORE THE STATE CORPORATION COMMISSION OF THE STATE OF KANSAS

In the Matter of the Application of Black Hills/Kansas Gas Utility Company, LLC, d/b/a Black Hills Energy, for Approval of the Commission to Make Certain Changes in its Rates for Natural Gas Service	**)))))**	**Docket No. 25-BHCG-298-RTS**

DIRECT TESTIMONY OF ETHAN J. FRITEL

ON BEHALF OF

BLACK HILLS/KANSAS GAS UTILITY COMPANY, LLC, d/b/a BLACK HILLS ENERGY

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EXHIBIT

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KSG Direct Exhibit EJF-2	**Normal and Test Year Heating Degree Days**
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KSG Direct Exhibit EJF-4	**Weather Normalization Adjustment**
KSG Direct Exhibit EJF-5	**Irrigation Normalization Adjustment**
KSG Direct Exhibit EJF-6	**Test Year Revenues Under Existing Rates**
KSG Direct Exhibit EJF-7	**Revenue Synchronization**
KSG Direct Exhibit EJF-8	**Load Factor Analysis**
KSG Direct Exhibit EJF-9	**Mains Classification and Weighting Factor Study**
KSG Direct Exhibit EJF-10	**Mains Classification Study**
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KSG Direct Exhibit EJF-12	**Meter Weighting Factor Study**
KSG Direct Exhibit EJF-13	**Functional Cost Classification**
KSG Direct Exhibit EJF-14	**Class Cost of Service Study**
KSG Direct Exhibit EJF-15	**Revenues Under Current and Proposed Rates**
KSG Direct Exhibit EJF-16	**Average Customer Bill Impacts Under Current and Proposed Rates**

List of Acronyms

AVTS	Ad Valorem Tax Surcharge
BHC	Black Hills Corporation
BHSC	Black Hills Service Company
BHUH	Black Hills Utility Holdings, Inc.
"Black Hills" or "the Company"	Black Hills/Kansas Gas Utility Company, LLC dba Black Hills Energy
CCOSS	Class Cost of Service Study
"Commission" or "KCC"	Kansas Corporation Commission
GSRS	Gas System Reliability Surcharge Rider
HDD	Heating Degree Day
LVTS	Large Volume Transportation Service
NOAA	National Oceanographic and Atmospheric Administration
O&M	Operations and Maintenance
PGA	Purchased Gas Adjustment
Pro Forma Period	October 1, 2024, through September 30, 2025 (Capital and O&M)
TA Rider	Tax Adjustment Rider
Test Year	Historical Test Year based on 12 months ending September 30, 2024 (10/1/2023 to 9/30/2024)
WNA	Weather Normalization Adjustment

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Ethan J. Fritel, and my business address is 7001 Mt. Rushmore Rd., Rapid City, South Dakota 57702.

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

A. I am employed by Black Hills Service Company, LLC ("BHSC"), a wholly owned subsidiary of Black Hills Corporation ("BHC"). I am a Senior Regulatory Analyst.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING?

A. I am testifying on behalf of Black Hills/Kansas Gas Utility Company, LLC d/b/a Black Hills Energy ("Black Hills" or "the Company"). Black Hills is a wholly owned subsidiary of Black Hills Utility Holdings, Inc. ("BHUH"). BHUH is a wholly owned subsidiary of BHC.

II. STATEMENT OF QUALIFICATIONS

Q. WILL YOU PLEASE STATE YOUR EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE?

A. My education, employment history, and professional experience are provided on KSG Direct Exhibit EJF-1.

Q. WHAT ARE YOUR CURRENT JOB RESPONSIBILITIES?

A. I am responsible for gathering, researching, and analyzing customer billing data, and other information to prepare analyses in support of internal analysis and external regulatory reports and filings. I am also responsible for preparing class cost of services studies and designing rates for the Company's rate proceedings.

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Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE ANY REGULATORY BODIES?

A. Yes. I have filed testimony with the Wyoming Public Service Commission, the Colorado Public Utilities Commission, and the Iowa Utilities Board.

Q. ARE YOU SPONSORING ANY EXHIBITS?

A. Yes, I am sponsoring the following Exhibits:

KSG Direct Exhibit EJF-1	**Education, Employment History and Professional Experience**
KSG Direct Exhibit EJF-2	**Normal and Test Year Heating Degree Days**
KSG Direct Exhibit EJF-3	**Weather Normalization Statistical Results**
KSG Direct Exhibit EJF-4	**Weather Normalization Adjustment**
KSG Direct Exhibit EJF-5	**Irrigation Normalization Adjustment**
KSG Direct Exhibit EJF-6	**Test Year Revenues Under Existing Rates**
KSG Direct Exhibit EJF-7	**Revenue Synchronization**
KSG Direct Exhibit EJF-8	**Load Factor Analysis**
KSG Direct Exhibit EJF-9	**Mains Classification and Weighting Factor Study**
KSG Direct Exhibit EJF-10	**Mains Classification Study**
KSG Direct Exhibit EJF-11	**Meter Weighting Factor Study**
KSG Direct Exhibit EJF-12	**Service Line Cost Study**
KSG Direct Exhibit EJF-13	**Functional Cost Classification**
KSG Direct Exhibit EJF-14	**Class Cost of Service Study**
KSG Direct Exhibit EJF-15	**Revenues Under Current and Proposed Rates**
KSG Direct Exhibit EJF-16	**Average Customer Bill Impacts Under Current and Proposed Rates**

Q. HAVE THE TESTIMONY AND EXHIBITS THAT YOU ARE SPONSORING BEEN PREPARED BY YOU OR UNDER YOUR SUPERVISION?

A. Yes.

III. PURPOSE OF TESTIMONY

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to describe the test year adjustments to billing j.

determinants, the Class Cost of Service Study (“CCOSS”) and proposed rate design. In my testimony I sponsor the following analyses, studies, and proposals:

1. The billing determinants and revenues under current rates used in the CCOSS and rate design, including:
    a. The Company’s proposed weather normalization adjustment (“WNA”) of volumes for heating by the Residential, Small Commercial, Small Volume Firm, and Large Volume Firm customer classes;
    b. The adjustment to irrigation volumes to reflect normal conditions;
2. The customer class load factor analysis;
3. The weighting factors studies;
4. The CCOSS;
5. Design of the rates proposed by the Company and rate design to produce revenues equal to the Company’s proposed test year revenue requirement; and,
6. The revenue proofs and bill impact analysis.

The following sections of my direct testimony generally follow this outline.

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IV. TEST YEAR REVENUES UNDER CURRENT RATES

Q. PLEASE DESCRIBE WHAT IS MEANT BY THE TERM BILLING DETERMINANTS.

A. A “therm” is a unit for quantity of heat that equals 100,000 British thermal units. Billing determinants include the customer usage in therms, and the number of customer bills issued to the customer. These billing determinants form the basis for calculating the customers’ bills. The billing determinants developed for the Black Hills rate Application are used in the allocation of costs to each customer class in the CCOSS and the determination of revenues under existing and proposed rates.

Q. HAVE YOU PREPARED A SUMMARY OF TEST YEAR BILLING DETERMINANTS AND REVENUES BY CUSTOMER CLASS?

A. Yes. The billing determinants reflected in KSG Direct Exhibit EJF-6 shows the Test Year billing determinants and base rate revenues for the current customer classes including several adjustments. As described in Section V below, the billing determinants were adjusted for a weather normalization adjustment and an irrigation adjustment. A separate adjustment is made to synchronize Test Year billing determinants and Test Year revenues.

V. ADJUSTMENTS MADE TO BILLING DETERMINANTS

Q. PLEASE DESCRIBE THE ADJUSTMENTS MADE TO TEST YEAR BILLING DETERMINANTS AND REVENUES.

A. Adjustments to billing determinants and revenues are necessary to reflect conditions that would be expected in a normal test year and to arrive at just and reasonable rates.

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As noted above, the adjustments include the following: a) weather normalization adjustment, b) irrigation adjustment, and c) revenue synchronization adjustment.

a. <u>Synchronization Adjustment</u>

Q. PLEASE DESCRIBE WHY A SYNCHRONIZATION ADJUSTMENT IS NECESSARY.

A. The Synchronization Adjustment is necessary to account for the difference between booked revenues and the revenues that result from applying the current rates to Test Year billing determinants. The total amount of adjustment between billed and calculated revenue based upon rates effective between October 1st, 2023, and September 30th, 2024, is $136,907 as shown in KSG Direct Exhibit EJF-7, column E. This adjustment can also be seen on Adjustment IS-7 and Schedule I-7 of Ms. Samantha K. Johnson's KSG Direct Exhibit SKJ-2.

b. <u>Weather Normalization Adjustment</u>

Q. PLEASE DESCRIBE THE RATIONALE FOR ADJUSTING VOLUMES TO REFLECT NORMAL WEATHER CONDITIONS.

A. Because proposed rates are based on Test Year volumes (therms), those volumes should be adjusted to reflect sales expected in a "normal" (typical) year. Assuming all other factors are equal, if rates are based upon volume levels that are inflated due to colder-than-normal weather, for example, the rates will be set too low and will only recover costs during similar periods of colder-than-normal conditions. Similarly, if the weather used to set rates is warmer-than-normal, rates will be set too high and will over recover costs during periods of normal weather conditions. Thus, if Test Year weather

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conditions deviate from normal conditions, it is necessary to adjust the heating load to recognize what volumes would have been if conditions were normal.

Traditionally, warmer- or colder-than-normal weather is based on a comparison of actual heating degree-days during a Test Year to the heating degree-days that would be expected during a normal or typical year.

Q. PLEASE DEFINE A HEATING DEGREE-DAY.

A. A heating degree-day ("HDD") is calculated by subtracting the average daily temperature from 65 degrees Fahrenheit. Average daily temperature equals the average of the high and low temperatures on each day. In the gas industry, 65 degrees Fahrenheit is commonly used for this calculation as the base temperature because it is assumed that when average daily temperatures reach a level below 65 degrees, heat sensitive customers will turn their heaters on for space heating. If the average daily temperature exceeds 65 degrees, the HDD for that day is set equal to zero. The sum of the daily HDDs for a particular month is the monthly HDDs. Below is how HDDs are calculated.

Maximum (high) Temperature = A Fahrenheit

Minimum (low) Temperature = B Fahrenheit

The sum of A and B is C.

C divided by 2 is D.

65 - D = HDDs.

Q. PLEASE DESCRIBE THE WEATHER DATA UTILIZED FOR THE ANALYSIS.

A. Black Hills used monthly actual HDD data as published by National Oceanographic and Atmospheric Administration ("NOAA") for weather stations in the following cities in Kansas: Concordia, Dodge City, Goodland, Topeka, and Wichita. The primary consideration in my selection of these weather stations was to select NOAA stations that are in close geographic proximity to the Company's load centers (the cities the Company serves). The intent of Black Hills is to group the towns around NOAA weather stations where one would expect weather conditions (HDDs) to be similar based on geographic proximity. Black Hills reviewed the location of the weather stations in relationship to its cities to ensure that the use of those weather stations is appropriate.

Q. HAVE YOU MADE CHANGES TO THE NUMBER OF WEATHER STATIONS USED IN THE ANALYSIS AS COMPARED TO THE LAST RATE PROCEEDING?

A. No. The weather stations included in the analysis are the same that were used in the previous rate proceeding.

Q. WHAT ARE YOU USING FOR NORMAL HDDs?

A. Black Hills used a 10-year normal based upon the last 10 years of NOAA HDD data from its online database.

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Q. WHY ARE YOU PROPOSING TO USE A 10-YEAR AVERAGE FOR WEATHER NORMALIZATION?

A. Use of a 10-year period provides a reasonable balance between using a sufficiently long period of time to capture both warmer and colder conditions and giving recognition that the more recent past is generally a better predictor of the near future. The time period used should recognize that rates approved in this rate proceeding will be in effect over the near term.

Q. DID THE COMPANY PROPOSE THE USE OF A 10-YEAR WEATHER NORMALIZATION ADJUSTMENT IN THE LAST RATE PROCEEDING?

A. Yes. The Company provided the same support for its 10-year weather normalization adjustment in this Application as it did in Black Hills' last rate proceeding in KCC Docket No. 21-BHCG-418-RTS.

Q. WHAT VOLUME AND CUSTOMER DATA HAS THE COMPANY USED FOR THE CALCULATION OF THE WEATHER NORMALIZATION ADJUSTMENTS?

A. The Company used detailed historical billing records by customer class and rate schedule for the period of October 2014 through September 2024 as the source for monthly volumetric (usage) and customer data used for the calculation of the weather normalization adjustment.

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Q. WERE ACTUAL HEATING SEASON WEATHER CONDITIONS WITHIN THE COMPANY'S SERVICE TERRITORY FOR THE 12-MONTH PERIOD ENDING SEPTEMBER 30, 2024, NORMAL?

A. No. Generally, weather conditions during that period of time were warmer than normal. Based on a comparison of actual HDDs from October 2023 through September 2024 to normal HDDs for the 10-year period ending September 30, 2024, conditions were warmer than normal. Table EJF-1 below summarizes conditions at the five weather stations proposed to be used in this rate Application.

Table EJF-1: Actual and Normal HDDs

Weather Station	Oct. 2023 through Sept. 2024 HDDs	10-Year Normal HDDs	Percent Warmer than Normal
Concordia	4,290	4,866	12%
Dodge City	4,189	4,623	9%
Goodland	5,273	5,590	6%
Topeka	4,040	4,579	12%
Wichita	3,853	4,139	7%

These deviations are significant enough that a weather normalization adjustment to reflect normal weather conditions is warranted.

Q. PLEASE SUMMARIZE THE METHODOLOGY USED TO DETERMINE THE RELATIONSHIP BETWEEN USAGE AND WEATHER.

A. The Company used multiple linear regression analyses to define the relationship between volumes and variables that represent weather conditions. Multiple linear regression is a statistical approach commonly used to predict the value of a dependent variable (use per customer) using multiple independent variables (including current month HDDs and previous month HDDs). In this regard, the goal is to explain the

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dependent variable with reasonable accuracy using as few independent variables as possible.

Multiple regression yields an equation of the form:

Y = B + A1X1 + A2X2 + ... + AKXK

where

Y	is the dependent variable
B	is the y-intercept (or constant)
X1...XK	are the independent variables
A1...AK	are the regression coefficients

With respect to the Company's use of multiple linear regression as a tool in developing adjustments to reflect normal weather conditions, the dependent variable (Y) is monthly use per customer and is calculated by dividing monthly volumes by monthly number of customers. Monthly use per customer is used as the dependent variable instead of total monthly volumes because use per customer reduces the effect of growth or decline in total volumes due to changes in numbers of customers. Independent variables (X1...XK) are typically weather variables such as HDDs. The intercept (B) is a monthly constant. The constant represents usage that is not affected by the independent variables. The coefficients (A1...AK) are developed from the regression analysis based on the best fit (least squares).

Q. IS THIS THE SAME METHODOLOGY USED BY THE COMPANY IN THE LAST RATE APPLICATION FILING?

A. Yes.

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Q. WHAT DATA DID THE COMPANY USE IN PERFORMING THE MULTIPLE LINEAR REGRESSION ANALYSIS DESCRIBED ABOVE?

A. The analysis was based on actual monthly use per customer (dependent variable), and actual monthly HDDs (independent variables). The Company ran separate regression analyses on each of the heat sensitive customer classes. The regression analysis produced coefficients that the Company used to determine use per customer per HDD.

Q. FOR WHICH CUSTOMER CLASSES IS THE COMPANY PROPOSING TO ADJUST VOLUMES?

A. The Company is proposing to adjust volumes for those classes of customers where it can be demonstrated that their usage is sensitive to changes in winter temperature conditions. These classes of customers use natural gas primarily for space heating. Further, customers who use natural gas for space heating generally use more natural gas when the weather is colder and less when it is warmer. HDDs increase as average temperature decreases. Thus, usage and HDDs should have a positive correlation. The variation in monthly HDDs typically explains most of the variation in volumes used by customers who use natural gas in space heating applications. The customer classes the Company is proposing to adjust are the Residential, Small Commercial, Small Volume Firm, and Large Volume Firm customer classes.

Q. HAVE YOU PREPARED SEPARATE REGRESSION COEFFICIENTS FOR EACH OF THE CUSTOMER CLASSES?

A. Yes. Coefficients developed in weather normalization for these customer classes are based upon the regression of monthly customer volumes to HDDs for each of the

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Residential, Small Commercial, Small Volume Firm, and Large Volume Firm customer classes.

Q. PLEASE DESCRIBE THE COMPANY'S WEATHER NORMALIZATION REGRESSION RESULTS.

A. To identify anomalies in usage patterns over the ten-year period, regression analyses in decreasing blocks of time (October 2014 - September 2024, October 2015 - September 2024, October 2016 - September 2024, etc.) were performed for each of the customer classes. KSG Direct Exhibit EJF-3 summarizes the results of each of the regression analyses. The Company evaluated the results of each of these time periods using four criteria to determine which period should be used to define usage characteristics. These four criteria are as follows:

1. Consistency of predicted normal use per customer;
2. Average annual HDDs for the period evaluated being near normal;
3. R squared - values in the 90% range are common; and
4. Obvious changes as reflected in coefficients.

KSG Direct Exhibit EJF-3 shows which regression analysis the Company chose for the Residential, Small Commercial, Small Volume, and Large Volume classes. These time periods satisfy the four criteria identified above and also align to the period used in the calculation of normal HDDs. Based on these regression analyses, the Company concluded it is reasonable to base volume adjustment for all the customer classes on a 10-year regression analysis, except as discussed below. Further, Black Hills determined that both the current and previous month's HDD were significant

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independent variables, except as discussed below.

Q. HOW DID THE COMPANY DETERMINE THE WEATHER NORMALIZATION ADJUSTMENT APPLICABLE TO THE RESIDENTIAL, SMALL COMMERCIAL, SMALL VOLUME FIRM, AND LARGE VOLUME FIRM CUSTOMER CLASSES?

A. This calculation is shown in KSG Direct Exhibit EJF-4 Test Year Weather Normalization Adjustment. The adjustment per customer is the difference between normal and actual HDDs multiplied by its respective HDD coefficients (current and prior months) for each month of the Test Year. The adjustment is determined using coefficients from KSG Direct Exhibit EJF-3 and the 10-year average HDD.

After the monthly adjustment per customer (i.e., therm/customer) was calculated, the respective number of sales customers for each month of the Test Year was multiplied by each of these figures to determine the total usage (therm) adjustment. The total adjustments by customer class are shown in KSG Direct Exhibit EJF-4 and in Table EJF-2 below.

Table EJF-2: Weather Normalization Adjustment by Customer Class

Customer Class (Sales)	Total Therms	Therm Adjustment	Percent Adjustment
Residential	61,963,635	1,024,730	1.65%
Small Commercial	12,196,387	212,191	1.74%
Small Volume Firm	12,889,053	97,281	0.75%
Large Volume Firm	3,879,337	46,881	1.21%
Totals	**90,928,412**	**1,381,083**	**1.52%**

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These adjustments result in an increase in Test Year usage, which is consistent with the degree to which actual conditions were warmer than normal during the Test Year.

Q. HOW DID THE COMPANY DETERMINE THE WEATHER NORMALIZATION REVENUE ADJUSTMENTS?

A. The volumetric adjustments shown in KSG Direct Exhibit EJF-4, are detailed by customer class and by weather station. For each customer class, the margin adjustment is determined by multiplying the weather normalization volume times the appropriate margin rate. These adjustments result in an increase in Test Year revenues of $269,391, which is consistent with the conditions being warmer than normal during the Test Year. This adjustment can be seen in KSG Direct Exhibit EJF-6 on Page 2, line 17 as well as in Adjustment IS-8 and Schedule I-8 of KSG Direct Exhibit SKJ-2.

Q. WILL THE INFORMATION DEVELOPED IN YOUR ANALYSIS IN THE CURRENT RATE APPLICATION BE USED FOR THE COMPANY'S WNA CALCULATION?

A. Yes. The Company will use the coefficients resulting from the multiple linear regression analysis in the calculation of the WNA in future filings.

c. <u>Irrigation Adjustment</u>

Q. PLEASE EXPLAIN THE RATIONALE FOR ADJUSTING IRRIGATION VOLUMES TO REFLECT NORMAL CONDITIONS.

A. The Company is proposing to adjust irrigation volumes to reflect normal conditions. Similar to the weather normalization adjustment discussion above, the intent of this

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adjustment is so that Test Year volumes reflect sales that would be expected in an otherwise "normal" or typical year.

Q. IS THIS THE SAME METHODOLOGY USED BY THE COMPANY IN THE LAST RATE APPLICATION FILING?

A. Yes. The methodology is the same. However, the Company did lengthen the period to calculate a ten-year average usage per customer rather than a five-year average usage per customer. The ten-year period more appropriately reflects the irrigation load that the Company expects customers to use during a normal year. The ten-year period is also consistent with the period used for weather normalization.

Q. DURING THE TEST YEAR, WERE IRRIGATION VOLUMES NORMAL?

A. No. KSG Direct Exhibit No. EJF-5, Line 10 shows that for the Test Year, irrigation volumes were higher than the ten-year average shown on Line 11, even though the number of customers was relatively flat. While several factors can affect irrigation volumes, the higher irrigation usage during the Test Year was likely the result of drier conditions that resulted in the need for increased irrigation. Based on this abnormally high usage level, the Company concluded that an adjustment to irrigation volumes was necessary to reflect more normal or average conditions.

Q. FOR PURPOSES OF THE COMPANY'S PROPOSED IRRIGATION ADJUSTMENT, HOW IS NORMAL DEFINED?

A. The Company defines normal as the ten-year average usage from October 2014 through September 2024. A ten-year average takes into account multiple considerations that

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can affect irrigation usage from year-to-year, including HDDs, localized precipitation, crop rotations, improved efficiency, and various other factors.

Q. HOW DID THE COMPANY CALCULATE THE IRRIGATION ADJUSTMENT FOR THE TEST YEAR ENDED SEPTEMBER 30, 2024?

A. First, the Company calculated the ten-year average usage in therms for the irrigation customers, as shown in KSG Direct Exhibit No. EJF-5 on Line 11. The Company used this ten-year average as the basis for "normal." Next, the difference between the ten-year average usage and the actual Test Year usage was calculated, as shown in KSG Direct Exhibit No. EJF-5 on Line 14. This results in a total volumetric adjustment of (3,099,240) therms for Irrigation sales, and (1,264,726) therms for Irrigation transport customers.

Q. HAS THE COMPANY CALCULATED THE MARGIN IMPACT OF THE PROPOSED IRRIGATION ADJUSTMENT?

A. Yes, Line 31 on page 2 of KSG Direct Exhibit No. EJF-6 shows the Company's proposed reduction to margin revenue to the Test Year Irrigation sales customers of $166,677, and Irrigation transport customers of $68,017, for a total adjustment to Irrigation revenue of $234,694. This adjustment can also be seen on Adjustment IS-8 and Schedule I-8 of KSG Direct Exhibit SKJ-2.

d. <u>Other Adjustments</u>

Q. DID THE COMPANY MAKE ANY OTHER ADJUSTMENTS TO THE BILLING DETERMINANTS OR REVENUES?

A. Yes. The Company made two additional adjustments for Incremental Gas System and

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Reliability Surcharge ("GSRS") and Large Volume Transport Revenue Adjustment.

Q. PLEASE EXPLAIN THE ADJUSTMENT FOR INCREMENTAL GSRS REVENUES.

A. This adjustment proposes an incremental increase in GSRS revenue as approved in Docket No. 24-BHCG-727-TAR. The adjustment results in an increase of $1,390,930, which is included in the total shown on KSG Direct Exhibit EJF-6 Page 2, line 23. This adjustment can also be seen on Adjustment IS-9 and Schedule I-9 of KSG Direct Exhibit SKJ-2.

