BEFORE THE NEBRASKA PUBLIC SERVICE COMMISSION

IN THE MATTER OF THE APPLICATION OF BLACK HILLS NEBRASKA GAS, LLC, D/B/A BLACK HILLS ENERGY, RAPID CITY, SOUTH DAKOTA, SEEKING APPROVAL OF A GENERAL RATE INCREASE	**)** **)** **)** **)** **)**	**APPLICATION NO. NG-124**

DIRECT TESTIMONY OF DOUGLAS N. HYATT

Manager of Regulatory

ON BEHALF OF BLACK HILLS NEBRASKA GAS, LLC

Date: May 1, 2025

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TABLE OF ABBREVIATIONS AND ACRONYMS

ADIT	Accumulated Deferred Income Taxes
AGA	American Gas Association
Annual Throughput	Sales plus transportation volumes
Base Year	The twelve (12) months ended December 31, 2024
BH Arkansas	Black Hills Energy Arkansas, Inc.
BH Nebraska Gas or Company	Black Hills Nebraska Gas, LLC d/b/a Black Hills Energy
BHC	Black Hills Corporation
BH Kansas	Black Hills/Kansas Gas Utility Company, LLC
BHSC	Black Hills Service Company, LLC
BHUH	Black Hills Utility Holdings, Inc.
CCOSS	Class Cost of Service Study
FERC	Federal Energy Regulatory Commission
GCA	Gas Cost Adjustment
HDD	Heating Degree Days
LDC	Local Distribution Companies
LES	Lincon Electric System
NWE	NorthWestern Energy Group, Inc. d/b/a NorthWestern Energy,
NPPD	Nebraska Public Power District
OPPD	Omaha Public Power District
SSIR	System Safety and Integrity Rider
Supervised O&M	Operation and maintenance expenses
Test Year	The twelve (12) months ending on December 31, 2025 adjusted for known and measurable changes

UPC	Use-per-customer
WNA	Weather Normalization Adjustment Rider

DIRECT TESTIMONY OF DOUGLAS N. HYATT

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Douglas N. Hyatt. My business address is 1515 Arapahoe Street, Tower 1, Suite 1200, Denver, CO 80202.

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

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

Q. ON WHOSE BEHALF ARE YOU TESTIFYING?

A. I am testifying on behalf of Black Hills Nebraska Gas, LLC d/b/a Black Hills Energy ("BH Nebraska Gas or Company").

II. STATEMENT OF QUALIFICATIONS

Q. WHAT ARE THE DUTIES AND RESPONSIBILITIES OF YOUR CURRENT POSITION?

A. I am a Manager of Regulatory, responsible for cost allocation and rate design for the Company and I manage two analysts. My responsibilities include gathering, researching, and analyzing customer billing and other data and information for the preparation of analyses and studies in support of cost allocation and rate design.

Q. PLEASE OUTLINE YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND.

A. My education, employment history and professional experience is provided in Exhibit DNH–1.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?

A. Yes. I provided testimony in the Company's last general rate review proceeding.[1]

III. PURPOSE OF TESTIMONY

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to describe the data used and studies performed in support of the Class Cost of Service Study ("CCOSS"), proposed rate design, and the proposed Weather Normalization Adjustment Rider ("WNA"). My testimony presents the data used and studies performed in the following order:

1. Sponsor the studies performed in support of the CCOSS;
2. Sponsor the proposed rate design; and
3. Sponsor the Company's proposed WNA.

Q. ARE YOU SPONSORING ANY EXHIBITS OR SCHEDULES?

A. Yes. I am sponsoring the following exhibits included within the documents comprising Exhibit 1 of the Application:

Application Exhibits

- Application Exhibit 1, Section 6, Rule 004.07 - Class Cost of Service Study (Exhibits DNH-3 and DNH-4)

In addition, I sponsor the following testimony Exhibits:

Testimony Exhibits

- Exhibit DNH–1 – Summary of my education, employment history and professional experience.
- Exhibit DNH–2 – Mains Classification and Weighting Factors Study

[1] Commission Application No. NG-109.