Q. PLEASE EXPLAIN THE ADJUSTMENT FOR CUSTOMER ADDITIONS.

A. The adjustment for customer additions was made to account for the Large Volume Transport ("LVTS") customers that will begin service during the *Pro Forma* Period. The adjustment of $419,027 for the tariff rate Large Volume Transport customers can be seen on KSG Direct Exhibit EJF-6 Page 2, Line 16, as well as on Adjustment IS-10 and Schedule I-10 of KSG Direct Exhibit SKJ-2. The adjustment of $91,560 for negotiated rate Large Volume Transport customers can be seen on Adjustment IS-10 and Schedule I-10 of KSG Direct Exhibit SKJ-2 and is included in the Negotiated Margin Revenues on line 18 of Table 4 in KSG Direct Exhibit EJF-13.

VI. <u>LOAD FACTOR STUDY</u>

Q. PLEASE DEFINE A LOAD FACTOR.

A. In the context of the CCOSS, the load factor is defined as the customer class's average daily use divided by its peak day use. Load factor is a measure of how effectively a customer class utilizes the capacity needed to serve it. For example, if one customer

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class has a load factor of 25%, meaning that its average daily use is 25% of its peak day use, and another customer class has a load factor of 50%, meaning that its average daily use is 50% of its peak day use, then the second class is utilizing the capacity required to serve that class twice as effectively as the first class.

Q. HOW IS THE LOAD FACTOR USED?

A. The Company uses customer class load factors in its CCOSS to determine the peak day requirements used for the peak day allocation. The load factors used by the Company are shown on KSG Direct Exhibit EJF-8 for the Residential, Small Commercial, Small Volume Firm, and Large Volume Firm customer classes. The load factor for the Small Commercial, Small Volume, and Large Volume customer classes were calculated based on the classes relative winter period usage as a percentage of the adjusted annual volumes. The resulting load factors shown in KSG Direct Exhibit EJF-8, line number 14 are Small Commercial: 20%, Small Volume: 25%, and Large Volume: 67%. The load factors for the Irrigation classes are set to zero because the peak day is assumed to occur on the coldest winter days when it is not possible to run irrigation pumps. Similarly, the load factor for interruptible classes is also set equal to zero recognizing that the nature of this service is that the Company can interrupt these customers during periods of high demand such as those occurring at the time of system peak.

Q. PLEASE EXPLAIN HOW THE LOAD FACTOR FOR THE RESIDENTIAL CUSTOMER CLASS WAS CALCULATED.

A. In KSG Direct Exhibit EJF-8, the load factor of 27.85% for the Residential customer class was developed by using the HDD statistical results, the normal annual HDD, and

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the expected design day peak HDDs for each weather station weighted by the Residential volumes for each weather station to develop a weighted average load factor for the class.

VII. CLASS COST OF SERVICE

Q. WHAT IS THE BASIS OF THE CCOSS?

A. The class cost of service study is based upon Black Hills gas operations for the twelve-month period ended September 30, 2025, as adjusted for known and measurable changes. The class cost of service study I sponsor is contained in KSG Direct Exhibits EJF-13 and EJF-14. The form and structure of these exhibits are the same as the class cost of service studies filed in Docket No. 14-BHCG-502-RTS and Docket No. 21-BHCG-418-RTS.

Q. PLEASE DESCRIBE KSG DIRECT EXHIBIT EJF-13.

A. In KSG Direct Exhibit EJF-13, Test Year costs are classified, as developed in the Revenue Requirement Study, sponsored by Ms. Johnson, into functional categories. KSG Direct Exhibit EJF-13 consists of four tables. Table 1 shows a summary of rate base and total cost of service by functional classification. Table 2 shows the functional classification of rate base. Table 3 shows the functional classification of operation and maintenance expenses. Table 4 shows the functional classification of depreciation expenses, taxes other than income taxes, and other operating revenues. Costs are classified in KSG Direct Exhibit EJF-13 into nine functions:

- gas supply demand;
- gas supply commodity;
- transmission demand;
- transmission commodity;

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- distribution demand;
- distribution customer;
- service lines;
- meters and regulators; and
- customer accounts.

The classification of investment in transmission and distribution mains is based on a detailed study of the Company's investment and the relative capacity of these facilities in KSG Direct Exhibit EJF-10. The results of this study are shown in the table below with fixed costs associated with transmission and distribution mains classified as capacity-related, commodity-related, and customer-related.

Table EJF-3: Functional Allocators

Functional Allocator	Percent Allocated
Transmission – Demand	12.29%
Transmission – Commodity	6.14%
Distribution – Demand	21.21%
Distribution – Customer	60.36%

Costs associated with the remaining three functionalized categories, service lines, meters and regulators, and customer accounting, are each categorized as described in KSG Direct Exhibit EJF-9.

Q. BRIEFLY DESCRIBE KSG DIRECT EXHIBIT EJF-9.

A. KSG Direct Exhibit EJF-9 includes a detailed description of how the functional classification of transmission and distribution mains was determined and how the weighting factors used to assign and allocate service lines, meters and regulators, and customer accounting related costs were determined. Further, KSG Direct Exhibits EJF-10 through EJF-12 are discussed and explained in Exhibit EJF-9.

Q. PLEASE DISCUSS THE CONTENTS OF KSG DIRECT EXHIBIT EJF-14.

A. KSG Direct Exhibit EJF-14 sets forth the results of the allocation of functionally classified costs to customer classes and consists of five tables. Table 1 shows the calculation of class rates of return under current and proposed rates. Table 2 shows the allocation of total functional cost of service to customer classes. Table 3 shows the allocation of rate base to customer classes. Table 4 shows the allocation bases used to allocate total functional cost of service and rate base to customer classes. Table 5 shows the unit ($/therm or $/bill) functionalized cost of service by customer class.

Q. HOW ARE THE CUSTOMER CLASSES ORGANIZED IN KSG DIRECT EXHIBIT EJF-14?

A. For the allocation of costs, the customer classes are Residential Service, Firm and Transportation customers (Small Commercial, Small Volume, and Large Volume), Irrigation Sales and Transportation, and the Large Volume Interruptible classes.

Q. WHICH CUSTOMERS HAVE YOU EXCLUDED FROM THE ALLOCATION OF COSTS IN THE CCOSS?

A. It is most appropriate to treat customers who are served in competitive markets as credits to cost of service. The primary factor in determining the appropriate level of rates for such competitive rate or alternative energy customers is the marketplace. The negotiated margin large volume customers have other energy options and/or other natural gas supply options. Therefore, the price for natural gas service must recognize the pricing of these other competitive options. The marketplace does not care what a cost-of-service study might determine regarding rates. As long as the Company is recovering a margin above its variable costs to serve these customers, the captive customers on the Company's system benefit from the Company maximizing sales and margin from customers served in competitive markets. Therefore, I am not including these customers as a class in the CCOSS; however, the margin revenues of $2,383,053 derived from these customers is credited to the cost of service for the other customer classes, as shown on line 19 of KSG Direct Exhibit EJF-13, Table 4.

Q. IS THIS THE SAME METHODOLOGY USED BY THE COMPANY IN THE LAST RATE APPLICATION FILING?

A. Yes.

Q. PLEASE DISCUSS THE PRINCIPAL ALLOCATION BASIS YOU USE IN THE CCOSS.

A. Table 4 of KSG Direct Exhibit EJF-14 shows the allocation factors used to allocate functionally classified costs to the customer classes. Firm winter peak demand represents estimated class peak day requirements. The peak day requirements for the firm classes are estimated based on the load factor analysis discussed in the prior section of my testimony. Winter period throughput represents Test Year throughput for each class during the months of November through March. The commodity allocation basis represents annual Test Year throughput for each class.

The distribution-customer, service lines, meters and regulators, and customer accounting allocation bases were developed by weighting average number of customers. The number of customers were weighted by factors that represent the relative cost or investment associated with providing service to each class. The

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customer weighting factors in the meters and regulators customer weighting factor study in KSG Direct Exhibit EJF-12 and the service line (and distribution-customer) weighting factor study in KSG Direct Exhibit EJF-11.

Distribution customer and services cost are allocated to each customer class by the services allocator shown in Table 4, lines 27 and 32, respectively based on the service line (and distribution-customer) weighting factor study. The services (and distribution-customer) weighting factor for each customer class is shown in the following table:

Table EJF-4: Services and Distribution-Customer Weighting Factors

Customer Class	Weighting Factor
Residential	1
Small Commercial	1.25
Small Volume	2
Large Volume	4
Irrigation	3

The meters and regulators cost shown is allocated to each customer class by the meters and regulator allocator in Table 4, line 37. The meters and regulators allocator for each customer class is shown in the following table:

Table EJF-5: Meters and Regulators Weighting Factors

Customer Class	Weighting Factor
Residential	1
Small Commercial	2
Small Volume	12
Large Volume	22
Irrigation	9

Customer accounting functionalized cost is allocated by the customer accounting allocator shown in Table 4, line 42. The customer accounting allocator for each customer class is shown in the following table:

Table EJF-6: Customer Accounting Weighting Factors

Customer Class	Weighting Factor
Residential	1
Small Commercial	2
Small Volume	4
Large Volume	20
Irrigation	2

Q. HOW ARE OTHER OPERATING REVENUES FUNCTIONALIZED?

A. Other operating revenues are functionalized by FERC Account, with Forfeited Discounts functionalized as direct, Miscellaneous Service Revenue functionalized by Supervised Operations & Maintenance (O&M) and Negotiated Margin revenue functionalized by the Mains Allocation. Other Operating Revenues are credited back to the other customers as shown in KSG Direct Exhibit EJF-13, Table 1, line 10.

Q. WHAT IS THE NET REVENUE DEFICIENCY/EXCESS FOR EACH CUSTOMER CLASS?

A. The revenue deficiency by customer class is shown in Table 1, line 11 of KSG Direct Exhibit EJF-14 and represents the difference between each class's fully allocated cost of service and revenues under existing base rates. The customer classes have the following revenue deficiencies (or excess) under current rates:

Table EJF-7: Revenue Deficiencies by Customer Class

Customer Class	Revenue Deficiency
Residential	$16,288,786
Small Commercial	$1,982,265
Small Volume	$430,184
Large Volume	($2,087,524)
Irrigation	$594,040
Total	**$17,207,751**

Q. WHAT ARE THE PRINCIPAL FINDINGS OF YOUR STUDY?

A. The principal finding is that the overall rate of return on Black Hills Kansas gas utility operations under current rates equals 3.19 percent based on Kansas jurisdictional rate base of $305,947,330.

For purposes of rate design (as discussed in the next section of my testimony), some of these classes are aggregated. The rate of return under current rates for the Residential and Small Commercial classes is 1.87 percent, 6.05 percent for the Small Volume Firm, 15.97 percent for the Large Volume Firm (Transportation full margin) and Interruptible classes, and for the Irrigation classes is 4.32 percent.

As indicated in the Direct Testimony of Mr. Robert Daniel, current rate revenues associated with service to Black Hills Kansas customers are insufficient to cover costs, including an opportunity for the Company to earn a reasonable return on its investment. For the Company to earn the requested rate of return, current rates should be designed to recover the revenues as set forth in the Company's Application in this proceeding.

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VIII. RATE DESIGN

Q. WHAT GUIDELINES DID YOU FOLLOW IN THE DESIGN OF PROPOSED RATES?

A. The guidelines are as follows:

1. Set rates to recover the overall revenues requested by the Company as set forth in the Application.
2. The revenues for each class should align with the class cost of service study to the extent practical.
3. The proposed customer charges should reflect customer related costs to the extent practical.
4. The delivery charge for the Residential and Small Commercial rates should be equal maintaining the existing differential.
5. The customer and delivery (non-gas portion) should be the same for the Firm and Transportation rates within the Small Volume and Irrigation customer classes, and Firm, Interruptible, and Transportation within the Large Volume customer class.
6. The Irrigation monthly customer charge should be the same as the Small Commercial because the Irrigation customers have a significant number of months of little or no use.

Q. HAVE YOU APPLIED ANY OTHER CRITERIA IN ADDITION TO THE GUIDELINES DESCRIBED ABOVE?

A. Yes. No customer class should receive a decrease when other classes receive an increase in base rate revenues under the proposed rates. Based on the results of the CCOSS, the Large Volume classes show a rate of return in excess of that requested by the Company and base rates for the Large Volume classes would need to be reduced to achieve the requested rate of return. Therefore, I am recommending no change to the base rates for the Large Volume classes and to use the revenue decrease that would otherwise result from reducing their rates be used instead to moderate the Residential customer class increase.

Q. WHAT IS THE NET REVENUE IMPACT FOR EACH CUSTOMER CLASS UNDER PROPOSED RATES?

A. The impact of the proposed rates by customer class is shown in Table 1, line 14, of KSG Direct Exhibit EJF-14.

The impact to each customer class under proposed rates is an annual increase as follows:

Table EJF-8: Net Revenue Impact by Customer Class

Customer Class	Revenues
Residential	$13,996,106
Small Commercial	$2,187,067
Small Volume	$430,140
Large Volume	$0
Irrigation	$593,959
Total	**$17,207,272**

Q. PLEASE SUMMARIZE THE SPECIFIC RATES YOU ARE RECOMMENDING.

A. I am recommending the monthly customer charge and delivery charge rates shown below in Table EJF-9.

Table EJF-9: Proposed Rates

Customer Class	Customer Charge $/month	Delivery Charge $/therm
Residential	$31.50	$0.20947
Small Commercial	$49.50	$0.20947
Small Volume	$148.00	$0.11264
Large Volume	$358.00	$0.08445
Irrigation	$49.50	$0.07847

Q. PLEASE DESCRIBE HOW THE MONTHLY CUSTOMER CHARGE FOR EACH CUSTOMER CLASS WAS DETERMINED.

A. As described above, the proposed customer charges should reflect customer related costs. The proposed customer charges are designed to recover customer related costs including services, meters & regulators, customer accounting, and 50% of customer-related distribution costs.

Q. ARE THESE THE SAME COSTS THE COMPANY PROPOSED TO RECOVER USING THE MONTHLY CUSTOMER CHARGE IN THE LAST RATE APPLICATION FILING?

A. No. In the Company's last rate application filing, the Company proposed to recover only those customer related costs in services, meters & regulators, and customer accounting costs. In the Company's current Application, Black Hills is also proposing

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to recover fifty percent (50%) of the customer-related distribution costs through the monthly customer charge. This proposal is an incremental movement towards recovering more fixed costs through the fixed monthly customer charge, while still enabling customers to control a large portion of their monthly bill by reducing their use of natural gas (delivery plus cost of gas).

Q. HOW DID YOU DETERMINE THE PROPOSED DELIVERY RATES?

A. The delivery rates are set following the guidelines described above and are adjusted to recover the portion of the revenue requirement not recovered in the monthly customer charge.

Q. PLEASE DESCRIBE THE IMPACT OF THE PROPOSED RATES ON RATE OF RETURN.

A. The recommended rate design produces an overall rate of return of 7.63%. The rate of return for each class is the following:

Table EJF-10: Net Revenue Impact by Customer Class

Customer Class	Rate of Return
Residential/Small Commercial	6.97%
Small Volume	7.63%
Large Volume	15.97%
Irrigation	7.63%

The rate of return for the Residential and Small Commercial customer classes is based upon the monthly customer charges being set to recover customer-related cost, and then setting the delivery charge at an equal rate based upon the principles described above.

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IX. DEVELOPMENT OF REVENUE UNDER PROPOSED RATES

Q. PLEASE DESCRIBE HOW YOU DEVELOPED THE REVENUES UNDER PROPOSED RATES.

A. The revenues under proposed rates were developed using the Test Year billing determinants shown in KSG Direct Exhibit EJF-6 and the proposed rates for each customer class as shown in KSG Direct Exhibit EJF-14.

The revenues under proposed base rates are shown in Section 5, and the difference between current and proposed base rates in Section 6, of KSG Direct Exhibit EJF-15. The revenues are based upon the billing determinants shown in Section 1 of KSG Direct Exhibit EJF-15 and the proposed rates shown in Section 4. The total of the differences by customer class equals the total revenue deficiency for the Company.

X. CUSTOMER BILL IMPACTS

Q. HAVE YOU PREPARED CUSTOMER BILL IMPACTS BASED UPON THE AVERAGE CUSTOMER BILL FOR EACH CUSTOMER CLASS?

A. Yes. The average customer bill impacts for each customer class are shown in Section 6 of KSG Direct Exhibit EJF-16.

Q. PLEASE DESCRIBE HOW YOU DETERMINED THE AVERAGE MONTHLY BILL UNDER CURRENT RATES.

A. The total average customer bill by customer class was developed by multiplying the Test Year billing determinants shown in KSG Direct Exhibit EJF-6 by the current rates from the tariff including the current level of rate riders. The current rates include the

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monthly customer charge, GSRS, delivery charge, and current Purchased Gas Adjustment ("PGA"). The WNA Rider rates and Ad Valorem Tax Surcharge ("AVTS") Rider rates are removed from this calculation for simplification as these rate riders are adjusted annually and can result in either a surcharge or a sur-credit from year to year. The fixed monthly customer charge and monthly GSRS are added together for the fixed monthly portion of the average bill, and the other rates are multiplied by the average therms per bill shown on Section 1, line 4 for the volumetric portion of the average bill. For example, the average Residential bill using current rates is shown below in Table EJF-11:

Table EJF-11: Average Monthly Residential Bill Using Current Rates

Billing Component	Usage	Rate	Billed Amount
Monthly Customer Charge		$18.50	$18.50
Monthly GSRS Charge		$2.27	$2.27
Delivery Charge (therms)	50	$0.20251	$10.03
PGA Charge (therms)	50	$0.64694	$32.05
Total			**$62.86**

Q. PLEASE DESCRIBE HOW YOU DETERMINED THE AVERAGE MONTHLY BILL UNDER PROPOSED RATES.

A. The total average customer bill by customer class was developed by multiplying the Test Year billing determinants shown in KSG Direct Exhibit EJF-6 by the proposed base rates. The proposed rates shown in Section 4 of KSG Direct Exhibit EJF-16 includes the monthly customer charge, delivery charge, and current PGA. The bill impact under proposed rates does not include the current GSRS as the investment recovered under the current rider is included in the proposed base rates. Similar to the

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calculation of the average monthly bill under current rates, the WNA Rider and AVTS Rider rates are also removed from this calculation. The average monthly bill under proposed rates includes the fixed monthly customer charge, with the other rates being multiplied by the average therms per bill shown in Section 1, line 4 for the volumetric portion of the average bill. For example, the average Residential bill using current rates is shown below in Table EJF-12:

Table EJF-12: Average Monthly Residential Bill Using Proposed Rates

Billing Component	Usage	Rate	Billed Amount
Monthly Customer Charge		$31.50	$31.50
Monthly GSRS Charge		$0.00	$0.00
Delivery Charge (therms)	50	$0.20947	$10.38
PGA Charge (therms)	50	$0.64694	$32.05
Total			**$73.93**

Q. PLEASE DESCRIBE HOW THE FIXED MONTHLY PORTION OF THE RESIDENTIAL CUSTOMER BILL WOULD CHANGE UNDER PROPOSED RATES.

A. As shown on KSG Direct Exhibit EJF-16, the fixed portion of Residential customer bills would increase from $20.77 to $31.50 under current and proposed rates, respectively, for an effective increase of $10.73 per month.

Q. WHAT ARE THE AVERAGE CUSTOMER BILL IMPACTS TO CUSTOMERS UNDER THE PROPOSED RATES?

A. The change in average monthly bill by customer class is shown on line 24, Section 6 of KSG Direct Exhibit EJF-16, with the percentage change shown on line 25. The reduction in bill impact for the Large Volume Firm and Large Volume Interruptible

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and increase to the Large Volume Transportation average customer bill is due in part to the different average use of each customer class and the GSRS being set to zero. The overall impact to all Large Volume customers is zero. The change in the average monthly bill by customer class are shown below:

Table EJF-13: Change in Average Monthly Bill

Customer Class	Change in Average Monthly Bill
Residential	$11.07
Small Commercial Sales	$18.54
Small Commercial Transport	$19.51
Small Volume Firm	$25.27
Small Volume Transportation	$9.88
Large Volume Firm	($121.22)
Large Volume Interruptible	($93.06)
Large Volume Transportation	$64.65
Irrigation Sales	$30.79
Irrigation Transportation	$27.20

XI. CONCLUSION AND RECOMMENDATIONS

Q. WHAT ARE YOUR RECOMMENDATIONS?

A. For the reasons set forth in this testimony, my recommendation is for the Commission to approve the CCOSS, weather normalization, rate design, and other proposals in the Application of Black Hills.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

AFFIDAVIT OF ETHAN J. FRITEL

State of SD)
) ss
County of Pennington)

I, ETHAN J. FRITEL, being first duly sworn on oath, depose and state that I am the same Ethan J. Fritel identified in the foregoing Direct Testimony; that I have caused the foregoing Direct Testimony to be prepared and am familiar with the contents thereof; and that the foregoing Direct Testimony is true and correct to the best of my knowledge, information, and belief as of the date of this Affidavit.

Ethan J. Fritel

Ethan J. Fritel

Subscribed and sworn to before me,
A Notary Public, in and for said County
and State, this 23rd day of January, 2025.

Notary Public

My Commission expires: 8/31/2028

ANDREA B. DORAN
NOTARY
SEAL
PUBLIC
STATE OF SOUTH DAKOTA

EDUCATION, EMPLOYMENT HISTORY AND PROFESSIONAL EXPERIENCE

In 2011, I graduated from Minot State University with a bachelor's degree in Energy Economics and Finance. After graduation, I worked for Enbridge Pipelines North Dakota (EPND) in the Shipper Services group working with customers on the logistics of the delivery of crude oil. While in this role, I streamlined many processes that allowed EPND to increase its crude oil deliveries. In 2016, I completed a Master of Business Administration in Energy Leadership from Texas A&M-Texarkana.

In May 2017, I accepted a position as an Associate with Booz Allen Hamilton. In this role, I worked with the Air National Guard (ANG) as a Headquarters Resource Efficiency Manager performing energy audits, creating energy projects, and tracking energy use of ANG installations across the United States. These projects focused on helping the installations reduce energy use and become more resilient.

In September 2020, I began my employment at Black Hills Corporation as Regulatory & Finance Analyst II. In this role, I have (a) prepared and presented complex analyses and modeling, (b) assisted in the preparation of many studies, and (c) performed analyses in support of Black Hills Corporation's regulated electric and gas subsidiaries, including issues on class cost of service studies, rate design, billing determinants and other rate application issues before the Arkansas Public Service Commission, Colorado Public Utilities Commission, Iowa Utilities Commission, Kansas Corporation Commission, and the Wyoming Public Service Commission.

In May 2023, I received a Graduate Certificate in Public Utility Regulation and Economics from New Mexico State University.

Black Hills/Kansas Gas Utility Company, LLC
Normal - Based Upon Rolling 10 Years
October 2014 - September 2024

	A	B	C	D	E	F
Line No.	Month	Concordia	Dodge City	Goodland	Topeka	Wichita
1	October	289	270	408	265	207
2	November	621	607	710	608	553
3	December	939	905	1015	874	826
4	January	1074	982	1080	1037	948
5	February	893	820	929	851	781
6	March	604	573	712	551	490
7	April	330	324	456	289	253
8	May	110	114	208	86	72
9	June	1	3	14	0	1
10	July	0	0	0	0	0
11	August	0	1	4	0	0
12	September	25	25	55	18	10
13	**Total**	**4,886**	**4,623**	**5,590**	**4,579**	**4,139**

Weather Station	Annual HDD
Concordia	4,886
Dodge City	4,623
Goodland	5,590
Topeka	4,579
Wichita	4,139

Black Hills/Kansas Gas Utility Company, LLC
Test Year HDDs
For the Test Year Ended September 30, 2024

	A	B	C	D	E	F	G
Line No.	Month	Year	Concordia	Dodge City	Goodland	Topeka	Wichita
1	September	2023	1	13	29	1	0
2	October	2023	272	282	429	244	223
3	November	2023	531	539	662	586	551
4	December	2023	799	792	904	746	747
5	January	2024	1230	1134	1250	1188	1118
6	February	2024	604	606	734	575	565
7	March	2024	557	519	706	468	454
8	April	2024	243	245	376	204	175
9	May	2024	45	46	183	25	16
10	June	2024	0	0	3	0	0
11	July	2024	0	0	0	0	0
12	August	2024	1	9	10	0	0
13	September	2024	8	17	16	4	4
14	**Total CHDD**		**4,290**	**4,189**	**5,273**	**4,040**	**3,853**
15	**Total PHDD**		**4,283**	**4,185**	**5,286**	**4,037**	**3,849**

Black Hills/Kansas Gas Utility Company, LLC
Statistical Results
10 Years (October 2014-September 2024)

Line No	A		B	C	D	E	F	G	H	I	J	K	L	M
	Description			10 Years 2014-2024	9 Years 2015-2024	8 Years 2016-2024	7 Years 2017-2024	6 Years 2018-2024	5 Years 2019-2024	4 Years 2020-2024	3 Years 2021-2024	2 Years 2022-2024	1 Year 2023-2024	Comments
1														
2	Residential													
3	Weather Station - Concordia													
4	Constant (Base Use)			7.57516	7.65842	7.96293	8.16272	7.88470	8.08028	8.08598	7.99624	7.71492	7.36309	10 Years has a high F-Value and a high Adjusted R-Square
5	CHDD			(0.00310)	(0.00299)	(0.00279)	(0.00282)	(0.00245)	(0.00236)	(0.00236)	(0.00247)	(0.00296)	(0.00441)	prefer to use a longer period of time when statistics are
6	PHDD			0.02612	0.02606	0.02589	0.02599	0.02564	0.02539	0.02525	0.02531	0.02559	0.02686	similar.
7	Adj R Square			0.97	0.97	0.97	0.97	0.97	0.96	0.96	0.96	0.95	0.97	
8	F			1,864	1,603	1,488	1,208	1,100	791	620	402	242	171	
9	10-Year Average	HDDs	4,886											
10	Predicted Normal Annual Use/Customer - therms			203	205	208	211	208	209	209	208	203	198	L4 x 12 + (L5 x L6)) * Column B, L9
11	Predicted Peak Day Use/Customer - therms			2.00	2.01	2.02	2.03	2.02	2.02	2.01	2.00	1.97	1.95	(L4 x 12") / 365 + (L5 * Note(1) x L6 * Note(1))
12	Load Factor			27.88%	27.96%	28.30%	28.51%	28.18%	28.47%	28.54%	28.45%	28.20%	27.85%	L10 / 365 / L11
13	Time Period Used			xxxxx										
14	Weather Station - Dodge City													
15	Constant (Base Use)			9.64830	9.69379	9.69207	9.68054	9.64021	9.54820	9.24349	9.07997	9.07420	8.82439	10 Years has a high F-Value and a high Adjusted R-Square
16	CHDD			0.00759	0.00781	0.00785	0.00795	0.00805	0.00808	0.00817	0.00789	0.00783	0.00898	prefer to use a longer period of time when statistics are
17	PHDD			0.01549	0.01531	0.01524	0.01514	0.01513	0.01504	0.01492	0.01496	0.01513	0.01436	similar.
18	Adj R Square			0.97	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.97	0.97	
19	F			2,296.23	2,277.37	2,089.50	1,825.72	1,718.60	1,492.91	1,088.23	734.54	412.79	198.02	
20	10-Year Average	HDDs	4,623											
21	Predicted Normal Annual Use/Customer - therms			222	223	223	223	223	221	218	215	215	214	L15 x 12 + (L16 x L17)) * Column B, L20
22	Predicted Peak Day Use/Customer - therms			2.07	2.08	2.07	2.07	2.08	2.07	2.06	2.04	2.04	2.06	(L15 x 12") / 365 + (L16 * Note(1) x L17 * Note(1))
23	Load Factor			29.43%	29.46%	29.47%	29.46%	29.37%	29.30%	28.97%	28.89%	28.84%	28.38%	L21 / 365 / L22
24	Time Period Used			xxxxx										
25	Weather Station - Goodland													
26	Constant (Base Use)			12.01153	12.03592	11.88941	12.01648	11.85981	11.47744	11.22677	10.76488	10.48213	11.20439	10 Years has a high F-Value and a high Adjusted R-Square
27	CHDD			0.00434	0.00441	0.00434	0.00428	0.00441	0.00465	0.00476	0.00452	0.00480	0.00776	prefer to use a longer period of time when statistics are
28	PHDD			0.02290	0.02296	0.02295	0.02282	0.02282	0.02270	0.02258	0.02289	0.02300	0.01856	similar.
29	Adj R Square			0.98	0.98	0.99	0.98	0.98	0.98	0.98	0.98	0.97	0.98	
30	F			3,491	3,340	3,144	2,656	2,124	1,849	1,277	766	403	249	
31	10-Year Average	HDDs	5,590											
32	Predicted Normal Annual Use/Customer - therms			296	297	295	296	295	291	288	282	281	282	L26 x 12 + (L27 x L28)) * Column B, L31
33	Predicted Peak Day Use/Customer - therms			2.27	2.28	2.27	2.27	2.27	2.26	2.26	2.24	2.26	2.18	(L26 x 12") / 365 + (L27 * Note(1) x L28 * Note(1))
34	Load Factor			35.70%	35.67%	35.57%	35.76%	35.57%	35.16%	34.93%	34.46%	34.04%	35.32%	L32 / 365 / L33
35	Time Period Used			xxxxx										
36	Weather Station - Topeka													
37	Constant (Base Use)			5.79000	5.94498	6.06082	6.26430	6.38676	6.95574	6.97977	7.69905	8.41094	5.53636	10 Years has a high F-Value and a high Adjusted R-Square
38	CHDD			0.00477	0.00505	0.00536	0.00544	0.00564	0.00554	0.00565	0.00567	0.00610	0.00537	prefer to use a longer period of time when statistics are
39	PHDD			0.01809	0.01760	0.01729	0.01721	0.01672	0.01631	0.01593	0.01532	0.01532	0.01661	similar.
40	Adj R Square			0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.95	0.94	0.97	
41	F			1,368	1,254	1,108	919	829	690	502	322	174	181	
42	10-Year Average	HDDs	4,579											
43	Predicted Normal Annual Use/Customer - therms			174	175	176	179	179	184	183	189	199	167	L37 x 12 + (L38 x L39)) * Column B, L42
44	Predicted Peak Day Use/Customer - therms			1.79	1.78	1.78	1.79	1.77	1.76	1.74	1.72	1.78	1.72	(L37 x 12") / 365 + (L38 * Note(1) x L39 * Note(1))
45	Load Factor			26.65%	26.93%	27.08%	27.36%	27.63%	28.59%	28.74%	29.98%	30.70%	26.60%	L43 / 365 / L44
46	Time Period Used			xxxxx										
47	Weather Station - Wichita													
48	Constant (Base Use)			6.89448	6.91069	6.99428	6.94356	6.92905	7.19672	6.78329	6.98756	7.09544	6.21168	10 Years has a high F-Value and a high Adjusted R-Square
49	CHDD			0.00646	0.00670	0.00700	0.00713	0.00740	0.00734	0.00743	0.00673	0.00651	0.00724	prefer to use a longer period of time when statistics are
50	PHDD			0.01730	0.01696	0.01672	0.01670	0.01630	0.01604	0.01592	0.01625	0.01645	0.01653	similar.
51	Adj R Square			0.96	0.96	0.97	0.96	0.97	0.97	0.97	0.97	0.96	0.96	
52	F			1,582	1,438	1,318	1,127	1,058	904	766	549	316	150	
53	10-Year Average	HDDs	4,139											
54	Predicted Normal Annual Use/Customer - therms			181	181	182	182	181	183	178	179	180	173	L48 x 12 + (L49 x L50)) * Column B, L53
55	Predicted Peak Day Use/Customer - therms			1.97	1.97	1.97	1.98	1.97	1.95	1.94	1.92	1.92	1.95	(L48 x 12") / 365 + (L49 * Note(1) x L50 * Note(1))
56	Load Factor			25.14%	25.20%	25.28%	25.18%	25.21%	25.66%	25.15%	25.55%	25.70%	24.28%	L54 / 365 / L55
57	Time Period Used			xxxxx										

Line No	A Description		B	C 10 Years 2014-2024	D 9 Years 2015-2024	E 8 Years 2016-2024	F 7 Years 2017-2024	G 6 Years 2018-2024	H 5 Years 2019-2024	I 4 Years 2020-2024	J 3 Years 2021-2024	K 2 Years 2022-2024	L 1 Year 2023-2024	M Comments
58	Small Commercial													
59	Weather Station - Concordia													
60	Constant (Base Use)			4.74839	4.76398	4.48745	4.03662	3.47285	4.31449	4.68976	4.54212	4.88740	3.99861	10 Years has a high F-Value and a high Adjusted R-Square
61	CHDD			(0.00652)	(0.00595)	(0.00549)	(0.00513)	(0.00454)	(0.00479)	(0.00506)	(0.00517)	(0.00610)	(0.00901)	prefer to use a longer period of time when statistics are
62	PHDD			0.04139	0.04068	0.04012	0.03973	0.03823	0.03738	0.03737	0.03759	0.03840	0.04108	similar.
63	Adj R Square			0.93	0.93	0.94	0.93	0.94	0.94	0.94	0.94	0.93	0.96	
64	F			837	736	718	577	603	485	395	259	155	125	
65	10-Year Average	HDDs	4,886											
66	Predicted Normal Annual Use/Customer - therms			227	227	223	218	206	211	214	213	216	205	L60 x 12 + (L61 x L62)) * Column B, L65
67	Predicted Peak Day Use/Customer - therms			2.81	2.80	2.78	2.76	2.67	2.62	2.61	2.61	2.62	2.57	(L60 x 12") / 365 + (L61 * Note(1) x L62 * Note(1))
68	Load Factor			22.20%	22.23%	21.99%	21.57%	21.13%	22.08%	22.48%	22.32%	22.68%	21.83%	L66 / 365 / L67
69	Time Period Used			xxxxx										
70	Weather Station - Dodge City													
71	Constant (Base Use)			0.75631	1.02761	1.33571	1.43449	1.38876	1.56055	1.91142	1.91698	2.70232	2.48052	10 Years has a high F-Value and a high Adjusted R-Square
72	CHDD			0.01338	0.01387	0.01414	0.01461	0.01490	0.01446	0.01413	0.01373	0.01468	0.01795	prefer to use a longer period of time when statistics are
73	PHDD			0.04024	0.04033	0.04040	0.04002	0.03991	0.04033	0.04149	0.04271	0.04288	0.04046	similar.
74	Adj R Square			0.95	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	
75	F			1,252	1,242	1,159	991	905	774	630	431	280	138	
76	10-Year Average	HDDs	4,623											
77	Predicted Normal Annual Use/Customer - therms			257	263	268	270	270	272	280	284	299	300	L71 x 12 + (L72 x L73)) * Column B, L76
78	Predicted Peak Day Use/Customer - therms			4.10	4.15	4.19	4.20	4.21	4.22	4.29	4.35	4.46	4.52	(L71 x 12") / 365 + (L72 * Note(1) x L73 * Note(1))
79	Load Factor			17.17%	17.34%	17.54%	17.60%	17.57%	17.68%	17.89%	17.87%	18.33%	18.17%	L77 / 365 / L78
80	Time Period Used			xxxxx										
81	Weather Station - Goodland													
82	Constant (Base Use)			16.51739	17.61658	18.96173	21.19665	22.79326	24.76645	28.40168	30.66274	35.38971	39.69813	10 Years has a high F-Value and a high Adjusted R-Square
83	CHDD			0.00360	0.00370	0.00347	0.00317	0.00369	0.00392	0.00313	0.00290	0.00316	0.00855	prefer to use a longer period of time when statistics are
84	PHDD			0.05426	0.05463	0.05474	0.05428	0.05370	0.05319	0.05399	0.05541	0.05496	0.04614	similar.
85	Adj R Square			0.97	0.97	0.97	0.97	0.96	0.96	0.96	0.97	0.96	0.97	
86	F			1,654	1,625	1,418	1,190	939	792	647	493	267	174	
87	10-Year Average	HDDs	5,590											
88	Predicted Normal Annual Use/Customer - therms			522	537	553	576	594	616	660	694	750	782	L82 x 12 + (L83 x L84)) * Column B, L87
89	Predicted Peak Day Use/Customer - therms			4.54	4.60	4.64	4.66	4.71	4.76	4.87	5.03	5.17	5.08	(L82 x 12") / 365 + (L83 * Note(1) x L84 * Note(1))
90	Load Factor			31.51%	31.98%	32.65%	33.83%	34.57%	35.52%	37.10%	37.78%	39.69%	42.19%	L88 / 365 / L89
91	Time Period Used			xxxxx										
92	Weather Station - Topeka													
93	Constant (Base Use)			5.42522	5.78745	6.33464	6.53425	6.73320	7.29738	8.76853	11.50482	13.75296	8.14581	10 Years has a high F-Value and a high Adjusted R-Square
94	CHDD			0.00661	0.00689	0.00768	0.00812	0.00904	0.00890	0.00870	0.00904	0.01042	0.00800	prefer to use a longer period of time when statistics are
95	PHDD			0.03894	0.03869	0.03844	0.03848	0.03750	0.03774	0.03824	0.03773	0.03818	0.04219	similar.
96	Adj R Square			0.94	0.93	0.94	0.94	0.94	0.93	0.93	0.92	0.92	0.95	
97	F			869	746	714	621	550	418	321	216	137	99	
98	10-Year Average	HDDs	4,579											
99	Predicted Normal Annual Use/Customer - therms			274	278	287	292	294	301	320	352	388	328	L93 x 12 + (L94 x L95)) * Column B, L98
100	Predicted Peak Day Use/Customer - therms			3.37	3.38	3.44	3.48	3.48	3.50	3.57	3.65	3.85	3.78	(L93 x 12") / 365 + (L94 * Note(1) x L95 * Note(1))
101	Load Factor			22.27%	22.54%	22.89%	22.99%	23.14%	23.54%	24.54%	26.42%	27.55%	23.73%	L99 / 365 / L100
102	Time Period Used			xxxxx										
103	Weather Station - Wichita													
104	Constant (Base Use)			(3.45524)	(3.32516)	(2.42949)	(2.13604)	(1.69984)	(0.55086)	0.34336	1.24562	1.01307	(0.73254)	10 Years has a high F-Value and a high Adjusted R-Square
105	CHDD			0.01534	0.01560	0.01627	0.01695	0.01764	0.01659	0.01637	0.01629	0.01604	0.01781	prefer to use a longer period of time when statistics are
106	PHDD			0.03631	0.03619	0.03624	0.03586	0.03463	0.03525	0.03633	0.03726	0.03816	0.03887	similar.
107	Adj R Square			0.93	0.93	0.94	0.94	0.94	0.94	0.95	0.95	0.94	0.94	
108	F			819	718	732	632	602	495	420	316	194	86	
109	10-Year Average	HDDs	4,139											
110	Predicted Normal Annual Use/Customer - therms			172	174	188	193	196	208	222	237	236	226	L104 x 12 + (L105 x L106)) * Column B, L109
111	Predicted Peak Day Use/Customer - therms			3.68	3.70	3.78	3.81	3.79	3.79	3.88	3.98	4.02	4.14	(L104 x 12") / 365 + (L105 * Note(1) x L106 * Note(1))
112	Load Factor			12.82%	12.93%	13.64%	13.87%	14.18%	15.02%	15.67%	16.30%	16.13%	14.94%	L110 / 365 / L111
113	Time Period Used			xxxxx										

Black Hills/Kansas Gas Utility Company, LLC
Statistical Results
10 Years (October 2014-September 2024)

Line No	A		B	C	D	E	F	G	H	I	J	K	L	M
	Description			10 Years 2014-2024	9 Years 2015-2024	8 Years 2016-2024	7 Years 2017-2024	6 Years 2018-2024	5 Years 2019-2024	4 Years 2020-2024	3 Years 2021-2024	2 Years 2022-2024	1 Year 2023-2024	Comments
114	Small Volume Firm													
115	Weather Station - Concordia													
116	Constant (Base Use)			(11.27857)	(7.32939)	(7.40624)	(7.58391)	(9.52296)	5.47188	0.00000	0.00000	0.00000	0.00000	10 Years has a high F-Value and a high Adjusted R-Square
117	CHDD			(0.01170)	(0.00779)	(0.01091)	(0.01354)	(0.01574)	(0.00326)	0.00000	0.00000	0.00000	0.00000	prefer to use a longer period of time when statistics are
118	PHDD			0.05608	0.03715	0.04214	0.04826	0.05665	0.02202	0.00000	0.00000	0.00000	0.00000	similar.
119	Adj R Square			0.16	0.10	0.10	0.12	0.14	0.06	0.00	0.00	0.00	0.00	
120	F			12	7	7	7	7	3	0	0	0	0	
121	10-Year Average	HDDs	4,886											
122	Predicted Normal Annual Use/Customer - therms			82	56	64	79	86	157	-	-	-	-	L116 x 12 + (L117 x L118)) * Column B, L121
123	Predicted Peak Day Use/Customer - therms			3.00	1.99	2.13	2.39	2.80	1.61	-	-	-	-	(L116 x 12") / 365 + (L117 * Note(1) x L118 * Note(1))
124	Load Factor			7.44%	7.64%	8.19%	9.01%	8.39%	26.84%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	L122 / 365 / L123
125	Time Period Used			xxxxx										
126	Weather Station - Dodge City													
127	Constant (Base Use)			268.94087	269.81383	265.19128	255.71597	243.28492	243.19212	251.40624	246.37727	243.66265	233.38888	10 Years has a high F-Value and a high Adjusted R-Square
128	CHDD			0.07736	0.07917	0.08403	0.09183	0.09128	0.08405	0.07595	0.08247	0.08349	0.10467	prefer to use a longer period of time when statistics are
129	PHDD			0.20950	0.21078	0.20758	0.20110	0.20139	0.20739	0.21815	0.21983	0.22691	0.21219	similar.
130	Adj R Square			0.97	0.97	0.97	0.97	0.97	0.97	0.98	0.98	0.98	0.98	
131	F			1,673	1,625	1,504	1,372	1,339	1,122	1,045	827	565	283	
132	10-Year Average	HDDs	4,623											
133	Predicted Normal Annual Use/Customer - therms			4,554	4,578	4,531	4,423	4,273	4,266	4,377	4,354	4,359	4,266	L127 x 12 + (L128 x L129)) * Column B, L132
134	Predicted Peak Day Use/Customer - therms			30.64	30.91	30.88	30.67	30.24	30.14	30.62	31.07	31.60	31.75	(L127 x 12") / 365 + (L128 * Note(1) x L129 * Note(1))
135	Load Factor			40.71%	40.58%	40.19%	39.51%	38.71%	38.77%	39.16%	38.39%	37.79%	36.80%	L133 / 365 / L134
136	Time Period Used			xxxxx										
137	Weather Station - Goodland													
138	Constant (Base Use)			211.20365	206.33460	199.19842	194.23224	192.78900	182.79384	191.73296	178.19718	157.60818	147.78145	10 Years has a high F-Value and a high Adjusted R-Square
139	CHDD			0.07239	0.05836	0.05856	0.06461	0.07279	0.06901	0.06227	0.07544	0.06874	0.05721	prefer to use a longer period of time when statistics are
140	PHDD			0.14883	0.16205	0.16271	0.15817	0.15261	0.15798	0.16086	0.15305	0.16425	0.15995	similar.
141	Adj R Square			0.91	0.92	0.92	0.92	0.91	0.91	0.90	0.93	0.96	0.99	
142	F			593	636	557	460	357	312	218	217	308	677	
143	10-Year Average	HDDs	5,590											
144	Predicted Normal Annual Use/Customer - therms			3,771	3,708	3,627	3,576	3,573	3,462	3,548	3,416	3,194	2,987	L138 x 12 + (L139 x L140)) * Column B, L143
145	Predicted Peak Day Use/Customer - therms			22.21	21.99	21.82	21.76	21.89	21.67	21.70	21.62	21.26	19.84	(L138 x 12") / 365 + (L139 * Note(1) x L140 * Note(1))
146	Load Factor			46.52%	46.19%	45.55%	45.03%	44.72%	43.77%	44.80%	43.27%	41.16%	41.25%	L144 / 365 / L145
147	Time Period Used			xxxxx										
148	Weather Station - Topeka													
149	Constant (Base Use)			339.16310	347.93529	354.42766	351.36766	344.84577	351.95386	382.09689	398.47596	442.95468	327.64508	10 Years has a high F-Value and a high Adjusted R-Square
150	CHDD			0.04794	0.05003	0.05657	0.06351	0.06948	0.06133	0.05915	0.08129	0.09671	0.04820	prefer to use a longer period of time when statistics are
151	PHDD			0.23137	0.22811	0.22226	0.21761	0.20838	0.21395	0.21443	0.19818	0.18153	0.25503	similar.
152	Adj R Square			0.88	0.87	0.86	0.85	0.84	0.81	0.79	0.75	0.68	0.98	
153	F			432	355	299	240	185	126	88	54	25	325	
154	10-Year Average	HDDs	4,579											
155	Predicted Normal Annual Use/Customer - therms			5,349	5,449	5,530	5,504	5,410	5,484	5,838	6,061	6,589	5,320	L149 x 12 + (L150 x L151)) * Column B, L154
156	Predicted Peak Day Use/Customer - therms			30.70	30.91	31.17	31.23	30.79	30.84	31.71	32.66	34.04	32.00	(L149 x 12") / 365 + (L150 * Note(1) x L151 * Note(1))
157	Load Factor			47.73%	48.30%	48.60%	48.28%	48.15%	48.72%	50.43%	50.84%	53.04%	45.55%	L155 / 365 / L156
158	Time Period Used			xxxxx										
159	Weather Station - Wichita													
160	Constant (Base Use)			205.88820	210.98448	213.06568	206.71276	198.33717	203.08866	211.78936	211.44321	215.26679	217.34046	10 Years has a high F-Value and a high Adjusted R-Square
161	CHDD			0.10137	0.10351	0.11241	0.12107	0.12329	0.10971	0.10696	0.11467	0.11564	0.12079	prefer to use a longer period of time when statistics are
162	PHDD			0.24946	0.24786	0.24262	0.23662	0.22484	0.23363	0.24197	0.24576	0.24874	0.24896	similar.
163	Adj R Square			0.94	0.94	0.94	0.94	0.96	0.96	0.97	0.97	0.97	0.97	
164	F			961	848	796	670	815	675	685	616	375	213	
165	10-Year Average	HDDs	4,139											
166	Predicted Normal Annual Use/Customer - therms			3,923	3,986	4,026	3,961	3,821	3,858	3,986	4,029	4,091	4,138	L160 x 12 + (L161 x L162)) * Column B, L165
167	Predicted Peak Day Use/Customer - therms			32.55	32.76	33.10	33.09	32.11	31.91	32.61	33.44	33.86	34.32	(L160 x 12") / 365 + (L161 * Note(1) x L162 * Note(1))
168	Load Factor			33.01%	33.33%	33.33%	32.80%	32.60%	33.12%	33.49%	33.01%	33.10%	33.03%	L166 / 365 / L167
169	Time Period Used			xxxxx										

Black Hills/Kansas Gas Utility Company, LLC
Statistical Results
10 Years (October 2014-September 2024)