- Exhibit DNH–3 – Functionalization and Classification of Rate Base and Cost of Service
- Exhibit DNH–4 – Allocation of Rate Base and Cost of Service
- Exhibit DNH–5 – Revenue Rebalancing
- Exhibit DNH–6 – Rate Design
- Exhibit DNH-7 – Municipal Electric Rates
- Exhibit DNH-8 – Weather Normalization Adjustment Rider Framework

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

A. Yes.

IV. CLASS COST OF SERVICE STUDY

Q. WHAT IS THE PURPOSE OF THE CCOSS?

A. A CCOSS is intended to determine the cost of providing service to the various customer classes served by the utility. The customer classes are defined as relatively homogeneous groups of customers whose usage characteristics and service requirements are similar. The classes generally align with the various rates the utility charges for service. The costs allocated to the customer classes consist of the various components of rate base and revenue requirements. The primary component of rate base is the net plant investment in the facilities of the utility system (i.e. mains, service lines, meters and regulators, etc.). Revenue requirements primarily consist of operation and maintenance expenses, depreciation expenses, return on rate base, and taxes.

For BH Nebraska Gas, the CCOSS is also a jurisdictional cost of service study that is used to determine the jurisdictional customer revenue requirement and revenue

deficiency. The CCOSS is used as a tool or as one of the principal considerations in the design of the rates charged by the utility, in this case, the rates for the jurisdictional customers. While a CCOSS does provide the overall cost of service or overall revenue requirement for each customer class, the real value of the CCOSS is providing detail regarding the cost of the various functions or services that the utility provides. Further, rates generally consist of fixed and variable components that target specific fixed and variable costs. Fixed costs are costs that do not vary with the amount of the product produced or used. Variable costs are costs that do vary directly with the amount of product produced or used. To the extent practical, rates should be designed to reflect the fixed and variable nature of the underlying costs.

Q. PLEASE GENERALLY DESCRIBE THE JURISDICTIONAL CCOSS.

A. The CCOSS is based upon BH Nebraska Gas operations for the Test Year ending December 31, 2025. The CCOSS consists of two steps. In the first step costs are classified into functional categories. In the second step the classified costs are then allocated to customer classes.

Q. PLEASE EXPLAIN WHAT YOU MEAN BY FUNCTIONAL CATEGORIES.

A. In the context of BH Nebraska Gas' CCOSS, the term function or functional refers to the broad services provided by a natural gas distribution utility that includes transmission, distribution, and customer-related activities. These functions generally parallel the cost functions used in the Federal Energy Regulatory Commission ("FERC") Uniform System of Accounts.

Q. PLEASE EXPLAIN WHAT YOU MEAN BY CLASSIFY OR CLASSIFICATION.

A. In the context of BH Nebraska Gas' CCOSS, classification consists of assigning or allocating costs to demand or capacity-related costs, commodity-related costs, and customer-related costs. Demand or capacity-related costs are those costs that are incurred or that vary with the peak period requirements of the system which occur during the winter heating season. Commodity-related costs are costs that vary with the volumes that are delivered throughout the year. Customer-related costs are those costs that vary with the number of customers connected and/or served.

Q. PLEASE EXPLAIN WHAT YOU MEAN BY ALLOCATED OR ALLOCATION.

A. In the context of BH Nebraska Gas' CCOSS, allocation refers to the allocations of the functionally classified costs to specific customer classes using allocation bases that represent each class's relative cost responsibility for the costs being allocated. For example, demand or capacity-related costs are allocated to customer classes on their relative portion of peak period (either peak day or peak season) volumes. Further, the allocations reflect the fact that not all customers utilize all the functions (transmission and distribution) provided by BH Nebraska Gas.

A. <u>Functionalization and Classification</u>

Q. PLEASE DESCRIBE EXHIBIT DNH-3.

A. In Exhibit DNH-3, costs are classified into functional categories. Exhibit DNH-3 consists of the following four tables:

- Table 1 - Functional Classification of Rate Base and Cost of Service;
- Table 2 – Functional Classification of Rate Base;

- Table 3 – Functional Classification of Operations and Maintenance; and
- Table 4 – Functional Classification of Other Cost of Service Components.

Q. PLEASE GENERALLY DESCRIBE THE FUNCTIONALIZATION AND CLASSIFICATION STEPS.

A. In the CCOSS, costs are classified into the following functions: supply, transmission - demand and commodity, distribution - demand, commodity and customer, services (service lines), meters and regulators, customer accounts, and direct assignments.

Q. PLEASE GENERALLY DESCRIBE HOW YOU CLASSIFY COSTS WITHIN THE VARIOUS FUNCTIONS.

A. The gas supply portion of cash working capacity is classified as supply-related costs. Generally, one-half of fixed transmission-related costs are classified as Transmission-Demand (capacity) and one-half as Transmission-Commodity. Variable transmission-related costs, which include load dispatching costs are classified as Commodity.