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Line No	A		B	C	D	E	F	G	H	I	J	K	L	M
	Description			10 Years 2014-2024	9 Years 2015-2024	8 Years 2016-2024	7 Years 2017-2024	6 Years 2018-2024	5 Years 2019-2024	4 Years 2020-2024	3 Years 2021-2024	2 Years 2022-2024	1 Year 2023-2024	Comments
170	Large Volume Firm													
171	Weather Station - Concordia													
172	Constant (Base Use)			121.60955	133.90292	154.75585	181.51666	210.68863	239.20830	303.16617	381.17839	483.76854	747.95274	10 Years has a high F-Value and a high Adjusted R-Square
173	CHDD			0.07946	0.08839	0.09603	0.11007	0.12937	0.15925	0.19150	0.28682	0.29478	0.30417	prefer to use a longer period of time when statistics are
174	PHDD			(0.04821)	(0.05304)	(0.05875)	(0.07037)	(0.08234)	(0.09482)	(0.11216)	(0.27313)	(0.28747)	(0.46341)	similar.
175	Adj R Square			0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.06	0.01	(0.04)	
176	F			1	1	1	1	1	2	2	2	1	1	
177	10-Year Average	HDDs	4,886											
178	Predicted Normal Annual Use/Customer - therms			1,612	1,780	2,039	2,372	2,758	3,185	4,026	4,641	5,841	8,197	L172 x 12 + (L173 x L174)) * Column B, L177
179	Predicted Peak Day Use/Customer - therms			6.37	7.09	7.92	8.98	10.50	12.76	16.00	13.57	16.46	12.49	(L172 x 12") / 365 + (L173 * Note(1) x L174 * Note(1))
180	Load Factor			69.29%	68.77%	70.53%	72.33%	71.96%	68.39%	68.94%	93.68%	97.22%	179.84%	L178 / 365 / L179
181	Time Period Used			xxxxx										
182	Weather Station - Dodge City													
183	Constant (Base Use)			6,696.80	6,332.58	5,952.16	3,449.83	2,492.62	2,254.98	2,598.57	2,647.28	3,118.24	2,317.48	10 Years has a high F-Value and a high Adjusted R-Square
184	CHDD			1.67883	1.79804	1.91705	2.79505	1.22430	0.72703	0.48008	0.32335	(0.07197)	(0.21462)	prefer to use a longer period of time when statistics are
185	PHDD			0.89373	0.92567	0.91464	0.76579	1.47313	1.95342	2.18126	2.68937	3.03207	3.20665	similar.
186	Adj R Square			0.16	0.16	0.16	0.28	0.54	0.58	0.54	0.58	0.49	0.91	
187	F			12	11	10	17	43	41	28	25	12	59	
188	10-Year Average	HDDs	4,623											
189	Predicted Normal Annual Use/Customer - therms			92,256	88,584	84,518	57,861	42,383	39,452	43,487	45,696	51,105	41,643	L183 x 12 + (L184 x L185)) * Column B, L188
190	Predicted Peak Day Use/Customer - therms			415.68	415.20	410.90	384.04	286.95	277.85	287.69	316.00	327.49	303.58	(L183 x 12") / 365 + (L184 * Note(1) x L185 * Note(1))
191	Load Factor			60.80%	58.45%	56.35%	41.28%	40.47%	38.90%	41.41%	39.62%	42.75%	37.58%	L189 / 365 / L190
192	Time Period Used			xxxxx										
193	Weather Station - Goodland													
194	Constant (Base Use)			57.44136	46.05168	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	10 Years has a high F-Value and a high Adjusted R-Square
195	CHDD			0.16489	0.05787	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	prefer to use a longer period of time when statistics are
196	PHDD			(0.13892)	(0.05839)	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	similar.
197	Adj R Square			0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
198	F			4	1	0	0	0	0	0	0	0	0	
199	10-Year Average	HDDs	5,590											
200	Predicted Normal Annual Use/Customer - therms			834	550	-	-	-	-	-	-	-	-	L194 x 12 + (L195 x L196)) * Column B, L199
201	Predicted Peak Day Use/Customer - therms			3.68	1.48	-	-	-	-	-	-	-	-	(L194 x 12") / 365 + (L195 * Note(1) x L196 * Note(1))
202	Load Factor			62.12%	101.90%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	L200 / 365 / L201
203	Time Period Used			xxxxx										
204	Weather Station - Topeka													
205	Constant (Base Use)			2,499.19	2,419.78	2,374.76	2,212.10	2,091.35	2,005.97	1,855.31	1,520.07	1,333.18	1,834.24	10 Years has a high F-Value and a high Adjusted R-Square
206	CHDD			0.24872	0.20510	0.19494	0.19754	0.10760	0.10282	0.24985	0.31033	0.20845	0.47115	prefer to use a longer period of time when statistics are
207	PHDD			1.99022	2.00620	2.00097	1.99480	1.99774	2.12010	2.03766	2.20407	2.24504	1.89539	similar.
208	Adj R Square			0.86	0.86	0.85	0.85	0.86	0.86	0.91	0.93	0.91	0.98	
209	F			379	330	270	231	215	186	228	221	113	347	
210	10-Year Average	HDDs	4,579											
211	Predicted Normal Annual Use/Customer - therms			40,242	39,162	38,551	36,583	34,736	34,249	32,737	29,753	27,232	32,846	L205 x 12 + (L206 x L207)) * Column B, L210
212	Predicted Peak Day Use/Customer - therms			238.89	234.35	231.79	226.19	216.13	221.55	221.12	225.98	215.57	225.96	(L205 x 12") / 365 + (L206 * Note(1) x L207 * Note(1))
213	Load Factor			46.15%	45.78%	45.57%	44.31%	44.03%	42.35%	40.56%	36.07%	34.61%	39.83%	L211 / 365 / L212
214	Time Period Used			xxxxx										
215	Weather Station - Wichita													
216	Constant (Base Use)			1,845.80	1,859.90	1,946.64	1,992.34	1,757.65	1,771.83	1,737.18	1,601.18	1,504.60	1,620.52	10 Years has a high F-Value and a high Adjusted R-Square
217	CHDD			0.15815	0.34599	0.39263	0.43235	0.65594	0.48453	0.40266	0.52610	0.63328	0.81479	prefer to use a longer period of time when statistics are
218	PHDD			3.90416	3.84465	3.81294	3.74674	3.52516	3.78870	3.88734	3.74177	3.49807	3.52670	similar.
219	Adj R Square			0.90	0.92	0.92	0.91	0.96	0.97	0.97	0.97	0.97	0.97	
220	F			535	640	547	447	795	1,038	822	514	431	200	
221	10-Year Average	HDDs	4,139											
222	Predicted Normal Annual Use/Customer - therms			38,962	39,663	40,765	41,204	38,396	38,948	38,601	36,878	35,154	37,414	L216 x 12 + (L217 x L218)) * Column B, L221
223	Predicted Peak Day Use/Customer - therms			359.26	369.16	373.11	372.66	365.10	372.33	372.43	366.33	353.12	372.38	(L216 x 12") / 365 + (L217 * Note(1) x L218 * Note(1))
224	Load Factor			29.71%	29.44%	29.93%	30.29%	28.81%	28.66%	28.40%	27.58%	27.27%	27.53%	L222 / 365 / L223
225	Time Period Used			xxxxx										

Line No	A Description	B	C 10 Years 2014-2024	D 9 Years 2015-2024	E 8 Years 2016-2024	F 7 Years 2017-2024	G 6 Years 2018-2024	H 5 Years 2019-2024	I 4 Years 2020-2024	J 3 Years 2021-2024	K 2 Years 2022-2024	L 1 Year 2023-2024	M Comments

Notes: (1) Peak HDD used to calculate load factor:

Maximum HDD

Weather Station	Current	Previous
AKRON	76	76
ASPEN	76	76
BURLINGTON	69	69
CASTLE ROCK	70	70
DURANGO	73.5	73.5
FORT COLLINS	67	67
GLENWOOD SPRINGS	63	63
LA JUNTA	72.5	72.5
LAKE GEORGE	82	82
MONTROSE	65.5	65.5
TELLURIDE	76.5	76.5

Black Hills/Kansas Gas Utility Company, LLC
Weather Normalization Adjustment
For the Test Year Ended September 30, 2024

KSG Direct Exhibit EJF-4

	A	B	C	D	E	F	G	H	I	J
Line No.	Customer Class	Weather Station	Month	HDD Current Month Actual	HDD Current Month Normal (1)	HDD Previous Month Actual	HDD Previous Month Normal (1)	Per Cust. Adj. Therm / Cust.	# of Cust.	Volumetric Adj. Therms
				HDD	HDD	HDD	HDD	therm/cust.		therms
1										[H]x[I]
2										
3	Residential	Concordia			-		0.02612			
4			October	272	289	8	25	0.45	360	164
5			November	531	621	272	289	0.45	359	160
6			December	799	939	531	621	2.36	360	848
7			January	1,230	1,074	799	939	3.65	360	1,314
8			February	604	893	1,230	1,074	(4.09)	361	(1,476)
9			March	557	604	604	893	7.54	364	2,743
10			April	243	330	557	604	1.23	365	450
11			May	45	110	243	330	2.28	363	829
12			June	-	1	45	110	1.70	362	614
13			July	-	0	-	1	0.02	364	7
14			August	1	0	-	0	0.00	361	1
15			September	8	25	1	0	(0.02)	360	(7)
16			Total	4,290	4,886	4,290	4,886	15.57	362	5,646
17										
18	Residential	Dodge City			0.00759		0.01549			
19			October	282	270	17	25	0.03	34,400	919
20			November	539	607	282	270	0.33	34,922	11,363
21			December	792	905	539	607	1.90	35,047	66,749
22			January	1,134	982	792	905	0.59	35,185	20,906
23			February	606	820	1,134	982	(0.73)	35,285	(25,713)
24			March	519	573	606	820	3.72	35,246	131,064
25			April	245	324	519	573	1.44	35,271	50,754
26			May	46	114	245	324	1.74	35,102	61,146
27			June	-	3	46	114	1.08	34,981	37,808
28			July	-	0	-	3	0.05	35,022	1,654
29			August	9	1	-	0	(0.06)	34,948	(2,067)
30			September	17	25	9	1	(0.07)	34,794	(2,279)
31			Total	4,189	4,623	4,189	4,623	10.02	35,017	352,303
32										
33	Residential	Goodland			0.00434		0.02290			
34			October	429	408	16	55	0.79	2,308	1,821
35			November	662	710	429	408	(0.28)	2,320	(644)
36			December	904	1,015	662	710	1.59	2,323	3,693
37			January	1,250	1,080	904	1,015	1.80	2,328	4,195
38			February	734	929	1,250	1,080	(3.04)	2,330	(7,093)
39			March	706	712	734	929	4.49	2,331	10,468
40			April	376	456	706	712	0.48	2,336	1,123
41			May	183	208	376	456	1.94	2,326	4,514
42			June	3	14	183	208	0.61	2,292	1,391
43			July	-	0	3	14	0.24	2,312	565
44			August	10	4	-	0	(0.02)	2,294	(41)
45			September	16	55	10	4	0.03	2,283	57
46			Total	5,273	5,590	5,273	5,590	8.63	2,315	20,050

Black Hills/Kansas Gas Utility Company, LLC
Weather Normalization Adjustment
For the Test Year Ended September 30, 2024

KSG Direct Exhibit EJF-4

	A	B	C	D	E	F	G	H	I	J
Line No.	Customer Class	Weather Station	Month	HDD Current Month Actual	HDD Current Month Normal (1)	HDD Previous Month Actual	HDD Previous Month Normal (1)	Per Cust. Adj. Therm / Cust.	# of Cust.	Volumetric Adj. Therms
				HDD	HDD	HDD	HDD	therm/cust.		therms
47										
48	Residential	Topeka			0.00477		0.01809			
49			October	244	265	4	18	0.35	32,740	11,360
50			November	586	608	244	265	0.48	32,834	15,766
51			December	746	874	586	608	1.00	32,912	32,993
52			January	1,188	1,037	746	874	1.59	33,059	52,572
53			February	575	851	1,188	1,037	(1.41)	33,043	(46,594)
54			March	468	551	575	851	5.39	33,075	178,334
55			April	204	289	468	551	1.90	33,028	62,912
56			May	25	86	204	289	1.83	33,008	60,337
57			June	-	0	25	86	1.10	33,034	36,458
58			July	-	-	-	0	0.01	33,419	242
59			August	-	-	-	-	0.00	33,147	-
60			September	4	18	-	-	0.07	32,706	2,135
61			Total	4,040	4,579	4,040	4,579	12.31	33,000	406,517
62										
63	Residential	Wichita			0.00646		0.01730			
64			October	223	207	4	10	0.00	34,794	92
65			November	551	553	223	207	(0.27)	34,988	(9,401)
66			December	747	826	551	553	0.54	35,147	18,936
67			January	1,118	948	747	826	0.26	35,270	9,154
68			February	565	781	1,118	948	(1.55)	35,340	(54,856)
69			March	454	490	565	781	3.97	35,354	140,367
70			April	175	253	454	490	1.12	35,433	39,524
71			May	16	72	175	253	1.70	35,430	60,297
72			June	-	1	16	72	0.97	35,357	34,199
73			July	-	-	-	1	0.01	35,369	490
74			August	-	-	-	-	0.00	35,262	-
75			September	4	10	-	-	0.04	35,234	1,411
76			Total	3,853	4,139	3,853	4,139	6.79	35,248	240,213
77										
78	Small Commercial	Concordia			-		0.04139			
79			October	272	289	8	25	0.72	44	32
80			November	531	621	272	289	0.71	45	32
81			December	799	939	531	621	3.73	45	168
82			January	1,230	1,074	799	939	5.78	45	260
83			February	604	893	1,230	1,074	(6.48)	45	(291)
84			March	557	604	604	893	11.94	44	525
85			April	243	330	557	604	1.95	44	86
86			May	45	110	243	330	3.62	44	159
87			June	-	1	45	110	2.69	44	118
88			July	-	0	-	1	0.03	44	1
89			August	1	0	-	0	0.00	45	0
90			September	8	25	1	0	(0.03)	45	(1)
91			Total	4,290	4,886	4,290	4,886	24.67	45	1,089
92										

Black Hills/Kansas Gas Utility Company, LLC
Weather Normalization Adjustment
For the Test Year Ended September 30, 2024

KSG Direct Exhibit EJF-4

	A	B	C	D	E	F	G	H	I	J
Line				HDD Current Month		HDD Previous Month		Per Cust. Adj.		Volumetric Adj.
No.	Customer Class	Weather Station	Month	Actual	Normal (1)	Actual	Normal (1)	Therm / Cust.	# of Cust.	Therms
				HDD	HDD	HDD	HDD	therm/cust.		therms
93	Small Commercial	Dodge City			0.01338		0.04024			
94			October	282	270	17	25	0.15	3,853	565
95			November	539	607	282	270	0.42	3,917	1,632
96			December	792	905	539	607	4.24	3,969	16,810
97			January	1,134	982	792	905	2.50	3,985	9,970
98			February	606	820	1,134	982	(3.24)	3,988	(12,931)
99			March	519	573	606	820	9.32	4,004	37,303
100			April	245	324	519	573	3.24	3,996	12,940
101			May	46	114	245	324	4.09	3,981	16,294
102			June	-	3	46	114	2.79	3,938	10,981
103			July	-	0	-	3	0.12	3,945	482
104			August	9	1	-	0	(0.10)	3,932	(405)
105			September	17	25	9	1	(0.22)	3,878	(849)
106			Total	4,189	4,623	4,189	4,623	23.29	3,949	92,790
107										
108	Small Commercial	Goodland			0.00360		0.05426			
109			October	429	408	16	55	2.01	316	636
110			November	662	710	429	408	(0.98)	321	(315)
111			December	904	1,015	662	710	3.03	326	986
112			January	1,250	1,080	904	1,015	5.41	328	1,773
113			February	734	929	1,250	1,080	(8.52)	328	(2,793)
114			March	706	712	734	929	10.60	326	3,456
115			April	376	456	706	712	0.60	331	200
116			May	183	208	376	456	4.43	323	1,432
117			June	3	14	183	208	1.37	321	439
118			July	-	0	3	14	0.58	322	186
119			August	10	4	-	0	(0.00)	322	(0)
120			September	16	55	10	4	(0.20)	321	(63)
121			Total	5,273	5,590	5,273	5,590	18.33	324	5,936
122										
123	Small Commercial	Topeka			0.00661		0.03894			
124			October	244	265	4	18	0.83	2,155	1,788
125			November	586	608	244	265	1.13	2,170	2,449
126			December	746	874	586	608	2.59	2,214	5,723
127			January	1,188	1,037	746	874	3.12	2,200	6,858
128			February	575	851	1,188	1,037	(2.37)	2,207	(5,224)
129			March	468	551	575	851	12.22	2,201	26,904
130			April	204	289	468	551	4.47	2,195	9,819
131			May	25	86	204	289	4.24	2,190	9,275
132			June	-	0	25	86	2.46	2,200	5,403
133			July	-	-	-	0	0.02	2,201	35
134			August	-	-	-	-	0.00	2,188	-
135			September	4	18	-	-	0.18	2,176	399
136			Total	4,040	4,579	4,040	4,579	28.88	2,191	63,430
137										

Black Hills/Kansas Gas Utility Company, LLC
Weather Normalization Adjustment
For the Test Year Ended September 30, 2024

KSG Direct Exhibit EJF-4

	A	B	C	D	E	F	G	H	I	J
Line No.	Customer Class	Weather Station	Month	HDD Current Month Actual	HDD Current Month Normal (1)	HDD Previous Month Actual	HDD Previous Month Normal (1)	Per Cust. Adj. Therm / Cust.	# of Cust.	Volumetric Adj. Therms
				HDD	HDD	HDD	HDD	therm/cust.		therms
138	Small Commercial	Wichita			0.01534		0.03631			
139			October	223	207	4	10	0.03	3,056	100
140			November	551	553	223	207	(0.63)	3,096	(1,944)
141			December	747	826	551	553	1.12	3,139	3,530
142			January	1,118	948	747	826	0.88	3,173	2,799
143			February	565	781	1,118	948	(3.96)	3,217	(12,749)
144			March	454	490	565	781	9.17	3,190	29,267
145			April	175	253	454	490	2.47	3,227	7,961
146			May	16	72	175	253	3.87	3,224	12,466
147			June	-	1	16	72	2.25	3,182	7,153
148			July	-	-	-	1	0.03	3,204	103
149			August	-	-	-	-	0.00	3,153	-
150			September	4	10	-	-	0.08	3,128	260
151			Total	3,853	4,139	3,853	4,139	15.32	3,166	48,946
152										
153	Small Volume Firm	Concordia			-		0.05608			
154			October	272	289	8	25	0.93	0	-
155			November	531	621	272	289	1.90	0	-
156			December	799	939	531	621	5.50	0	-
157			January	1,230	1,074	799	939	3.53	0	-
158			February	604	893	1,230	1,074	(2.44)	0	-
159			March	557	604	604	893	12.24	0	-
160			April	243	330	557	604	3.07	0	-
161			May	45	110	243	330	4.39	0	-
162			June	-	1	45	110	2.62	0	-
163			July	-	0	-	1	0.03	0	-
164			August	1	0	-	0	(0.01)	0	-
165			September	8	25	1	0	0.20	0	-
166			Total	4,290	4,886	4,290	4,886	31.96	0	-
167										
168	Small Volume Firm	Dodge City			0.07736		0.20950			
169			October	282	270	17	25	0.15	544	80
170			November	539	607	282	270	0.42	547	228
171			December	792	905	539	607	4.24	543	2,300
172			January	1,134	982	792	905	2.50	544	1,361
173			February	606	820	1,134	982	(3.24)	548	(1,777)
174			March	519	573	606	820	9.32	545	5,077
175			April	245	324	519	573	3.24	547	1,771
176			May	46	114	245	324	4.09	546	2,235
177			June	-	3	46	114	2.79	549	1,531
178			July	-	0	-	3	0.12	547	67
179			August	9	1	-	0	(0.10)	547	(56)
180			September	17	25	9	1	(0.22)	544	(119)
181			Total	4,189	4,623	4,189	4,623	23.29	546	12,697
182										

Black Hills/Kansas Gas Utility Company, LLC
Weather Normalization Adjustment
For the Test Year Ended September 30, 2024

KSG Direct Exhibit EJF-4

	A	B	C	D	E	F	G	H	I	J
Line No.	Customer Class	Weather Station	Month	HDD Current Month Actual	HDD Current Month Normal (1)	HDD Previous Month Actual	HDD Previous Month Normal (1)	Per Cust. Adj. Therm / Cust.	# of Cust.	Volumetric Adj. Therms
				HDD	HDD	HDD	HDD	therm/cust.		therms
183	Small Volume Firm	Goodland			0.07239		0.14883			
184			October	429	408	16	55	1.26	44	56
185			November	662	710	429	408	(0.21)	44	(9)
186			December	904	1,015	662	710	3.43	44	151
187			January	1,250	1,080	904	1,015	2.19	44	96
188			February	734	929	1,250	1,080	(4.23)	45	(190)
189			March	706	712	734	929	7.92	44	349
190			April	376	456	706	712	1.31	43	56
191			May	183	208	376	456	3.55	44	156
192			June	3	14	183	208	1.13	42	47
193			July	-	0	3	14	0.43	42	18
194			August	10	4	-	0	(0.07)	42	(3)
195			September	16	55	10	4	0.27	42	11
196			Total	5,273	5,590	5,273	5,590	16.99	43	738
197										
198	Small Volume Firm	Topeka			0.04794		0.23137			
199			October	244	265	4	18	4.17	280	1,167
200			November	586	608	244	265	5.86	275	1,611
201			December	746	874	586	608	11.16	279	3,114
202			January	1,188	1,037	746	874	22.30	278	6,199
203			February	575	851	1,188	1,037	(21.63)	277	(5,990)
204			March	468	551	575	851	67.88	280	19,006
205			April	204	289	468	551	23.26	277	6,442
206			May	25	86	204	289	22.59	279	6,301
207			June	-	0	25	86	14.11	280	3,951
208			July	-	-	-	0	0.09	279	26
209			August	-	-	-	-	0.00	282	-
210			September	4	18	-	-	0.66	278	183
211			Total	4,040	4,579	4,040	4,579	150.43	279	42,008
212										
213	Small Volume Firm	Wichita			0.10137		0.24946			
214			October	223	207	4	10	(0.10)	415	(40)
215			November	551	553	223	207	(3.86)	412	(1,590)
216			December	747	826	551	553	8.42	415	3,493
217			January	1,118	948	747	826	2.33	416	971
218			February	565	781	1,118	948	(20.59)	418	(8,608)
219			March	454	490	565	781	57.53	420	24,164
220			April	175	253	454	490	16.72	413	6,906
221			May	16	72	175	253	24.99	417	10,423
222			June	-	1	16	72	13.95	414	5,776
223			July	-	-	-	1	0.20	417	83
224			August	-	-	-	-	0.00	413	-
225			September	4	10	-	-	0.63	412	259
226			Total	3,853	4,139	3,853	4,139	100.23	415	41,837
227										

Black Hills/Kansas Gas Utility Company, LLC
Weather Normalization Adjustment
For the Test Year Ended September 30, 2024