The classification of distribution mains is based on a study of the BH Nebraska Gas investments and the relative capacity of these facilities that is discussed in detail in Exhibit DNH-2 between Distribution-Demand, Distribution-Commodity, and Distribution-Customer. Jointly used distribution facilities other than mains (regulator stations, for example) are classified 50% as Distribution-Demand and 50% to Distribution-Commodity like how these facilities are classified for Transmission.

Service line, meters and regulators, customer accounting, customer service, information system, and sales expenses are classified according to the following:

- Costs associated with the service lines as Service lines-related costs.
- Costs associated with meters and regulators as Meters and Regulators-related costs.
- Customer accounting expenses as Customer Accounts-related costs.
- Two-thirds of customer service and information expenses and sales expenses are classified as Customer Accounts-related costs. The remaining one-third are classified as Distribution Commodity-related costs and allocated on a volumetric basis.
- There are three general categories of directly assigned costs. There are costs that are directly assigned to only Jurisdictional customers and two categories of costs that are directly assigned only to non-Jurisdictional customers as will be discussed in more detail later in my direct testimony.

Q. HOW ARE PLANT INVESTMENT COSTS FUNCTIONALIZED AND CLASSIFIED?

A. Plant investment costs are generally classified in the manner described above. Transmission plant is classified 50% to Transmission-Demand and 50% to Transmission-Commodity.

The overall distribution mains classification is 10.71% Commodity-related, 53.86 % Demand- (or capacity) related, and 35.43% Customer-related. A discussion of

the development of this classification in Exhibit DNH-2 and the calculations are shown in Exhibit DNH-2, Schedule 2-2.

The jointly used facilities other than distribution mains (measuring and regulating station equipment, for example) are classified similarly to how the distribution mains that serve a transmission function with 50% classified as Distribution-Demand and 50% classified as Distribution-Commodity.

Plant investment in service lines and meters and regulators are classified to the Service and Meters and Regulators function, respectively. Other property on customers' premises is classified as Services. Other distribution plant is classified in the same manner as distribution mains.

All Plant investment associated with the Negotiated-Direct and Negotiated-Supply customers are directly assigned to those customers except for Meters and Regulators which are allocated to those customers in the same manner as all other customers. This is also discussed in more detail in Exhibit DNH-2.

Q. HOW ARE GENERAL PLANT AND INTANGIBLE PLANT FUNCTIONALIZED AND CLASSIFIED?

A. Apart from the billing system, general plant (*e.g.,* land, structures, office furniture, other software and computers) and intangible plant are mostly associated with headquarters and/or service center types of activities, so this plant is functionalized and classified based on a category of costs called operation and maintenance expenses ("Supervised O&M"). Because Supervised O&M captures direct labor expenses, it constitutes an appropriate basis for classifying general plant and intangible plant.

Q. WHAT IS SUPERVISED O&M?

A. Supervised O&M primarily captures labor driven costs that are directly charged or assigned to transmission, distribution or customer specific distribution exclusive of A&G expenses. Supervised O&M costs are shown on Exhibit DNH-3, Table 3, Line 87. Supervised O&M costs are equal to operation and maintenance expenses before administrative and general expenses and excluding rents, royalties and uncollectible accounts. These excluded items contain little or no direct BH Nebraska Gas labor expense.

Q. HOW ARE BILLING SYSTEM INVESTMENTS FUNCTIONALIZED AND CLASSIFIED?

A. The billing system costs in general plant are assigned to the Other Utility Plant (Allocated on Customer Count) on Exhibit DNH-3, Table 2, Line 62 because these investments are customer accounting and billing specific costs.

Q. HOW ARE THE OTHER RATE BASE ITEMS FUNCTIONALIZED AND CLASSIFIED?

A. Exhibit DNH-3, Table 2, Column P, Lines 77-88, show how the other rate base items are functionalized and classified. The most significant of these items is Accumulated Deferred Income Taxes ("ADIT.") There are two components of ADIT, one component is directly attributable to jurisdictional customers and is allocated to the jurisdictional classes based on rate base. The remainder of ADIT is attributable to all customers and is functionalized and classified based on net plant. ADIT is a function of income or return, depreciation expenses, and income taxes, which for a regulated utility are all directly related to plant investment and/or return on investment.

Q. AFTER FUNCTIONALIZING AND CLASSIFYING RATE BASE, HOW DO YOU FUNCTIONALIZE AND CLASSIFY OPERATION AND MAINTENANCE AND GENERAL EXPENSES?

A. The functionalization and classification of operation and maintenance and general expenses are shown in Exhibit DNH-3, Table 3. Generally, the operation and maintenance expenses associated with transmission and distribution are classified based on the underlying plant with which the costs are associated. For example, maintenance of distribution mains (Account 887) is classified in the same manner as distribution mains plant (Account 376).