KSG Direct Exhibit EJF-4

	A	B	C	D	E	F	G	H	I	J
Line No.	Customer Class	Weather Station	Month	HDD Current Month Actual	HDD Current Month Normal (1)	HDD Previous Month Actual	HDD Previous Month Normal (1)	Per Cust. Adj. Therm / Cust.	# of Cust.	Volumetric Adj. Therms
				HDD	HDD	HDD	HDD	therm/cust.		therms
228	Large Volume Firm	Concordia			0.07946		-			
229			October	272	289	8	25	1.36	1	-
230			November	531	621	272	289	7.17	1	-
231			December	799	939	531	621	11.10	1	-
232			January	1,230	1,074	799	939	(12.44)	1	-
233			February	604	893	1,230	1,074	22.92	1	-
234			March	557	604	604	893	3.75	1	-
235			April	243	330	557	604	6.94	1	-
236			May	45	110	243	330	5.16	1	-
237			June	-	1	45	110	0.06	1	-
238			July	-	0	-	1	0.01	1	-
239			August	1	0	-	0	(0.06)	1	-
240			September	8	25	1	0	1.38	1	-
241			Total	4,290	4,886	4,290	4,886	47.36	1	-
242										
243	Large Volume Firm	Dodge City			1.67883		0.89373			
244			October	282	270	17	25	(13.60)	10	(136)
245			November	539	607	282	270	102.92	9	926
246			December	792	905	539	607	249.63	9	2,247
247			January	1,134	982	792	905	(153.88)	8	(1,231)
248			February	606	820	1,134	982	222.94	9	2,006
249			March	519	573	606	820	281.80	10	2,818
250			April	245	324	519	573	181.07	8	1,449
251			May	46	114	245	324	185.27	11	2,038
252			June	-	3	46	114	66.08	11	727
253			July	-	0	-	3	2.85	11	31
254			August	9	1	-	0	(13.34)	11	(147)
255			September	17	25	9	1	5.78	11	64
256			Total	4,189	4,623	4,189	4,623	1,117.52	10	10,792
257										
258	Large Volume Firm	Goodland			0.16489		-			
259			October	429	408	16	55	(3.51)	0	-
260			November	662	710	429	408	7.98	0	-
261			December	904	1,015	662	710	18.29	0	-
262			January	1,250	1,080	904	1,015	(28.02)	0	-
263			February	734	929	1,250	1,080	32.15	0	-
264			March	706	712	734	929	0.96	0	-
265			April	376	456	706	712	13.21	0	-
266			May	183	208	376	456	4.04	0	-
267			June	3	14	183	208	1.75	0	-
268			July	-	0	3	14	0.07	0	-
269			August	10	4	-	0	(1.02)	0	-
270			September	16	55	10	4	6.35	0	-
271			Total	5,273	5,590	5,273	5,590	52.24	0	-
272										

Black Hills/Kansas Gas Utility Company, LLC
Weather Normalization Adjustment
For the Test Year Ended September 30, 2024

KSG Direct Exhibit EJF-4

	A	B	C	D	E	F	G	H	I	J
Line No.	Customer Class	Weather Station	Month	HDD Current Month Actual	HDD Current Month Normal (1)	HDD Previous Month Actual	HDD Previous Month Normal (1)	Per Cust. Adj. Therm / Cust.	# of Cust.	Volumetric Adj. Therms
				HDD	HDD	HDD	HDD	therm/cust.		therms
273	Large Volume Firm	Topeka			0.24872		1.99022			
274			October	244	265	4	18	32.44	14	454
275			November	586	608	244	265	46.82	13	609
276			December	746	874	586	608	75.12	13	977
277			January	1,188	1,037	746	874	216.47	12	2,598
278			February	575	851	1,188	1,037	(231.23)	13	(3,006)
279			March	468	551	575	851	570.32	13	7,414
280			April	204	289	468	551	186.13	13	2,420
281			May	25	86	204	289	184.32	13	2,396
282			June	-	0	25	86	121.30	14	1,698
283			July	-	-	-	0	0.80	14	11
284			August	-	-	-	-	0.00	14	-
285			September	4	18	-	-	3.41	14	48
286			Total	4,040	4,579	4,040	4,579	1,205.90	13	15,618
287										
288	Large Volume Firm	Wichita			0.15815		3.90416			
289			October	223	207	4	10	21.64	18	390
290			November	551	553	223	207	(62.96)	17	(1,070)
291			December	747	826	551	553	19.46	18	350
292			January	1,118	948	747	826	279.92	18	5,039
293			February	565	781	1,118	948	(631.08)	19	(11,990)
294			March	454	490	565	781	849.69	18	15,294
295			April	175	253	454	490	150.87	19	2,867
296			May	16	72	175	253	311.76	18	5,612
297			June	-	1	16	72	217.20	18	3,910
298			July	-	-	-	1	3.12	17	53
299			August	-	-	-	-	0.00	17	-
300			September	4	10	-	-	0.98	18	18
301			Total	3,853	4,139	3,853	4,139	1,160.60	18	20,470

Black Hills/Kansas Gas Utility Company, LLC
Irrigation Normalization Adjustment
For the Test Year Ended September 30, 2024

	A	B	C	D	E	F	G	H	I	J
		Sales			Transportation			Total		
Line No.	Year	Volume	Avg. Annual Customers	Use Per Customer	Volume	Avg. Annual Customers	Use Per Customer	Volume	Avg. Annual Customers	Use Per Customer
								therms		Therms/Cust
	Historical									
1	Period 01	25,939,048	15,656	1,657	7,070,054	4,997	1,415	33,009,102	20,653	1,598
2	Period 02	24,765,850	15,865	1,561	6,447,209	4,812	1,340	31,213,059	20,677	1,510
3	Period 03	26,189,357	15,728	1,665	6,015,570	4,534	1,327	32,204,927	20,262	1,589
4	Period 04	27,479,945	15,770	1,743	5,677,305	4,490	1,264	33,157,250	20,260	1,637
5	Period 05	21,714,562	15,723	1,381	5,474,740	4,514	1,213	27,189,302	20,237	1,344
6	Period 06	30,696,999	15,995	1,919	7,217,950	4,442	1,625	37,914,949	20,437	1,855
7	Period 07	29,498,877	15,913	1,854	6,699,251	4,317	1,552	36,198,128	20,230	1,789
8	Period 08	38,803,968	16,125	2,406	7,416,693	4,135	1,794	46,220,661	20,260	2,281
9	Period 09	28,195,412	16,052	1,757	6,079,896	4,000	1,520	34,275,308	20,052	1,709
10	Period 10	31,586,269	16,095	1,962	7,860,659	4,123	1,907	39,446,928	20,218	1,951
11	10-yr Average	28,487,029	15,892	1,790	6,595,933	4,436	1,496	35,082,961	20,329	1,726
12	8-yr Average	29,270,674	15,925	1,836	6,555,258	4,319	1,525	35,825,932	20,245	1,769
13	5-yr. Average	31,756,305	16,036	1,980	7,054,890	4,203	1,679	38,811,195	20,239	1,917
14	10-yr Adjustment	(3,099,240)	16,095	(193)	(1,264,726)	4,123	(307)	(4,363,967)	20,218	(216)
15	8-yr Adjustment	(2,315,595)	16,095	(144)	(1,305,401)	4,123	(317)	(3,620,996)	20,218	(179)
16	5-yr. Adjustment	170,036	16,095	11	(805,769)	4,123	(195)	(635,733)	20,218	(31)

	A	B	C	D	E	F	G	H	I	J	K	L
Line No.	Description	Total Company	Residential	Small Commercial	Small Commercial Transportation	Small Volume Firm	Small Volume Transportation	Large Volume Firm	Large Volume Transportation	Irrigation (Interruptible)	Irrigation Transportation	Large Volume Interruptible
1	1. Number of Bills											
2	Test Period											
3	Sales Service	1,419,577	1,271,308	116,091		15,397		505		16,095		181
4	Distribution Transportation Service	13,515			2,452		5,511		1,429		4,123	
5	Customer Additions	36	0	0					36			
6	Total Test Period	1,433,128	1,271,308	116,091	2,452	15,397	5,511	505	1,465	16,095	4,123	181
7	Average Number of Monthly Bills	119,427	105,942	9,674	204	1,283	459	42	122	1,341	344	15
8	2. Volumes - therms											
9	Test Period											
10	Sales Service	124,924,845	61,963,635	12,196,387		12,889,053		3,879,337		31,586,269		2,410,164
11	Distribution Transportation Service	74,926,273			604,152		6,600,794		59,860,668		7,860,659	
12	Customer Additions	5,118,400							5,118,400			
13	Weather Normalization	1,381,083	1,024,730	212,191		97,281		46,881				
14	Irrigation Adjustment	(4,363,967)								(3,099,240)	(1,264,726)	
15	Total Test Period Volumes	201,986,634	62,988,365	12,408,578	604,152	12,986,334	6,600,794	3,926,218	64,979,068	28,487,029	6,595,933	2,410,164
16	Weather Normalized											
17	Average Annual Therms per Customer		595	1,283	2,957	10,121	14,373	93,296	532,252	21,239	19,197	159,790
18	Average Therms per Bill		50	107	246	843	1,198	7,775	44,354	1,770	1,600	13,316
19	Winter Volumes											
20	November thru March	101,525,163	46,550,706	9,612,556	447,881	8,909,615	4,686,534	2,745,358	23,750,718	2,991,783	631,807	1,198,205
21	Customer Additions	2,132,667	0	0					2,132,667			
22	Weather Normalization	742,982	555,850	114,197		49,955		22,980				
23	Irrigation Adjustment	(395,207)								(293,553)	(101,653)	
24	Total	104,005,605	47,106,556	9,726,753	447,881	8,959,570	4,686,534	2,768,338	25,883,385	2,698,230	530,154	1,198,205
25	Number of Winter Bills	597,755	530,143	48,523	1,027	6,418	2,316	204	610	6,712	1,730	72
26	Average Therms per Winter Bill		89	200	436	1,396	2,024	13,570	42,432	402	306	16,642
27	Summer Volumes											
28	April thru October	98,325,955	15,412,929	2,583,831	156,271	3,979,438	1,914,260	1,133,979	36,109,950	28,594,486	7,228,852	1,211,959
29	Customer Additions	2,985,733	0	0					2,985,733			
30	Weather Normalization	638,101	468,880	97,995		47,326		23,901				
31	Irrigation Adjustment	(3,968,760)								(2,805,687)	(1,163,073)	
32	Total	97,981,029	15,881,809	2,681,826	156,271	4,026,764	1,914,260	1,157,880	39,095,683	25,788,799	6,065,779	1,211,959
33	Number of Summer Bills	835,373	741,165	67,568	1,425	8,979	3,195	301	855	9,383	2,393	109
34	Average Therms per Summer Bill		21	40	110	448	599	3,847	45,726	2,748	2,535	11,119

Test Year Revenues Under Existing Rates
For the Pro Forma Period Ending September 30, 2025

	A	B	C	D	E	F	G	H	I	J	K	L
Line No.	Description	Total Company	Residential	Small Commercial	Small Commercial Transportation	Small Volume Firm	Small Volume Transportation	Large Volume Firm	Large Volume Transportation	Irrigation (Interruptible)	Irrigation Transportation	Large Volume Interruptible
1	3. Current Rates											
2	Gas Cost Adjustment		$0.64694	$0.64694		$0.64694		$0.64694		$0.38660		$0.37099
3	Delivery Charge		$0.20251	$0.20251		$0.15606		$0.07937		$0.05378		$0.07937
4	Transport Delivery Charge				$0.20251		$0.15606		$0.07937		$0.05378	
5	Monthly Charge		$18.50	$28.00	$28.00	$70.00	$70.00	$355.00	$355.00	$45.00	$45.00	$355.00
6	4. Revenues Under Current Rates											
7	Cost of Gas - $											
8	Gas Cost Adjustment	71,930,625	40,086,754	7,890,331		8,338,444		2,509,698		12,211,252		894,147
9	Customer Additions	0	0	0								
10	Weather Normalization	893,478	662,939	137,275		62,935		30,329				
11	Irrigation Adjustment	(1,198,166)								(1,198,166)		
12	Total Test Period Cost of Gas - $	71,625,936	40,749,693	8,027,606	0	8,401,379	0	2,540,027	0	11,013,085	0	894,147
13	Volumetric Charge - $											
14	Delivery Charge	19,227,519	12,548,256	2,469,890		2,011,466		307,903		1,698,710		191,295
15	Transport Delivery Charge	6,326,354			122,347		1,030,120		4,751,141		422,746	
16	Customer Additions	406,247							406,247			
17	Weather Normalization Adjustment	269,391	207,518	42,971		15,182		3,721				
18	Irrigation Adjustment	(234,694)								(166,677)	(68,017)	
19	Total Test Period Volumetric Charge - $	25,994,818	12,755,774	2,512,861	122,347	2,026,647	1,030,120	311,624	5,157,389	1,532,032	354,729	191,295
20	Monthly Charge - $											
21	Monthly Charge - Sales	28,815,341	23,519,198	3,250,548		1,077,790		179,275		724,275		64,255
22	Monthly Charge - Transportation	1,147,256			68,656		385,770		507,295		185,535	
23	Monthly Charge - GSRS	4,377,415	2,969,297	442,734	9,442	257,021	93,190	86,746	251,689	188,315	48,606	30,375
24	Customer Additions	12,780							12,780			
25	Total Test Period Monthly Revenue- $	34,352,792	26,488,495	3,693,282	78,098	1,334,811	478,960	266,021	771,764	912,590	234,141	94,630
26	Total Test Period Revenue- $	60,347,610	39,244,269	6,206,143	200,445	3,361,458	1,509,080	577,644	5,929,153	2,444,623	588,871	285,924
27	Total Revenue - $											
28	Test Period	131,824,511	79,123,505	14,053,503	200,445	11,684,721	1,509,080	3,083,622	5,510,126	14,822,551	656,888	1,180,071
29	Customer Additions	419,027	0	0					419,027			
30	Weather Normalization	1,162,869	870,457	180,246		78,116		34,050				
31	Irrigation Adjustment	(1,432,860)								(1,364,843)	(68,017)	
32	Total Test Period Revenue - $	131,973,547	79,993,962	14,233,749	200,445	11,762,837	1,509,080	3,117,672	5,929,153	13,457,708	588,871	1,180,071

Black Hills Kansas, Inc.
Revenue Synchronization
For the Pro Forma Period Ending September 30, 2025

	A	B	C	D	E	F	G	H	I	J
Line No.	Description	Customer Charge Revenue	Delivery Charge Revenue	GSRS	Total 12-Month Period Ending September 30, 2024	Weather Normalization Adjustment	Irrigation Adjustment	Customer Additions	Incremental GSRS	Total 12-Month Period Ending September 30, 2025
1	Billing Determinants	$29,962,597	$25,553,873	$2,986,484	$58,502,955	$269,391	($234,694)	$419,027	$1,390,931	$60,347,610
2	Booked Revenue				$58,366,048					
3	Synchronization Adjustment				$136,907					
4	Statement I				$58,502,955	$269,391	($234,694)	$419,027	$1,390,931	$60,347,610

Black Hills/Kansas Gas Utility Company, LLC
Load Factor Analysis
For the Test Year Ended September 30, 2024

	A	B	C	D	E	F	G	
Line No.	Weather Station	Therms	WNA Therms	Total Therms	Percent of Total Therms	Load Factor	Weighted Average Load Factor\LF	
1	**Residential**							
2	Concordia	207,618	5,646	213,264	0.34%	27.88%	0.09%	
3	Dodge City	21,491,891	352,303	21,844,194	34.68%	29.43%	10.21%	
4	Goodland	1,635,757	20,050	1,655,807	2.63%	35.70%	0.94%	
5	Topeka	17,867,630	406,517	18,274,147	29.01%	26.65%	7.73%	
6	Wichita	20,760,739	240,213	21,000,952	33.34%	26.65%	8.88%	
7	Total	61,963,635	1,024,730	62,988,365	100.0%		27.85%	
8	**Commercial**	SC	SV	LV	Winter Period	5		months
9	Adjusted Usage	13,012,730	19,587,128	71,315,450	Total	12		months
10	Winter Period Usage	10,174,634	13,646,104	29,849,928		41.67%		
11	Winter/Annual	78.19%	69.67%	41.86%				
12	Ratio to Average	1.88	1.67	1.00				
13	Peak to Average	5.00	4.00	1.50				
14	Load Factor - Use	20%	25%	67%				

BLACK HILLS/KANSAS GAS UTILITY COMPANY, LLC/

DBA BLACK HILLS ENERGY

MAINS CLASSIFICATION AND CUSTOMER WEIGHTING FACTOR STUDY

The purpose of this document is to describe the development of the mains classification and customer weighting factors for Black Hills Kansas gas operations. In this study the following relationships are analyzed:

1. Meters and Regulators – Accounts 381 through 385 – Development of weighting factors that recognize the relative cost of the combined meter and regulator installation for each customer class.

2. Services – Account 380 – Development of weighting factors that recognize the relative cost of service lines for each customer class.

3. Mains – Account 367 and Account 376 – Development of the classification of mains investment between capacity, commodity, and customer related cost.

4. Customer Accounting – Development of weighting factors that recognize the relative cost of providing customer accounting, meter reading, billing, and customer service for each customer class.

The data underlying these analyses are through September 30, 2024. The mains classification and weighting factors developed in this study are intended to be used in the class cost of service study performed in connection with Black Hills 2025 Kansas rate review which is based on a test year ended September 30, 2024 as adjusted for known and measurable adjustments.

Throughout these analyses, relative relationships are developed based on original costs restated to current cost levels (2024). The original cost levels are restated using Handy-Whitman cost indices for the North Central Region. By developing relationships based on current cost levels, inflationary impacts do not affect the analyses and more stable relationships result over time since the timing of renewals and replacements do not distort the analyses.

The analyses are based on detailed plant accounting data. The exhibits to the Direct Testimony of Ethan J. Fritel summarize the detailed analyses of the Company's plant accounting and customer data.

The attachments to this memorandum are as follows:

1. KSG Direct Exhibit EJF-12 – Analysis of Meters and Regulators – Accounts 381-385

2. KSG Direct Exhibit EJF-11 – Analysis of Services – Account 380

3. KSG Direct Exhibit EJF-10 – Analysis of Mains – Accounts 367 and 376

Meters and Regulators

For purposes of cost allocation, the meters and regulators FERC Accounts 381 through 385 are combined. There are several reasons why this approach is reasonable. Typically, the meters and regulators are installed as a set and the assignment of the labor costs and the various piping components may be distributed through Accounts 381 through 384. In some cases, the cost of these installations may be split or allocated between Accounts 382 and 384; sometimes these accounts may not be used at all and these installation costs are booked to either Account 381 or 383. The approaches differ between utilities and may change over time within the same company (especially if the company is an amalgamation of acquisitions). Further, the accounting label of "industrial" for Account 385 is vague in the FERC Uniform System of Accounts especially compared to the definition of industrial that may be used in the development of rates. Furthermore, rates change over time and customers migrate between rates over time, but the plant accounting is not adjusted for this, nor would it be practical to do so. Finally, meters and regulators are fungible. Unlike piping, meters and regulators are commonly removed, rehabilitated or repaired, and then reinstalled in a different location. Based on all of these factors, it is most reasonable to treat Accounts 381 through 385 as a group and assign cost responsibility based on the installed cost of the entire meter and regulator set for each customer class regardless of where a customer's specific meter may be booked.

Plant investment in meters and regulators (Accounts 381 - 385) is allocated to customer classes on the basis of the number of customers weighted to recognize relative differences in the unit investment cost of the different types and sizes of meter and regulator sets used to connect customers in that class.

The analysis primarily relies upon the data contained in the Company's customer billing system and property records which provides an inventory and original cost of each type and size of meter and regulator. For the same reasons discussed below regarding mains and service lines, the original cost data should be restated in terms of current cost using Handy-Whitman indices for meters and regulators. The Company's plant accounting records contain sufficient detail to determine which meters are used for each class of customer. Handy-Whitman indices are used to restate the original cost of this data into current cost. Dividing the total current cost by the number of meters for each customer class provides a unit cost per customer. The regulator size data is similar to the size information available for service lines and is also restated to current cost. The meter and regulator set also includes an encoder-receiver-transmitter ("ERT") that is part of the automated meter reading system. This cost is also included in the estimated unit cost of each meter and regulator set for each class. The Large Volume customers are assigned a cost of $2,200 to account for the additional materials and equipment, such as flow computers, needed to serve these large customers. The total unit cost for each customer class is the summation of each of these components. The relative unit cost is calculated for each class as the ratio of that class's unit cost relative to the unit cost of a Residential customer. These ratios are then used to develop weighting factors for each customer class, again with consideration also given to the relative size of a typical customer in each customer class.

KSG Direct Exhibit EJF-12 shows the calculations and the resulting class meters and regulators weighting factors are as follows:

Customer Class	2020	2024
Residential	1	1
Small Commercial	2	2
Small Volume	10	12
Large Volume	25	22
Irrigation	9	9

These weighting factors are applied to the number of customers for each class in the CCOSS to determine the meters and regulators allocation basis for each class. For example, a weighting factor of 10 means that the relative unit cost for that class is 10 times that of a Residential customer. The primary difference between the weighting factors used in the Company's last rate review in 2020 and the present case results from the significant increase in the investment in regulator equipment in Account 383. This unit cost of this investment was relatively uniform across customer classes thus increasing the relative unit cost of the installation for residential and small commercial customers relative to the larger customer classes, thus the decline in weighting factors.

Services

We allocate plant investment in service lines to customer classes based on number of customers weighted to recognize relative differences in the unit investment cost in service lines used to connect customers in that class. The investment incurred to connect customers is a function of 1) the average service line length and 2) the unit cost per foot. The unit cost per foot is primarily a function of the diameter of the service required.

The analyses are summarized in KSG Direct Exhibit EJF-11. As shown in KSG Direct Exhibit EJF-11, the first step is to determine the current cost of service lines by pipe diameter for service lines of 1-inch diameter or less and service lines greater than 1-inch from information in the Company's property records. The smaller service lines are primarily used for Residential and Small Commercial customers. Next, the unit cost of each of the service line diameters was determined using the number of service lines contained in the DOT reports for each size.

As is generally the case, the number of service lines contained in the DOT report is less than the total number of customers. This is since some customers, primarily Residential, share one service line. For example, on a multi-unit residential customer, it is common that the combined unit will have one service line that splits into multiple meter and regulator sets, one for each unit. Therefore, I assume that the number of services lines for the Small Commercial, Small Volume, Large Volume, and Irrigation customer classes are equal to the number of customers with the number of Residential service lines being the remainder. The information shown at the top of KSG Direct Exhibit EJF-11 is summarized from the Company's detailed plant accounting records. Information from the Company's 2024 Annual Report to the Department of Transportation is summarized. The trended original cost is developed using trend factors based on the Handy Whitman Index for Accounts 380 for the North Central Region. Steel and Plastic services are shown separately because Handy Whitman develops separate indices for steel and plastic service lines.

Combining the property record data with the DOT reported information, we show the calculated average service line length and the calculated trended per foot cost. From these values we calculate the average cost of service lines by size of services reported.

The next step is to allocate each size of service line to each customer class based on the following assumptions:

1. All the Residential service lines are 1-inch or less; and

2. The remainder of the 1-inch or less service lines are assigned to the Small Commercial class (which is less than the total number of Small Commercial total service lines) and the remainder of the Small Commercial are assigned to the greater than 1-inch to 2-inch;

3. Small Volume service lines are greater than 1-inch to 2-inch;

4. Large Volume service lines are greater than 2-inch.

5. The remainder of the greater than 1-inch to 2-inch and greater than 2-inch are assigned to the Irrigation class.

Next, the number of services lines allocated to each customer class is multiplied by the applicable unit cost for each size service line, and the result is divided by the number of customers in each customer class to determine an average unit cost for a service line per customer for each class. A relative unit cost for each class is calculated as the ratio of that class's unit cost relative to the unit cost of a Residential customer. These ratios are then used to assign weighting factors to each class considering the relative size (use per customer) of a typical customer in each of the customer classes.

The resulting class service line weighting factors are as follows:

Customer Class	2020	2024
Residential	1	1
Small Commercial	1.25	1.25
Small Volume	2	2
Large Volume	4	4
Irrigation	3	3

These weighting factors are applied to the number of customers for each class in the CCOSS to determine the service line and customer component of mains allocation bases for each class. For example, a weighting factor of four means that the relative unit cost for that class is four times that of a Residential customer. The results of the 2020 and 2024 studies are unchanged.

Mains

There are three components of cost associated with service from a gas distribution system. These cost components are capacity (peak), energy (commodity or throughput), and customer related. Investment in mains is related to all three of these cost components. We generally consider transmission mains to serve capacity and energy functions, and distribution mains to serve customer[1] and capacity functions.

As a functional classification, transmission (from an engineering, cost allocation perspective) represents the movement of natural gas from sources of supply to general areas of consumption. The distribution function on the other hand represents the movement of gas within general areas of consumption to individual customers.

The definition of the transmission and distribution function is not the same things as the FERC Uniform System of Accounts Definition of transmission and distribution. As indicated above, the transmission function for cost allocation purposes includes facilities that move gas from sources of supply to general areas of consumption. This function is generally served by higher diameter, higher pressure mains that only directly serve very large customers. Facilities that are booked to both the transmission mains account (primarily Account 367) and distribution mains (primarily Account 376) serve this function. Therefore, higher diameter, higher pressure distribution mains also serve a transmission function.

[1] The customer-related function is not the same at the customer-related cost component. Within the distribution function primary accounts are the services, meters, and regulators which are for the most part used to serve individual customers. Costs associated with these items are considered customer related. There is also a customer component of distribution mains which recognizes the cost implications of the distance between individual customers or customer density on the cost of distribution mains.

The allocation of investment in facilities serving a transmission function should recognize that these facilities are used to meet both peak and annual requirements of customers. These facilities, though sized to meet system peak requirements, are also influenced by annual requirements. To recognize this dual nature, the cost of these facilities should be allocated on a basis that recognizes both peak and annual use of the facilities. A variety of methods have been used to recognize the dual nature of these facilities. For the purpose of allocating transmission-related costs on the BH Kansas Gas system, we have historically used a weighting of 2/3 peak and 1/3 annual responsibility.

The allocation of investment in facilities serving a distribution function should recognize that the cost of these facilities is driven by two principal factors. First is the cost of extending the system to connect individual customers. Second is the cost associated with the capacity (peak day) requirements of the customers connected. Though facilities serving a distribution function are also used to meet customers' annual requirements, due to the local nature of the facilities and their customer specific cost, we do not allocate any cost associated with the distribution function on the basis of annual throughput. By allocating costs of facilities, which are functionally classified as distribution on the basis of number of customers and peak period requirements, reasonable results are achieved.

We use a classification/allocation basis for transmission and distribution mains that recognizes the functional use (transmission/distribution) of these facilities by classifying costs on a basis that recognizes the customer, capacity, and commodity related components of cost embedded in the transmission and distribution mains investment. We develop this classification in two steps. First, we define what facilities serve a transmission function (regardless of which mains FERC account is used). This definition is based on mains larger than a certain size (usually 6- or 8-inches) that serve a transmission function. In the second step we determine how the remaining investment (distribution function) should be split between customer and capacity. We typically develop this split based on examination of relative capacity and cost relationships.

In evaluating what facilities serve a distribution function, we examine the relative capacity provided by various pipe sizes. Pipeline flow formulas generally suggest that the capacity of a pipeline is proportional to its diameter to something on the order of the 2.5 power. Raising the diameter to the 2.5 power and multiplying by distance results in an indication of the relative capacity of the system. Typically, the break point between the transmission and distribution function falls at approximately the midpoint of the cumulative relative capacity, such that half of the capacity is assigned to transmission and half to distribution.

In Exhibit EJF-10, we show the analysis of mains. The original cost (Column C) and length (Column D) are summarized from the Company's detailed property accounting records. The trended original cost (Column G) is developed using trend factors based on the Handy Whitman Index for Accounts 367 and 376 for the North Central Region. The relative capacity (as discussed above) is shown in Column E. The trended original cost per foot is shown in Column H and trended original cost per unit of relative capacity is shown in Column I. Account 367 Transmission Mains are summarized in Lines 1 through 17 and Account 376 Distribution Mains are summarized in Lines 24 through 41. The sum of the transmission and distribution mains is shown in Lines 44 through 54.

As shown in the cumulative relative capacity (Column F), 50 percent of the system capacity falls between 8- and 10-inch mains. Therefore, classifying mains that are 8 inches in diameter as distribution results in approximately 49 percent of the total system capacity being classified as distribution and 51 percent as transmission. Based on the trended original cost, 18.43 percent of the mains investment is for mains over 8 inches in diameter and 81.57 percent of the mains investment is for mains 8 inches in diameter or less.

Of the mains classified as transmission (18.43 percent of cost), we classify two-thirds as capacity related and one-third as commodity related. As shown on Lines 57 and 58, this results in 12.29 percent of mains (combined Accounts 367 and 376) being classified at Transmission-Capacity and 6.14 percent as Transmission-Commodity.

The mains classified as distribution (81.57 percent of cost), we classify between capacity and customer. The portion we classify as capacity is based on the unit cost of capacity of the 8-inch mains (the largest distribution function mains) which equals $0.39 per unit of capacity (feet times diameter to the 2.5 power). This results in 26.00 percent of the investment in distribution mains being classified as capacity related and 74.00 percent as customer related. Applying these percentages to the 81.57 percent of cost that is distribution related results in 21.21 percent of mains being classified as Distribution – Capacity and 60.36 percent as Distribution Customer related. These calculations are shown in Lines 61 through 66 of Exhibit EJF-10.

The functionalization of transmission and distribution mains is shown below:

Allocation	2020	2024
Transmission – Capacity	10.70%	12.29%
Transmission – Commodity	5.35%	6.14%
Distribution – Capacity	31.95%	21.21%
Distribution – Customer	52.00%	60.36%

The differences between the 2020 and 2024 studies are primarily driven by the investment and retirements that have occurred since the last rate case. Generally, most of the investment has been made in smaller diameter pipe, the largest increase being in two-inch mains. The table below compares the booked cost and length in feet of transmission and distribution mains by size. As discussed above, the mains with a diameter of 8 inches and less are classified as distribution for functionalization. Investment in 2-inch mains increased by $22,036,631 and 423,071 feet. These smaller diameter distribution mains primarily serve a customer function. As such, if the investment in smaller diameter mains increases relative to the investment in higher diameter mains, the relative percentage of mains serving a customer function should increase and the percentage serving commodity and capacity functions should decline.

	2020		2024	
Diameter Inches	Booked Cost $	Length Feet	Booked Cost $	Length Feet
1	$3,238,458	350,273	$3,150,019	350,017
2	$57,019,182	7,905,464	$79,055,813	8,328,535
3	$1,886,135	715,950	$1,786,268	656,127
4	$30,873,342	2,974,397	$43,998,475	3,247,861
6	$21,821,393	1,587,216	$27,260,823	1,582,972
8	$9,662,638	358,399	$16,536,414	435,143
10	$5,821,085	391,649	$5,765,858	390,243
12	$9,730,165	368,673	$18,989,523	453,436
14	$79,798	638	$79,798	638
16	$371,927	76,589	$220,633	45,276
Total	$140,504,122	14,729,248	$196,843,924	15,490,248

Customer Accounting

The Customer Accounting cost function includes operation and maintenance expenses booked to FERC Accounts 901 through 916 which include Customer Accounts Expenses, Customer Service and Information Expenses, and Sales Expenses. The customer accounting weighting factors used reflect the relative cost of reading meters, customer accounting and billing, collections, and customer service for each of the customer classes. I recommend using the same weighting factors for the current study with the Irrigation class weighting factor set at the same as the Small Commercial class.

The following customer accounting weighting factors are used in the CCOSS:

Customer Class	2020	2024
Residential	1	1
Small Commercial	2	2
Small Volume	4	4
Large Volume	20	20
Irrigation	2	2

The weighting factors used in the current case are the same as those used in prior rate cases.

Black Hills Kansas Gas, LLC
Mains Classification Study
Test Year Ending September 30, 2024

KSG Direct Exhibit EJF-10

	[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]	[J]
Line No.	Description	Diameter	Original Cost	Length	Relative Capacity	Cumulative Relative Capacity	Trended Original Cost	Trended Cost per Foot	TOC per Capacity Unit	Cumulative Trended Original Cost
		Inches	$	Feet			$	$/ft		
					(1)			(2)	(3)	
1	Transmission Mains - Account 367									
2	Plastic	1	17,544	4,906	4,906	0.49%	33,233	6.77	$6.77	2.10%
3	Plastic	2	486,101	50,719	286,910	28.91%	1,013,966	19.99	$3.53	64.10%
4	Plastic	4	265,771	17,648	564,736	56.91%	451,144	25.56	$0.80	28.52%
5	Plastic	8	57,722	750	135,765	13.68%	83,601	111.47	$0.62	5.28%
6	Subtotal Transmission		827,138	74,023	992,316	100%	1,581,944			
7	Steel	1	151,396	11,236	11,236	0.00%	918,562	81.75	$81.75	0.32%
8	Steel	2	503,398	95,297	539,081	0.10%	3,582,811	37.60	$6.65	1.25%
9	Steel	3	99,718	22,747	354,591	0.07%	1,283,346	56.42	$3.62	0.45%
10	Steel	4	4,473,054	551,792	17,657,344	3.26%	25,792,828	46.74	$1.46	8.97%
11	Steel	6	14,273,141	1,101,487	97,130,920	17.95%	120,093,751	109.03	$1.24	41.76%
12	Steel	8	10,853,293	281,080	50,880,915	9.40%	23,045,620	81.99	$0.45	8.01%
13	Steel	10	4,054,399	335,824	106,196,873	19.62%	40,288,664	119.97	$0.38	14.01%
14	Steel	12	17,986,742	444,942	221,950,699	41.01%	72,013,581	161.85	$0.32	25.04%
15	Steel	14	61,403	169	123,939	0.02%	145,923	863.45	$1.18	0.05%
16	Steel	16	220,633	45,276	46,362,624	8.57%	429,200	9.48	$0.01	0.15%
17	Subtotal Transmission		52,677,178	2,889,850	541,208,222	100%	287,594,287			
18	Total Transmission Mains - Account 367		53,504,316	2,963,873	542,200,539		289,176,231			
19										
20	Classification of Transmission (Account 367)									
21	Capacity						50.00%			
22	Commodity						50.00%			
23	Distribution Mains - Account 376									
24	Plastic	1	2,550,028	250,423	250,423	0.22%	4,965,547	19.83	$19.83	2.74%
25	Plastic	2	69,299,115	5,829,215	32,975,020	28.35%	113,420,207	19.46	$3.44	62.51%
26	Plastic	3	823,691	287,821	4,486,685	3.86%	2,472,472	8.59	$0.55	1.36%
27	Plastic	4	31,832,725	1,883,178	60,261,696	51.81%	50,083,611	26.60	$0.83	27.60%
28	Plastic	6	7,267,610	169,894	14,981,530	12.88%	9,928,151	58.44	$0.66	5.47%
29	Plastic	8	817,137	7,787	1,409,598	1.21%	538,284	69.13	$0.38	0.30%
30	Plastic	10	14,309	6,155	1,946,382	1.67%	21,697	3.53	$0.01	0.01%
31	Subtotal Distribution		112,604,614	8,434,473	116,311,333	100%	181,429,970			
32	Steel	1	431,051	83,452	83,452	0.07%	1,254,212	15.03	$15.03	0.54%
33	Steel	2	8,767,199	2,353,304	13,312,298	11.29%	96,444,428	40.98	$7.24	41.46%
34	Steel	3	862,860	345,559	5,386,732	4.57%	12,688,183	36.72	$2.36	5.45%
35	Steel	4	7,426,925	795,243	25,447,776	21.59%	58,783,412	73.92	$2.31	25.27%
36	Steel	6	5,720,072	311,591	27,476,603	23.31%	31,419,198	100.83	$1.14	13.51%
37	Steel	8	4,808,562	145,526	26,343,020	22.34%	17,275,594	118.71	$0.66	7.43%
38	Steel	10	1,697,150	48,264	15,262,417	12.95%	11,419,409	236.60	$0.75	4.91%
39	Steel	12	1,002,780	8,494	4,237,067	3.59%	2,972,920	350.00	$0.70	1.28%
40	Steel	14	18,394	469	343,948	0.29%	369,878	788.65	$1.08	0.16%
41	Subtotal Distribution		30,734,994	4,091,902	117,893,312		232,627,233			
42	Total Distribution Mains - Account 376		143,339,608	12,526,375			414,057,203			

Black Hills Kansas Gas, LLC
Mains Classification Study
Test Year Ending September 30, 2024

Exhibit EJF-10

Line No.	Description [A]	Diameter [B]	Original Cost [C]	Length [D]	Relative Capacity [E]	Cumulative Relative Capacity [F]	Trended Original Cost [G]	Trended Cost per Foot [H]	TOC per Capacity Unit [I]	Cumulative Trended Original Cost [J]
		Inches	$	Feet			$	$/ft		
43	Net Mains									
44	Plastic & Steel	1	3,150,019	350,017	350,017	0.05%	7,171,553	20.49	$20.49	1.04%
45	Plastic & Steel	2	79,055,813	8,328,535	47,113,309	6.11%	214,461,411	25.75	$4.55	31.99%
46	Plastic & Steel	3	1,786,268	656,127	10,228,008	7.43%	16,444,002	25.06	$1.61	34.37%
47	Plastic & Steel	4	43,998,475	3,247,861	103,931,552	20.82%	135,110,996	41.60	$1.30	53.87%
48	Plastic & Steel	6	27,260,823	1,582,972	139,589,052	38.80%	161,441,099	101.99	$1.16	77.17%
49	Plastic & Steel	8	16,536,714	435,143	78,769,297	48.94%	30,460,010	70.00	$0.39	81.57%
50	Plastic & Steel	10	5,765,858	390,243	123,405,672	64.84%	51,729,770	132.56	$0.42	89.04%
51	Steel	12	18,989,523	453,436	226,187,767	93.97%	74,986,501	165.37	$0.33	99.86%
52	Steel	14	79,798	638	467,887	94.03%	515,801	808.47	$1.10	99.94%
53	Steel	16	220,633	45,276	46,362,624	100.00%	429,200	9.48	$0.01	100.00%
54	Total Distribution		196,843,924	15,490,248	776,405,184		692,750,344			
55	**Classification of Distribution**									
56	Total 10 inches and Over - Transmission Function			889,593	396,423,950		127,661,273			18.43%
57	Capacity Assignment				66.67%					12.29%
58	Commodity Assignment				33.33%					6.14%
59	Total 8 inches and Less - Distribution			14,600,655	379,981,235		565,089,071			81.57%
60	Distribution Capacity/Customer Assignment									
61	Relative Capacity of less than 10 inches				379,981,235	Column E, Line 56				
62	Unit TOC per Capacity of 8 inch				0.39	Column I, Line 47				
63	TOC of less than 10 inch that is Capacity Related				146,938,371	Line 58 times Line 59				
64	TOC of less than 10 inches				565,089,071	Sum on Column G, Lines 42 through 47				
65	Capacity Assigment				26.00%	Line 60 / Line 61				21.21%
66	Customer Assignement				74.00%	1 minus Line 62				60.36%
67	Overall Asssignment									
68	Commodity				6.14%	Column J, Line 55				
69	Capacity				33.50%	Column J Line 54 plus Column J Line 62				
70	Customer				60.36%	Column J Line 63				

71 (1) Diameter (Column B) to the 2.5 power times length (Column D)
72 (2) Trended Original Cost (Column G) divided by length (Column D).
73 (3) Trended Original Cost (Column G) divided by relative capacity (Column E).

Black Hills Kansas Gas, LLC
Service Lines Weighting Factor Study
Test Year Ending September 30, 2024

KSG Direct Exhibit EJF-11

Line No.	[A]	[B]	[C]	[D]	[E]	[F]
1	**Property Data**					
2	**Company**	**Diam**	**Quantity**	**Book Cost**	**TOC**	**Ave Cost/Foot**
2	Black Hills Kansas Gas, LLC	1" or less	8,547,099	$89,906,694	$160,983,775	$18.83
3	Black Hills Kansas Gas, LLC	>1" thru 2"	364,304	$5,024,826	$7,792,172	$21.39
4	Black Hills Kansas Gas, LLC	>2" thru 4"	76,065	$922,035	$1,872,075	$24.61
5		**Totals**	**8,987,468**	**95,853,555**	**170,648,022**	**$18.99**
6						

7 **2024 DOT Report - Number of Services**

Line No.	Company	Diam	DOT Number of Services
9	**Company**	**Diam**	**DOT Number of Services**
10	**Black Hills Kansas Gas, LLC**	Unknown	0
11		1" or less	100,573
12		>1" thru 2"	4,884
13		>2" thru 4"	814
14		>4" thru 8"	10

2024 DOT Report Summary

Line No.	Diameter	DOT Number of Service Lines
10	1" or less	100,573
11	>1" thru 2"	4,884
12	> 2"	824
13	**Total**	**106,281**
14	Unknown	0
15	**Total w/Unknown**	**106,281**

2024 PHMSA Report

Line No.		
10	Total Services	106,281
11	Avg Serv Length	75
12	Number of feet	7,971,075

18 **Average Cost**

Line No.	Diameter	Quantity - ft	Quantity - #	TOC	Ave Cost per Foot	Average Length	Average Cost/ Service	Relative Cost per Foot	Relative Cost per Service	Use for Services
21	1" or less	8,547,099	100,573	160,983,775	$18.83	85	$1,600.67	1.00	1.00	1.00
22	>1" thru 2"	364,304	4,884	7,792,172	$21.39	75	$1,595.45	1.14	1.00	1.50
23	> 2"	76,065	824	1,872,075	$24.61	92	$2,271.94	1.31	1.42	2.00
24	**Totals**	**8,987,468**	**106,281**	**$170,648,022**						

26 **Adjusted Data**

Line No.	Diameter	Quantity - ft	Quantity - #	TOC	Ave Cost per Foot	Average Length	Average Cost/ Service
29	1" or less	7,844,694	100,573	147,715,588	$18.83	78	$1,468.74
30	>1" thru 2"	537,240	4,884	15,174,344	$28.25	110	$3,106.95
31	> 2"	123,600	824	4,654,776	$37.66	150	$5,649.00
32	**Totals**	**8,505,534**	**106,281**	**$167,544,708**			

Line No.			Average Cost/ Customer			
34	**Customer Class Weighting Factors**		**Average Cost/ Customer**	$1,468.74	$3,106.95	$5,649.00

Line No.	Customer Class	Number of Customers (1)	Number of Service Lines	1" or less	>1" thru 2"	> 2"	Unit Cost/ Customer	Relative Unit Cost	Weighting Factor
37	Residential	105,942	92,800	92,800			$1,469	1.00	1.00
38	Small Commercial	9,879	9,879	7,773	2,106		$1,818	1.24	1.25
39	Small Volume	1,742	1,742		1,742		$3,107	2.12	2.00
40	Large Volume	175	175			175	$5,649	3.85	4.00
41	Irrigation	1,685	1,685		1,036	649	$4,086	2.78	3.00
42	**Totals**	**119,423**	**106,281**	**100,573**	**4,884**	**824**			

Black Hills Kansas Gas, LLC
Meters Weighting Factor Study
Test Year Ending September 30, 2024

	A	B	C	D	E	F	G	H
Line No.	**Customer Class**	**Meters**	**TOC**	**Ave TOC/Meter**	**Regulators**	**Total Meters & Regulators**	**Relative Use Factors**	**Use**
1	Residential	105,050	18,978,385	$181	$449	$629	1.0	1.0
2	Small Commercial	9,807	4,312,759	$440	$1,092	$1,532	2.4	2.0
3	Small Volume Firm & Transportation	1,765	3,921,779	$2,222	$5,518	$7,740	12.3	12.0
4	Large Volume Firm, Transport & Interruptible	419	1,701,053	$4,060	$10,082	$14,141	22.5	22.0
5	Irrigation	1,809	2,881,336	$1,593	$3,955	$5,548	8.8	9.0
6	**Totals**	**118,850**	**$31,795,312**					
7								
8								
9	Retirement Unit	**Quantity**	**TOC**					
10	Meter Bar Regulator Assembly-<2"	58,473	62,563,248					
11	Meter Bar Regulator Assembly-2"	48	87,486					
12	Regulator, Gas - Less Than 2"	105,011	11,856,349					
13	Regulator, Gas - 2"	1,148	2,393,194					
14	Regulator, Gas - >=3"	19,479	2,046,828					
15	Regulator, Gas - Not Available	35	10,152					
16	**Totals**	**184,194**	**$78,957,257**					
17								
18	Regulator as a Percent of Meter		248.33%					

A		B	C	D	E	F	G	H	I	J	K	L	M	N
			Total	Gas Supply		Transmission		Distribution			Meters	Customer		
Line Number	Acct. No.	Description	Gas Utility Adjusted	Demand	Commodity	Demand	Commodity	Demand	Customer	Services	and Regulators	Accounts	Direct	Allocation Basis or Reference
			$	$	$	$	$	$	$	$	$	$	$	
1	Summary													
2		Rate Base	305,947,330	2,662,837	0	20,419,870	10,618,242	35,240,476	100,288,312	72,284,806	58,434,216	5,998,571	0	Table 2 Line 62
3		Rate of Return	7.63%	7.63%	7.63%	7.63%	7.63%	7.63%	7.63%	7.63%	7.63%	7.63%	7.63%	
4		Total Cost of Service												
5		Operation & Maintenance Expenses	32,351,842	0	0	1,447,802	1,717,362	2,498,607	7,110,603	6,524,077	5,395,897	7,657,494	0	Table 3 Line 81
6		Depreciation Expenses	12,746,995	0	0	695,081	360,188	1,199,567	3,413,760	2,753,666	2,225,063	2,099,670	0	Table 4 Line 9
7		Taxes Other Than Income Taxes	8,963,372	0	0	577,893	314,706	997,323	2,838,209	2,097,988	1,700,573	436,680	0	Table 4 Line 14
8		Return	23,343,781	203,174	0	1,558,036	810,172	2,688,848	7,651,998	5,515,331	4,458,531	457,691	0	Line 2 x Line 3
9		Income Taxes	3,528,847	30,714	0	235,526	122,473	406,469	1,156,742	833,745	673,990	69,188	0	Rate Base
10		Other Operating Revenues	(3,379,475)	0	0	(323,929)	(170,585)	(559,035)	(1,590,918)	(139,947)	(115,751)	(145,696)	(333,613)	Table 4 Line 19
11		Total Cost of Service	77,555,361	233,888	0	4,190,408	3,154,316	7,231,779	20,580,394	17,584,859	14,338,303	10,575,027	(333,613)	Sum of Lines 5 thru 10

Black Hills/Kansas Gas Utility Company, LLC
Functional Classification of Rate Base
For the Pro Forma Period Ending September 30, 2025

KSG Direct Exhibit EJF-13
Table 2

A		B	C	D	E	F	G	H	I	J	K	L	M	N
			Total	Gas Supply		Transmission		Distribution			Meters			
Line	Acct.		Gas Utility								and	Customer		
Number	No.	Description	Adjusted	Demand	Commodity	Demand	Commodity	Demand	Customer	Services	Regulators	Accounts	Direct	Allocation Basis or Reference
			$	$	$	$	$	$	$	$	$	$	$	
1		Gas Plant in Service												
2		Intangible Plant												
3	301	Organization	186,932	0	0	8,758	6,844	15,114	43,011	39,469	32,645	41,091	0	Supervised O&M
4	302	Franchises & Consents	74,990	0	0	3,513	2,745	6,063	17,255	15,834	13,096	16,484	0	Supervised O&M
5	303	Miscellaneous Intangible Plant	3,246,838	0	0	152,112	118,868	262,514	747,071	685,547	567,018	713,708	0	Supervised O&M
5		Total Intangible Plant	3,508,760	0	0	164,383	128,457	283,691	807,337	740,850	612,759	771,283	0	Sum of Lines 3 thru 5
5														
5		Production & Gathering Plant												
5	336	Purification Equipment	0			0	0	0	0					Mains Allocation
5		Total Product. & Gather. Plant	0	0	0	0	0	0	0	0	0	0	0	Sum of Line 5
6		Transmission Plant												
7	365	Land & Land Rights	737,239			90,607	45,266	156,368	444,997					Mains Allocation
8	366	Structures & Improvements	261,735			32,167	16,071	55,514	157,983					Mains Allocation
9	367	Mains	61,180,956			7,519,140	3,756,511	12,976,481	36,928,825					Mains Allocation
10	368	Compressor Station Equipment	2,475			304	152	525	1,494					Mains Allocation
11	369	Measuring & Reg. Station Eq.	5,388,010			662,186	330,824	1,142,797	3,252,203					Mains Allocation
12	371	Other Equipment	106,238			13,057	6,523	22,533	64,125					Mains Allocation
13		Total Transmission Plant	67,676,653	0	0	8,317,461	4,155,347	14,354,218	40,849,628	0	0	0	0	Sum of Lines 7 thru 12
14		Distribution Plant												
15	374	Land & Land Rights	979,307			120,357	60,129	207,711	591,110					Mains Allocation
16	375	Structures & Improvements	1,188,888			146,114	72,998	252,163	717,613					Mains Allocation
17	376	Mains	165,607,324			20,353,140	10,168,290	35,125,314	99,960,581					Mains Allocation
18	377	Compressor Station Equipment	175,304			21,545	10,764	37,182	105,813					Mains Allocation
19	378	Meas. & Reg. Sta. Equip.	10,654,248			1,309,407	654,171	2,259,766	6,430,904					Mains Allocation
20	379	Meas. & Reg. Sta. Equip. - CG	61,111			7,510	3,752	12,962	36,886					Mains Allocation
21	380	Services	106,525,531							106,525,531				Services
22	381	Meters	24,534,672								24,534,672			Meters and Regulators
23	382	Meter Installations	4,871,135								4,871,135			Meters and Regulators
24	383	House Regulators	53,543,483								53,543,483			Meters and Regulators
25	385	Indust. Meas. & Reg. Sta. Equip.	2,962,366								2,962,366			Meters and Regulators
26	387	Other Equipment	115,909			14,245	7,117	24,584	69,963					Mains Allocation
27		Total Distribution Plant	371,219,276	0	0	21,972,319	10,977,220	37,919,681	107,912,869	106,525,531	85,911,655	0	0	Sum of Lines 15 thru 26
28		General Plant												
29	389	Land & Land Rights	856,543	0	0	40,129	31,358	69,254	197,084	180,853	149,584	188,282	0	Supervised O&M
30	390	Structures and Improvements	13,423,778	0	0	628,896	491,449	1,085,344	3,088,701	2,834,335	2,344,287	2,950,767	0	Supervised O&M
31	391	Office Furniture & Equipment	1,784,950	0	0	83,624	65,348	144,317	410,702	376,879	311,718	392,361	0	Supervised O&M
32	392	Transportation Equipment	12,927,430	0	0	605,642	473,277	1,045,213	2,974,495	2,729,535	2,257,606	2,841,661	0	Supervised O&M
33	393	Stores Equipment	55,274	0	0	2,590	2,024	4,469	12,718	11,671	9,653	12,150	0	Supervised O&M
34	394	Tools & Work Equipment	4,896,920	0	0	229,418	179,278	395,927	1,126,741	1,033,950	855,183	1,076,423	0	Supervised O&M
35	395	Laboratory Equipment	11,714	0	0	549	429	947	2,695	2,473	2,046	2,575	0	Supervised O&M
36	396	Power Operated Equipment	1,099,514	0	0	51,512	40,254	88,898	252,989	232,154	192,016	241,691	0	Supervised O&M
37	397	Communication Equipment	1,221,839	0	0	57,242	44,732	98,789	281,135	257,983	213,378	268,580	0	Supervised O&M
38	398	Misc. Equipment	32,417	0	0	1,519	1,187	2,621	7,459	6,845	5,661	7,126	0	Supervised O&M
39		General Plant	36,310,377	0	0	1,701,118	1,329,334	2,935,779	8,354,720	7,666,678	6,341,131	7,981,617	0	Sum of Lines 29 thru 38
40	118	Other Utility Plant (Allocated on Customer Count)	277,554									277,554		Customer Accounts
41	118	Other Utility Plant (Allocated on Blended Ratio)	16,307,851	0	0	764,013	597,035	1,318,528	3,752,303	3,443,287	2,847,952	3,584,734	0	Supervised O&M
			16,585,405	0	0	764,013	597,035	1,318,528	3,752,303	3,443,287	2,847,952	3,862,288	0	
42		Total Plant in Service	495,300,471	0	0	32,919,294	17,187,393	56,811,897	161,676,856	118,376,345	95,713,498	12,615,188	0	Sum of Lines 5, 5, 13, 27 and 39

A		B	C	D	E	F	G	H	I	J	K	L	M	N
			Total	Gas Supply		Transmission		Distribution			Meters	Customer		
Line Number	Acct. No.	Description	Gas Utility Adjusted	Demand	Commodity	Demand	Commodity	Demand	Customer	Services	and Regulators	Accounts	Direct	Allocation Basis or Reference
			$	$	$	$	$	$	$	$	$	$	$	
43		Accumulated Depreciation												
44		Intangible	(2,856,240)	0	0	(133,813)	(104,568)	(230,934)	(657,197)	(603,075)	(498,805)	(627,848)	0	Intangible Plant
45		Production & Gathering	0	0	0	0	0	0	0	0	0	0	0	Prod. & Gathering Plant
46		Transmission	(16,209,075)	0	0	(1,992,095)	(995,237)	(3,437,945)	(9,783,797)	0	0	0	0	Transmission Plant
47		Distribution	(103,784,334)	0	0	(6,142,953)	(3,068,977)	(10,601,467)	(30,169,945)	(29,782,078)	(24,018,914)	0	0	Distribution Plant
48		General	(9,276,564)	0	0	(434,601)	(339,618)	(750,032)	(2,134,461)	(1,958,680)	(1,620,030)	(2,039,141)	0	General Plant
49		Other Utility Plant (Allocated on Customer Count)	(97,596)									(97,596)		Customer Accounts
50		Other Utility Plant (Allocated on Blended Ratio)	(6,532,545)	0	0	(306,046)	(239,158)	(528,171)	(1,503,085)	(1,379,300)	(1,140,823)	(1,435,961)	0	Supervised O&M
51		Total Accumulated Depreciation	(138,756,353)	0	0	(9,009,508)	(4,747,558)	(15,548,549)	(44,248,486)	(33,723,133)	(27,278,572)	(4,200,546)	0	Sum of Lines 44 thru 48
52		Net Plant	356,544,118	0	0	23,909,786	12,439,834	41,263,349	117,428,370	84,653,212	68,434,925	8,414,642	0	Line 42 - Line 51
53		Other Rate Base Items												
54		Materials & Supplies	2,899,107	0	0	192,684	100,602	332,533	946,332	692,884	560,233	73,840	0	Plant in Service
55		Gas Storage	2,662,837	2,662,837										Gas Supply - Demand
56		Prepayments	52,303	0	0	3,507	1,825	6,053	17,226	12,418	10,039	1,234	0	Net Plant
57		Customer Advances	(506,945)	0	0	(23,750)	(18,559)	(40,988)	(116,644)	(107,038)	(88,531)	(111,435)	0	Supervised O&M
58		Customer Deposits	(1,090,806)									(1,090,806)		Customer Accounts
59		Other Rate Base Tax Items	(54,613,284)	0	0	(3,662,357)	(1,905,459)	(6,320,472)	(17,986,972)	(12,966,670)	(10,482,450)	(1,288,904)	0	Net Plant
60		Total Other Rate Base Items	(50,596,788)	2,662,837	0	(3,489,916)	(1,821,592)	(6,022,873)	(17,140,058)	(12,368,406)	(10,000,710)	(2,416,071)	0	Sum of Lines 54 thru 59
61														
62		Total Rate Base	305,947,330	2,662,837	0	20,419,870	10,618,242	35,240,476	100,288,312	72,284,806	58,434,216	5,998,571	0	Line 52 + Line 60

Black Hills/Kansas Gas Utility Company, LLC
Functional Classification of Operation and Maintenance Expenses
For the Pro Forma Period Ending September 30, 2025

A		B	C	D	E	F	G	H	I	J	K	L	M	N
Line Number	Acct. No.	Description	Total Gas Utility Adjusted	Gas Supply Demand	Gas Supply Commodity	Transmission Demand	Transmission Commodity	Distribution Demand	Distribution Customer	Services	Meters and Regulators	Customer Accounts	Direct	Allocation Basis or Reference
			$	$	$	$	$	$	$	$	$	$	$	
1		O & M Expenses												
2		Transmission Expenses												
3		Operation												
4	850	Supervision & Engineering	181,374			22,291	11,136	38,469	109,478					Mains Allocation
5	851	Sys. Control & Load Dispatch.	1,550				1,550							Transmission - Commodity
6	852	Communication System Expenses	1,239			152	76	263	748					Mains Allocation
7	856	Mains Expenses	215,672			26,506	13,242	45,744	130,180					Mains Allocation
8	857	Meas. & Reg. Sta. Expenses	8,010			984	492	1,699	4,835					Mains Allocation
9	859	Other Expenses	232,030			28,516	14,247	49,214	140,053					Mains Allocation
10	860	Rents	19,709			2,422	1,210	4,180	11,896					Mains Allocation
11		Total Operation	659,584	0	0	80,872	41,953	139,569	397,190	0	0	0	0	Sum of Lines 4 thru 9
12		Maintenance												
13	861	Supervision & Engineering	24,448			3,005	1,501	5,186	14,757					Mains Allocation
	862	Structures & Improvements	4,244			522	261	900	2,562					Mains Allocation
14	863	Mains	6,246			768	383	1,325	3,770					Mains Allocation
15	864	Compressor Station Equipment	0			0	0	0	0					Mains Allocation
16	865	Meas. & Reg. Sta. Equip.	1,628			200	100	345	983					Mains Allocation
	866	Communication Equipment	5,366			659	329	1,138	3,239					Mains Allocation
17	867	Other Equipment	0			0	0	0	0					Mains Allocation
18		Total Maintenance	41,932	0	0	5,153	2,575	8,894	25,310	0	0	0	0	Sum of Lines 13 thru 17
19		Total Transmission Expenses	701,517	0	0	86,026	44,528	148,463	422,500	0	0	0	0	Line 11 + Line 18
20		Distribution Expenses												
21		Operation												
22	870	Supervision & Engineering	1,907,147			112,188	56,259	193,614	550,992	637,778	356,316			Accounts 871 - 880
23	871	Load Dispatching	1,330				1,330							Transmission - Commodity
24	872	Compressor Station Expenses	(559)				(559)							Transmission - Commodity
25	874	Mains & Services	3,221,989			240,976	120,390	415,875	1,183,510	1,261,237				Accounts 376 and 380
26	875	Measuring & Regulating Sta. Equip, - General	411,639			50,590	25,275	87,309	248,466					Account 378
27	876	Measuring & Regulating Sta. Equip, - Ind.	25,985								25,985			Meters and Regulators
28	877	Measuring & Regulating Sta. Equp. - CG	138,853			17,065	8,526	29,451	83,812					Account 379
29	878	Meters & House Regulators	878,442								878,442			Meters and Regulators
30	879	Customer Installation Expenses	579,715							579,715				Services
31	880	Other Expenses	1,744,926			103,281	51,599	178,242	507,247	500,726	403,830			Distribution Plant
32	881	Rents	16,633			985	492	1,699	4,835	4,773	3,850			Distribution Plant
33		Total Operation	8,926,103	0	0	525,086	263,311	906,190	2,578,862	2,984,230	1,668,423	0	0	Sum of Lines 22 thru 32
34		Maintenance												
35	885	Supervision & Engineering	84,013	0	0	4,351	2,174	7,508	21,367	11,878	36,735	0	0	Accounts 886 - 894
36	886	Structures & Improvements	0	0	0	0	0	0	0	0	0	0	0	Account 375
37	887	Mains	779,470			95,797	47,859	165,326	470,488					Account 376
38	888	Main. Of Compressor Sta. Eq.	76,313			9,379	4,686	16,186	46,062					Account 377
39	889	Meas. & Reg. Sta. Eq. - Gen.	126,214			15,512	7,750	26,770	76,183					Mains Allocation
40	890	Meas. & Reg. Sta. Eq. - Ind.	85,702								85,702			Meters and Regulators
41	891	Meas. & Reg. Sta. Eq. - City Gate	306,644								306,644			Meters and Regulators
42	892	Services	320,489							320,489				Services
43	893	Meters & House Regulators	645,990								645,990			Meters and Regulators
44	894	Other Equipment	71,953			4,259	2,128	7,350	20,917	20,648	16,652			Distribution Plant
45		Total Maintenance	2,496,788	0	0	129,297	64,596	223,140	635,017	353,016	1,091,723	0	0	Sum of Lines 35 thru 44
46		Total Distribution	11,422,890	0	0	654,383	327,907	1,129,330	3,213,878	3,337,245	2,760,147	0	0	Line 33 + Line 45

Black Hills/Kansas Gas Utility Company, LLC
Functional Classification of Operation and Maintenance Expenses
For the Pro Forma Period Ending September 30, 2025

A		B	C	D	E	F	G	H	I	J	K	L	M	N
			Total	Gas Supply		Transmission		Distribution			Meters			
Line Number	Acct. No.	Description	Gas Utility Adjusted	Demand	Commodity	Demand	Commodity	Demand	Customer	Services	and Regulators	Customer Accounts	Direct	Allocation Basis or Reference
			$	$	$	$	$	$	$	$	$	$	$	
47		Customer Accounts Expenses												
48	901	Supervision	206,719									206,719		Customer Accounts
49	902	Meter Reading Expenses	390,348									390,348		Customer Accounts
50	903	Customer Records & Collection	2,610,115									2,610,115		Customer Accounts
51	904	Uncollectible Accounts	874,790									874,790		Customer Accounts
52	905	Miscellaneous	56,307									56,307		Customer Accounts
53		Total Customer Accounts Expenses	4,138,279	0	0	0	0	0	0	0	0	4,138,279	0	Sum of Lines 48 thru 52
54		Customer Service & Inform. Exp.												
55	907	Supervision	53,612				26,806					26,806		50% Trans Com., 50% Cust Accts.
56	908	Customer Assistance Expenses	129,645				64,822					64,822		50% Trans Com., 50% Cust Accts.
57	909	Information & Instruction Exp.	19,596				9,798					9,798		50% Trans Com., 50% Cust Accts.
58	910	Miscellaneous	377				188					188		50% Trans Com., 50% Cust Accts.
59		Total Cust. Service & Inf. Exp.	203,229	0	0	0	101,615	0	0	0	0	101,615	0	Sum of Lines 55 thru 58
60		Sales Expenses												
61	911	Supervision	0				0					0		50% Trans Com., 50% Cust Accts.
62	912	Demonstrating & Selling Exp.	202,029				101,014					101,014		50% Trans Com., 50% Cust Accts.
63	913	Advertising Expenses	6,498				3,249					3,249		50% Trans Com., 50% Cust Accts.
64	916	Miscellaneous	0				0					0		50% Trans Com., 50% Cust Accts.
65		Total Sales Expenses	208,527	0	0	0	104,263	0	0	0	0	104,263	0	Sum of Lines 61 thru 64
66		Administrative & General Expenses												
67		Operation												
68	920	A & G Salaries	7,290,949	0	0	341,576	266,924	589,490	1,677,587	1,539,432	1,273,269	1,602,670	0	Supervised O&M
69	921	Office Supplies & Expenses	1,686,722	0	0	79,022	61,751	136,375	388,101	356,139	294,564	370,769	0	Supervised O&M
70	922	Transfers	(1,488,431)	0	0	(69,732)	(54,492)	(120,343)	(342,476)	(314,272)	(259,935)	(327,182)	0	Supervised O&M
71	923	Outside Services Employed	843,059	0	0	39,497	30,865	68,163	193,981	178,006	147,229	185,318	0	Supervised O&M
72	924	Property Insurance	19,713	0	0	1,322	688	2,281	6,493	4,680	3,784	465	0	Net Plant
73	925	Injuries & Damages	1,137,339	0	0	53,284	41,638	91,957	261,692	240,141	198,621	250,006	0	Supervised O&M
74	926	Employee Pensions & Benefits	2,647,511	0	0	124,034	96,926	214,057	609,171	559,003	462,353	581,967	0	Supervised O&M
75	928	Regulatory Commission Expense	586,604				586,604							Transmission - Commodity
76	929	Duplicate Charges - Credit	0	0	0	0	0	0	0	0	0	0	0	Supervised O&M
77	930	Miscellaneous	458,027	0	0	21,458	16,769	37,033	105,388	96,709	79,988	100,682	0	Supervised O&M
78	931	Rents	804,552	0	0	37,693	29,455	65,050	185,121	169,876	140,505	176,854	0	Supervised O&M
79	932	Maintenance of General Plant	1,691,353	0	0	79,239	61,921	136,750	389,166	357,117	295,373	371,787	0	Supervised O&M
80		Total A & G Expenses	15,677,400	0	0	707,393	1,139,049	1,220,814	3,474,225	3,186,832	2,635,751	3,313,337	0	Sum of Lines 68 thru 78
81		Total Operation & Maintenance	32,351,842	0	0	1,447,802	1,717,362	2,498,607	7,110,603	6,524,077	5,395,897	7,657,494	0	Sum of Lines 19,46,53,59,65,80
82														
83		Supervised O & M before General	15,783,018	0	0	739,424	577,821	1,276,094	3,631,543	3,332,472	2,756,297	3,469,367	0	Lines 19 + 46 - 32 + 53 - 51 + 59 + 65

Black Hills/Kansas Gas Utility Company, LLC
Functional Classification of Other Cost of Service Components
For the Pro Forma Period Ending September 30, 2025

A		B	C	D	E	F	G	H	I	J	K	L	M	N
			Total	Gas Supply		Transmission		Distribution			Meters			
Line	Acct.		Gas Utility								and	Customer		
Number	No.	Description	Adjusted	Demand	Commodity	Demand	Commodity	Demand	Customer	Services	Regulators	Accounts	Direct	Allocation Basis or Reference
			$	$	$	$	$	$	$	$	$	$	$	
1		Depreciation Expense												
2		Intangible	106,944	0	0	5,010	3,915	8,647	24,607	22,580	18,676	23,508	0	Intangible Plant
3		Production & Gathering	0	0	0	0	0	0	0	0	0	0	0	Prod. & Gathering Plant
4		Transmission	1,007,900	0	0	123,871	61,885	213,776	608,368	0	0	0	0	Transmission Plant
5		Distribution	8,875,446	0	0	525,334	262,453	906,618	2,580,078	2,546,909	2,054,054	0	0	Distribution Plant
6		General	872,286	0	0	40,866	31,935	70,526	200,706	184,177	152,333	191,743	0	General Plant
7		Other Utility Plant (Allocated on Customer Count)	1,884,420									1,884,420	0	Customer Accounts
8		Other Utility Plant (Allocated on Blended Ratio)	0	0	0	0	0	0	0	0	0	0	0	Supervised O&M
9		Total Depreciation Expense	12,746,995	0	0	695,081	360,188	1,199,567	3,413,760	2,753,666	2,225,063	2,099,670	0	Sum of Lines 2 thru 6
10		Taxes Other Than Income Taxes												
11		Property Taxes	7,815,966	0	0	524,137	272,699	904,553	2,574,201	1,855,722	1,500,193	184,461	0	Net Plant
12		Payroll Taxes	969,408	0	0	45,416	35,490	78,379	223,053	204,684	169,294	213,092	0	Supervised O&M
13		Miscellaneous	177,999	0	0	8,339	6,517	14,392	40,956	37,583	31,085	39,127	0	Supervised O&M
14		Total Taxes Other than Income Taxes	8,963,372	0	0	577,893	314,706	997,323	2,838,209	2,097,988	1,700,573	436,680	0	Sum of Lines 11 thru 13
15		Other Operating Revenues												
16	487	Forfeited Discounts	333,613										333,613	Direct
17	488	Misc. Service Revenues	662,809	0	0	31,052	24,266	53,590	152,507	139,947	115,751	145,696	0	Supervised O&M
18	489	Negotiated Margin Revenues	2,383,053			292,877	146,319	505,446	1,438,411					Mains Allocation
19		Total Other Operating Revenues	3,379,475	0	0	323,929	170,585	559,035	1,590,918	139,947	115,751	145,696	333,613	Sum of Lines 16 thru 18

	A	B	C	D	E	F	G	H	I	J
		Total		Firm and Transportation			Irrigation		Interruptible	
Line		Gas Utility	Residential	Small	Small	Large			Large	
Number	Description	Adjusted	Service	Commercial	Volume	Volume	Sales	Transportation	Volume	Basis of Allocation or Reference
		$	$	$	$	$	$	$	$	
1	Return Under Existing Rates									
2	Rate Base	305,947,330	218,829,678	31,687,539	21,480,275	19,105,813	11,313,554	2,861,277	669,194	Table 3 Line 18
3	Sales Revenues	131,973,547	79,993,962	14,434,194	13,271,917	9,046,825	13,457,708	588,871	1,180,071	Exhibit EJF-6
4	Cost of Gas	71,625,936	40,749,693	8,027,606	8,401,379	2,540,027	11,013,085	0	894,147	Exhibit EJF-6
5	Sales Revenues Excluding Gas Cost	60,347,610	39,244,269	6,406,589	4,870,538	6,506,797	2,444,623	588,871	285,924	Line 3 - Line 4
6	Net Cost of Service	77,555,361	55,533,054	8,388,854	5,300,723	4,530,043	2,896,502	731,032	175,154	Table 2 Line 19
7	Revenue Deficiency	17,207,751	16,288,786	1,982,265	430,184	(1,976,754)	451,879	142,161	(110,770)	Line 6 - Line 5
8	Additional Customer Charge Revenues from Negotiated LV	0	0	0	0	0	0	0	0	Not applicable w/o LV rate change
9	Net Revenue Deficiency	17,207,751	16,288,786	1,982,265	430,184	(1,976,754)	451,879	142,161	(110,770)	
10	Percent	13.04%	20.36%	13.73%	3.24%	-21.85%	3.36%	24.14%	-9.39%	Line 9 / Line 3
11	Rebalancing	0	(2,087,524)			1,976,754			110,770	
12	Net Revenue Deficiency	17,207,751	14,201,261	1,982,265	430,184	0	451,879	142,161	0	
13	Percent	13.04%	17.75%	13.73%	3.24%	0.00%	3.36%	24.14%	0.00%	
14	Increase Under Proposed Rates	17,207,272	13,996,106	2,187,067	430,140	17,586	484,904	109,055	(17,585)	
15	Percent	13.04%	17.50%	15.15%	3.24%	0.19%	3.60%	18.52%	-1.49%	Line 14 / Line 3
16	Increase Under Proposed Rates (Incl LV Credit)	17,207,272	13,996,106	2,187,067	430,140	17,586	484,904	109,055	(17,585)	
17	Incremental Taxes at 21.00%	3,613,527	2,939,182	459,284	90,329	3,693	101,830	22,902	(3,693)	Line 16 x 21.00%
18	Incremental Return	13,593,745	11,056,924	1,727,783	339,811	13,893	383,074	86,154	(13,892)	Line 16 - Line 17
19	Return Under Current Rates	9,749,658	3,828,564	851,770	1,299,099	3,019,409	506,240	106,008	138,568	(Line 2 X 7.63%) - Line 7 X (100 - 21.00%)
20	Rate of Return Under Current Rates	3.19%	1.75%	2.69%	6.05%	15.80%	4.47%	3.70%	20.71%	Line 19 / Line 2
21	Return Under Proposed Rates	23,343,403	14,885,488	2,579,552	1,638,910	3,033,302	889,314	192,162	124,676	Line 18 + Line 19
22	Rate of Return Under Proposed Rates	7.63%	6.80%	8.14%	7.63%	15.88%	7.86%	6.72%	18.63%	Line 21 / Line 2

21	Rate of Return Under Current Rates		Rate of Return Under Proposed Rates	
22	Residential + Small Commercial	1.87%	Residential + Small Commercial	6.97%
23	Small Volume (Firm + Full Margin Trans.)	6.05%	Small Volume (Firm + Full Margin Trans.)	7.63%
24	Large Volume (Firm + Interruptible + Full Margin Trans.)	15.97%	Large Volume (Firm + Interruptible + Full Margin Trans.)	15.97%
25	Irrigation (Firm + Full Margin Trans.)	4.32%	Irrigation (Firm + Full Margin Trans.)	7.63%
26	Total	3.19%	Total	7.63%

	A	B	C	D	E	F	G	H	I	J
		Total		Firm and Transportation			Irrigation		Interruptible	
Line Number	Description	Gas Utility Adjusted	Residential Service	Small Commercial	Small Volume	Large Volume	Sales	Transportation	Large Volume	Basis of Allocation or Reference
		$	$	$	$	$	$	$	$	
1	Total Cost of Service									
2	Gas Supply									
3	Demand	233,888	164,271	33,685	29,595	6,337	0	0	0	50% Peak (Sales), 50% Firm Winter Period Sales
4	Commodity	0	0	0	0	0	0	0	0	Annual Sales
5	Total Gas Supply	233,888	164,271	33,685	29,595	6,337	0	0	0	Line 3 + Line 4
6	Transmission									
7	Demand	4,190,408	2,137,902	459,014	581,718	986,863	0	0	24,911	50% Peak, 50% Winter Period Throughput
8	Commodity	3,154,316	983,655	203,213	305,882	1,076,056	444,866	103,005	37,638	Annual Throughput
9	Total Transmission	7,344,724	3,121,557	662,227	887,600	2,062,919	444,866	103,005	62,549	Line 7 + Line 8
10	Distribution									
11	Demand	7,231,779	3,689,577	792,163	1,003,925	1,703,121	0	0	42,992	50% Peak, 50% Winter Period Throughput
12	Customer	20,580,394	17,094,401	1,992,457	562,271	105,957	649,255	166,317	9,735	Distribution - Customer
13	Total Distribution	27,812,173	20,783,978	2,784,621	1,566,196	1,809,078	649,255	166,317	52,727	Line 11 + Line 12
14	Services	17,584,859	14,606,263	1,702,450	480,431	90,535	554,754	142,109	8,318	Services
15	Meters and Regulators	14,338,303	9,166,568	1,709,472	1,809,046	312,496	1,044,454	267,554	28,712	Meters & Regulators
16	Customer Accounting	10,575,027	8,024,029	1,496,400	527,854	248,678	203,171	52,046	22,848	Customer Accounting
17	Direct									
18	Forfeited Discounts	(333,613)	(333,613)							Direct - Residential
19	Total Cost of Service	77,555,361	55,533,054	8,388,854	5,300,723	4,530,043	2,896,502	731,032	175,154	Sum of Lines 5,9,13,14,15,16 and 18

	A	B	C	D	E	F	G	H	I	J
		Total		Firm and Transportation			Irrigation		Interruptible	
Line Number	Description	Gas Utility Adjusted	Residential Service	Small Commercial	Small Volume	Large Volume	Sales	Transportation	Large Volume	Basis of Allocation or Reference
		$	$	$	$	$	$	$	$	
1	Rate Base									
2	Gas Supply									
3	Demand	2,662,837	1,870,245	383,512	336,938	72,142	0	0	0	50% Peak (Sales), 50% Firm Winter Period Sales
4	Commodity	0	0	0	0	0	0	0	0	Annual Sales
5	Total Gas Supply	2,662,837	1,870,245	383,512	336,938	72,142	0	0	0	Line 3 + Line 4
6	Transmission									
7	Demand	20,419,870	10,418,002	2,236,776	2,834,715	4,808,985	0	0	121,392	50% Peak, 50% Winter Period Throughput
8	Commodity	10,618,242	3,311,238	684,067	1,029,676	3,622,284	1,497,536	346,742	126,700	Annual Throughput
9	Total Transmission	31,038,113	13,729,239	2,920,843	3,864,391	8,431,269	1,497,536	346,742	248,092	Line 7 + Line 8
10	Distribution									
11	Demand	35,240,476	17,979,318	3,860,214	4,892,131	8,299,314	0	0	209,498	50% Peak, 50% Winter Period Throughput
12	Customer	100,288,312	83,301,061	9,709,250	2,739,947	516,328	3,163,822	810,465	47,439	Distribution - Customer
13	Total Distribution	135,528,788	101,280,378	13,569,464	7,632,079	8,815,643	3,163,822	810,465	256,938	Line 11 + Line 12
14	Services	72,284,806	60,040,905	6,998,136	1,974,872	372,154	2,280,388	584,159	34,193	Services
15	Meters and Regulators	58,434,216	37,357,366	6,966,768	7,372,575	1,273,545	4,256,562	1,090,389	117,011	Meters & Regulators
16	Customer Accounting	5,998,571	4,551,545	848,817	299,420	141,060	115,247	29,522	12,960	Customer Accounting
17	Direct	0	0	0	0	0	0	0	0	Direct
18	Total Rate Base	305,947,330	218,829,678	31,687,539	21,480,275	19,105,813	11,313,554	2,861,277	669,194	Sum of Lines 5,9,13,14,15,16 and 17

	A		B	C	D	E	F	G	H	I	J
			Total		Firm and Transportation			Irrigation		Interruptible	
Line			Gas Utility	Residential	Small	Small	Large			Large	
Number	Description		Adjusted	Service	Commercial	Volume	Volume	Sales	Transportation	Volume	Basis of Allocation or Reference
			$	$	$	$	$	$	$	$	
1	Allocation Bases										
2	Firm Winter Peak Demand	Load Factor		20.68%	20.00%	25.00%	67.00%	0.00%	0.00%	0.00%	Load Factor Study
3	Peak Day - therms/Day		1,509,156	834,482	178,257	214,653	281,764	0	0	0	Line 15 / 365 / Line 2
4	Allocation Factor		100.0000%	55.2946%	11.8117%	14.2234%	18.6703%	0.0000%	0.0000%	0.0000%	Line 3 / Line 3 Column B
5	Firm Winter Peak Demand - Sales Only										
6	Peak Day - therms/Day		1,162,833	834,482	169,981	142,316	16,055	0	0	0	Line 18 / 365 / Line 2
7	Allocation Factor		100.0000%	71.7628%	14.6178%	12.2387%	1.3807%	0.0000%	0.0000%	0.0000%	Line 6 / Line 6 Column B
8	Winter Period Throughput										
9	Winter (Nov-Mar) Throughput - therms		100,777,221	47,106,556	10,174,634	13,646,104	28,651,723	0	0	1,198,205	Exhibit EJF-6
10	Allocation Factor		100.0000%	46.7433%	10.0962%	13.5409%	28.4308%	0.0000%	0.0000%	1.1890%	Line 9 / Line 9 Column B
11	Firm Winter Period Sales										
12	Winter (Nov-Mar) Sales - therms		68,561,217	47,106,556	9,726,753	8,959,570	2,768,338	0	0	0	Line 9 excluding interruptible and transportation
13	Allocation Factor		100.0000%	68.7073%	14.1870%	13.0680%	4.0378%	0.0000%	0.0000%	0.0000%	Line 12 / Line 12 Column B
14	Commodity										
15	Annual Throughput - therms		201,986,634	62,988,365	13,012,730	19,587,128	68,905,286	28,487,029	6,595,933	2,410,164	Exhibit EJF-6
16	Allocation Factor		100.0000%	31.1844%	6.4424%	9.6972%	34.1138%	14.1034%	3.2655%	1.1932%	Line 15 / Line 15 Column B
17	Commodity - Firm Sales										
18	Annual Sales - therms		92,309,495	62,988,365	12,408,578	12,986,334	3,926,218	0	0	0	Line 15 excluding interruptible and transportation
19	Allocation Factor		100.0000%	68.2361%	13.4424%	14.0683%	4.2533%	0.0000%	0.0000%	0.0000%	Line 18 / Line 18 Column B
20	Commodity - Sales										
21	Annual Sales - therms		123,206,687	62,988,365	12,408,578	12,986,334	3,926,218	28,487,029	0	2,410,164	Exhibit EJF-6
22	Allocation Factor		100.0000%	51.1241%	10.0714%	10.5403%	3.1867%	23.1213%	0.0000%	1.9562%	Line 21 / Line 21 Column B
23	Distribution - Customer										
24	Average Number of Customers		119,427	105,942	9,879	1,742	164	1,341	344	15	Exhibit EJF-6
25	Weighting Factor			1	1.25	2	4	3	3	4	Weighting Factor Study
26	Weighted Number of Customers		127,547	105,942	12,348	3,485	657	4,024	1,031	60	Line 24 x Line 25
27	Allocation Factor		100.0000%	83.0616%	9.6813%	2.7321%	0.5148%	3.1547%	0.8081%	0.0473%	Line 26 / Line 26 Column B
28	Services										
29	Average Number of Customers		119,427	105,942	9,879	1,742	164	1,341	344	15	Exhibit EJF-6
30	Weighting Factor			1	1.25	2	4	3	3	4	Weighting Factor Study
31	Weighted Number of Customers		127,547	105,942	12,348	3,485	657	4,024	1,031	60	Line 29 x Line 30
32	Services Cost Allocator		100.0000%	83.0616%	9.6813%	2.7321%	0.5148%	3.1547%	0.8081%	0.0473%	Line 31 / Line 31 Column B
33	Meters & Regulators										
34	Average Number of Customers		119,427	105,942	9,879	1,742	164	1,341	344	15	Exhibit EJF-6
35	Weighting Factor			1	2	12	22	9	9	22	Weighting Factor Study
36	Weighted Number of Customers		165,715	105,942	19,757	20,908	3,612	12,071	3,092	332	Line 34 x Line 35
37	Meters & Regulators Cost Allocator		100.0000%	63.9306%	11.9224%	12.6169%	2.1795%	7.2844%	1.8660%	0.2002%	Line 36 / Line 36 Column B
38	Customer Accounting										
39	Average Number of Customers		119,427	105,942	9,879	1,742	164	1,341	344	15	Exhibit EJF-6
40	Weighting Factor			1	2	4	20	2	2	20	Weighting Factor Study
41	Weighted Number of Customers		139,624	105,942	19,757	6,969	3,283	2,683	687	302	Line 39 x Line 40
42	Customer Accounts Cost Allocator		100.00%	75.9%	14.2%	5.0%	2.4%	1.9%	0.5%	0.2%	Line 41 / Line 41 Column B
43	Use per Customer		1,691	595	1,317	11,242	419,728	21,239	19,197	159,790	Line 15 / Line 24

Black Hills/Kansas Gas Utility Company, LLC
Unit Cost of Service
For the Pro Forma Period Ending September 30, 2025

KSG Direct Exhibit EJF-14
Table 5

	A	B	C	D	E	F	G	H	I	J
				Firm and Transportation			Irrigation		Interruptible	
Line Number	Description	Total Gas Utility Adjusted	Residential Service	Small Commercial	Small Volume	Large Volume	Sales	Transportation	Large Volume	Basis of Allocation or Reference
		$	$	$	$	$	$	$	$	
1	Other Gas Supply									
2	Demand - $	233,888	164,271	33,685	29,595	6,337	0	0	0	Line 3 ,Table 2
3	$/therm	0.00116	0.00261	0.00259	0.00151	0.00009	0.00000	0.00000	0.00000	Line 2 / Line 15 ,Table 4
4	Commodity - $	0	0	0	0	0	0	0	0	Line 4 ,Table 2
5	$/therm	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	Line 4 / Line 15 ,Table 4
6	Customer - Related									
7	Services	17,584,859	14,606,263	1,702,450	480,431	90,535	554,754	142,109	8,318	Line 14 ,Table 2
8	$/month		11.49	14.36	22.98	45.96	34.47	34.47	45.96	Line 7 / Line 39 ,Table 4
9	Meters & Regulators	14,338,303	9,166,568	1,709,472	1,809,046	312,496	1,044,454	267,554	28,712	Line 15 ,Table 2
10	$/month		7.21	14.42	86.52	158.63	64.89	64.89	158.63	Line 9 / Line 39 ,Table 4
11	Customer Accounting	10,241,414	7,690,416	1,496,400	527,854	248,678	203,171	52,046	22,848	Line 16 ,Table 2
12	$/month		6.05	12.62	25.25	126.23	12.62	12.62	126.23	Line 11 / Line 39 ,Table 4
13	Distribution - Customer	20,580,394	17,094,401	1,992,457	562,271	105,957	649,255	166,317	9,735	Line 12 ,Table 2
14	$/bill/month	14.36	13.45	16.81	26.89	53.79	40.34	40.34	53.79	Line 13 / Line 15 ,Table 4
15	Trans/Distr - Demand	11,422,187	5,827,479	1,251,177	1,585,644	2,689,984	0	0	67,903	Line 7 + Line 11, Table 2
16	$/therm	0.05655	0.09252	0.09615	0.08095	0.03904	0.00000	0.00000	0.02817	Line 15 / Line 15 ,Table 4
17	Transmission - Commodity	3,154,316	983,655	203,213	305,882	1,076,056	444,866	103,005	37,638	Line 8 ,Table 2
18	$/therm	0.01562	0.01562	0.01562	0.01562	0.01562	0.01562	0.01562	0.01562	Line 17 / Line 15 ,Table 4
19	Customer Costs - $	62,744,971	48,557,649	6,900,778	3,379,603	757,666	2,451,635	628,027	69,613	Line 6 + Line 9 + Line 11 + Line 13
20	Demand Costs - $	11,656,075	5,991,750	1,284,863	1,615,238	2,696,321	0	0	67,903	Line 2 + Line 15
21	Commodity Costs - $	3,154,316	983,655	203,213	305,882	1,076,056	444,866	103,005	37,638	Line 17
22	Total Cost of Service - $	77,555,361	55,533,054	8,388,854	5,300,723	4,530,043	2,896,502	731,032	175,154	Sum of Lines 19 thru 21
23	**Calculated Unit Rates**									
24	Customer Costs - $/bill.month		38.20	58.21	161.64	384.60	152.32	152.32	384.60	Line 8 + Line 10 + Line 12 + Line 14
25	Demand Costs - $/therm		0.09512	0.09874	0.08246	0.03913	0.00000	0.00000	0.02817	Line 3 + Line 16
26	Commodity Costs - $/therm		0.01562	0.01562	0.01562	0.01562	0.01562	0.01562	0.01562	Line 18
27	**Calculated Cost of Service Rates**									
28	Customer Costs - $/bill.month		38.20	58.21	161.64	384.60	152.32	152.32	384.60	Line 23
29	Commodity Costs - $/therm		0.11074	0.11436	0.09808	0.05475	0.01562	0.01562	0.04379	Line 25 + Line 26
30	**Proposed Rates**									
31	Customer Costs - $/bill.month		31.50	49.50	148.00	358.00	49.50	49.50	358.00	
32	Commodity Costs - $/therm		0.20947	0.20947	0.11264	0.08445	0.07487	0.07487	0.08445	Exhibit EJF-15

Black Hills/Kansas Gas Utility Company, LLC
Revenues Under Current and Proposed Rates
For the Pro Forma Period Ending September 30, 2025

KSG Direct Exhibit EJF-15

	A	B	C	D	E	F	G	H	I	J	K	L	M
				Small Commercial		Small Volume		Large Volume			Irrigation		
Line Number	Description	Total Company	Residential	Sales	Transportation	Firm	Transportation	Firm	Interruptible	Transportation	Sales	Transportation	Reference
1	1. Billing Determinants												
2	Average Number of Monthly I	119,427	105,942	9,674	204	1,283	459	42	15	122	1,341	344	Exhibit EJF-6
3	Total Test Period Volumes	201,986,634	62,988,365	12,408,578	604,152	12,986,334	6,600,794	3,926,218	2,410,164	64,979,068	28,487,029	6,595,933	Exhibit EJF-6
4	2. Current Rates												
5	Customer Charge - $/month		18.50	28.00	28.00	70.00	70.00	355.00	355.00	355.00	45.00	45.00	Current Tariff
6	Delivery Charge - $/therm		0.20251	0.20251	0.20251	0.15606	0.15606	0.07937	0.07937	0.07937	0.05378	0.05378	Current Tariff
7	Cost of Gas - $/therm		0.64694	0.64694	-	0.64694	-	0.64694	0.37099	-	0.38660	-	Exhibit EJF-6
8	3. Revenue Under Current Rates												
9	Customer Charge - $	34,352,792	26,488,495	3,693,282	78,098	1,334,811	478,960	266,021	94,630	771,764	912,590	234,141	Exhibit EJF-6
10	Delivery Charge - $	25,994,818	12,755,774	2,512,861	122,347	2,026,647	1,030,120	311,624	191,295	5,157,389	1,532,032	354,729	Exhibit EJF-6
11	Margin - $	60,347,610	39,244,269	6,206,143	200,445	3,361,458	1,509,080	577,644	285,924	5,929,153	2,444,623	588,871	Line 9 + Line 10
12	Cost of Gas - $	71,625,936	40,749,693	8,027,606	-	8,401,379	-	2,540,027	894,147	-	11,013,085	-	Exhibit EJF-6
13	Total - $	131,973,547	79,993,962	14,233,749	200,445	11,762,837	1,509,080	3,117,672	1,180,071	5,929,153	13,457,708	588,871	Line 11 + Line 12
14	4. Proposed Rates												
15	Customer Charge - $/month		31.50	49.50	49.50	148.00	148.00	358.00	358.00	358.00	49.50	49.50	
16	Delivery Charge - $/therm		0.20947	0.20947	0.20947	0.11264	0.11264	0.08445	0.08445	0.08445	0.07487	0.07487	
17	Cost of Gas - $/therm		0.64694	0.64694	-	0.64694	-	0.64694	0.37099	-	0.38660	-	
18	5. Revenue Under Proposed Rates												
19	Customer Charge - $	50,779,314	40,046,202	5,746,505	121,374	2,278,756	815,628	180,790	64,798	524,470	796,703	204,089	Line 15 x Line 2 x 12
20	Delivery Charge - $	26,775,569	13,194,173	2,599,225	126,552	1,462,781	743,513	331,573	203,541	5,487,550	2,132,824	493,837	Line 16 x Line 3
21	Margin - $	77,554,882	53,240,375	8,345,729	247,926	3,741,537	1,559,141	512,363	268,339	6,012,020	2,929,526	697,926	Line 19 + Line 20
22	Cost of Gas - $	71,625,936	40,749,693	8,027,606	-	8,401,379	-	2,540,027	894,147	-	11,013,085	-	Line 12
23	Total - $	149,180,819	93,990,068	16,373,335	247,926	12,142,915	1,559,141	3,052,390	1,162,486	6,012,020	13,942,612	697,926	Line 21 + Line 22
24	6. Difference												
25	Customer Charge - $	16,426,521	13,557,707	2,053,222	43,276	943,945	336,668	(85,231)	(29,832)	(247,294)	(115,888)	(30,053)	Line 19 - Line 9
26	Delivery Charge - $	780,751	438,399	86,364	4,205	(563,867)	(286,606)	19,949	12,246	330,161	600,791	139,108	Line 20 - Line 10
27	Cost of Gas - $	-	-	-	-	-	-	-	-	-	-	-	Line 22 - Line 12
28	Total - $ (2)	17,207,272	13,996,106	2,139,586	47,481	380,078	50,062	(65,281)	(17,585)	82,867	484,904	109,055	Sum of Lines 25 through 27
29	Percent Difference												
30	Customer Charge - %	47.8%	51.2%	55.6%	55.4%	70.7%	70.3%	-32.0%	-31.5%	-32.0%	-12.7%	-12.8%	
31	Delivery Charge - %	3.0%	3.4%	3.4%	3.4%	-27.8%	-27.8%	6.4%	6.4%	6.4%	39.2%	39.2%	
32	Cost of Gas - %	0.0%	0.0%	0.0%	n/a	0.0%	n/a	0.0%	0.0%	n/a	0.0%	n/a	
33	Total - %	13.0%	17.5%	15.0%	23.7%	3.2%	3.3%	-2.1%	-1.5%	1.4%	3.6%	18.5%	
	Net Revenue Deficiency		16,183,526			430,184		0			594,040		
	Customer Charge - $		15,654,205			1,280,613		(362,356)			(145,941)		

Black Hills/Kansas Gas Utility Company, LLC
Average Customer Bill Impacts Under Current and Proposed Rate Design
For the Pro Forma Period Ending September 30, 2025

	A	B	C	D	E	F	G	H	I	J	K	L
Line No.	Description	Residential	Small Commercial		Small Volume		Large Volume			Irrigation		Reference
			Sales	Transportation	Firm	Transportation	Firm	Interruptible	Transportation	Sales	Transportation	
1	1. Billing Determinants											
2	Ave. Number of Monthly Bills	105,942	9,674	204	1,283	459	42	15	122	1,341	344	Exhibit EJF-6
3	Total Test Period Volumes	62,988,365	12,408,578	604,152	12,986,334	6,600,794	3,926,218	2,410,164	64,979,068	28,487,029	6,595,933	Exhibit EJF-6
4	Average Therms per Bill	50	107	246	843	1,198	7,775	13,316	44,354	1,770	1,600	
5	2. Current Rates											
6	Customer Charge - $/month	$18.50	$28.00	$28.00	$70.00	$70.00	$355.00	$355.00	$355.00	$45.00	$45.00	Current Tariff
7	GSRS - $/month	$2.27	$3.70	$3.70	$16.11	$16.11	$163.72	$163.72	$163.72	$11.04	$11.04	Current Tariff
8	Delivery Charge - $/therm	$0.20251	$0.20251	$0.20251	$0.15606	$0.15606	$0.07937	$0.07937	$0.07937	$0.05378	$0.05378	Current Tariff
9	PGA - $/therm	$0.64694	$0.64694		$0.64694		$0.64694	$0.37099		$0.38660		
10	3. Average Monthly Bill (Current Rates)											
11	Monthly	$20.77	$31.70	$31.70	$86.11	$86.11	$518.72	$518.72	$518.72	$56.04	$56.04	
12	Volumetric	$42.09	$90.79	$49.90	$677.28	$186.92	$5,646.83	$5,996.91	$3,520.40	$779.44	$86.04	
13	Total Average Bill	$62.86	$122.49	$81.60	$763.39	$273.03	$6,165.55	$6,515.63	$4,039.12	$835.48	$142.08	
14	4. Proposed Rates											
15	Customer Charge - $/month	$31.50	$49.50	$49.50	$148.00	$148.00	$358.00	$358.00	$358.00	$49.50	$49.50	
16	GSRS - $/month	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
17	Delivery Charge - $/therm	$0.20947	$0.20947	$0.20947	$0.11264	$0.11264	$0.08445	$0.08445	$0.08445	$0.07487	$0.07487	
18	PGA - $/therm	$0.64694	$0.64694		$0.64694		$0.64694	$0.37099		$0.38660		
19	5. Average Monthly Bill (Proposed Rates)											
20	Monthly	$31.50	$49.50	$49.50	$148.00	$148.00	$358.00	$358.00	$358.00	$49.50	$49.50	
21	Volumetric	$42.43	$91.54	$51.61	$640.65	$134.91	$5,686.34	$6,064.57	$3,745.77	$816.77	$119.78	
22	Total Average Bill	$73.93	$141.04	$101.11	$788.65	$282.91	$6,044.34	$6,422.57	$4,103.77	$866.27	$169.28	
23	6. Average Customer Bill Impact											
24	Change in Ave Monthly Bill - $	$11.07	$18.55	$19.51	$25.26	$9.88	($121.21)	($93.06)	$64.65	$30.79	$27.20	
25	Change in Ave Monthly Bill - %	17.6%	15.1%	23.9%	3.3%	3.6%	-2.0%	-1.4%	1.6%	3.7%	19.1%	