As previously discussed, customer accounting expenses are classified as customer accounting expenses. Two-thirds of customer service and information expenses and sales expenses are classified as customer accounts-related costs. The remaining one-third are classified as distribution commodity-related costs and allocated on a volumetric basis. This classification gives recognition that these activities serve individual customers and strive to increase system utilization (throughput and customers).

Administrative and general expenses are classified based on Supervised O&M as previously discussed except for property insurance which is classified based on net plant.

Q. HOW ARE DEPRECIATION EXPENSES AND TAXES OTHER THAN INCOME TAXES CLASSIFIED?

A. The classification of depreciation expenses and taxes other than income taxes are shown on Exhibit DNH-3, Table 4.

Depreciation expenses are classified based on how the underlying plant functions are classified. For example, distribution plant depreciation expenses are classified based on the resulting classification of total distribution plant.

Property taxes, Line 98, are classified based on net plant because property tax expenses are directly related to the level of plant investment and more specifically the assessed value of those facilities. Payroll taxes, Line 99, are classified based on Supervised O&M because payroll taxes are a function of labor costs, which is the basis of the Supervised O&M allocator.

Q. HOW ARE OTHER OPERATING REVENUES CLASSIFIED?

A. The classification of other operating revenues is shown in Exhibit DNH-3, Table 4. Total other operating revenues are approximately $6.1 million credit that is used to reduce the cost of service to all classes. The other operating revenues and their assignment are as follows:

1. Forfeited Discounts - assigned to Jurisdictional-Direct;
2. Miscellaneous Service Revenues - assigned based on Supervised O&M; and
3. Other Gas Revenues - assigned based on Supervised O&M.

Q. PLEASE EXPLAIN THE CLASSIFICATION OF THESE REVENUE CREDITS.

A. These other operating revenues are commonly seen as revenue credits which are aligned with the FERC Uniform System of Accounts. Forfeited discounts are assigned to Jurisdictional – Direct and then directly assigned to the Residential customer class since these revenues are primarily associated with past due bills predominantly from

Residential customers. Miscellaneous service revenues and other gas revenues are derived from a variety of sources and fees and assigning these revenues based on Supervised O&M spreads the credit out over all the functional services provided. Rent from gas property are assigned based on plant in service because rents are derived from physical facilities and this assignment spreads the credit over all these facilities.

Q. HOW ARE RETURN AND INCOME TAXES CLASSIFIED?

A. These final two items of cost of service, return and income taxes are shown in Exhibit DNH-3, Table 1 and are both classified based on the amount of total rate base assigned to each function.

Q. WHERE IS THE OVERALL FUNCTIONALIZED AND CLASSIFIED COST OF SERVICE SHOWN?

A. All the components of the cost of service are summarized in Exhibit DNH-3, Table 1. The overall cost of service by functional classification shown on Line 11 is then allocated to customer classes in the second step of the CCOSS shown in Exhibit DNH-4.

B. <u>Cost Allocation</u>

Q. PLEASE DISCUSS THE CONTENTS OF EXHIBIT DNH-4.

A. Exhibit DNH-4 sets forth the results of my allocation of functionally classified costs developed in Exhibit DNH-3 to customer classes. Exhibit DNH-4 consists of the following schedules:

- Table 1 - Rates of Return Under Current and Proposed Rates;
- Table 2 - Allocation of Cost of Service;
- Table 3 - Allocation of Rate Base;

- Table 4 - Class Allocation Bases; and
- Table 5 - Unit Cost of Service.

Q. HOW ARE CUSTOMER CLASSES DEFINED IN THE CCOSS?

A. The customer classes used in the CCOSS generally align with the customer classes used in the development of billing determinants as discussed in the Direct Testimony of Ethan J. Fritel. I use the following customer classes in the CCOSS:

1. Jurisdictional

- Residential
- Small Commercial Service
- Large Commercial Service

2. Non-jurisdictional

- Agricultural
- Maximum Rate
- Interruptible
- Negotiated – Distribution
- Negotiated – Transmission
- Negotiated – Direct
- Supply - Direct

These customer classes are consistent with the classification of customers discussed in Mr. Fritel's Direct Testimony and the billing determinants (number of customers and throughput) used in Exhibit DNH-4 to develop the class allocation factors discussed below.

Q. PLEASE DISCUSS HOW JURISDICTIONAL CUSTOMER CLASSES ARE DEFINED.

A. The jurisdictional customer classes include the Residential and the proposed Small Commercial Service and Large Commercial Service customer classes.

Q. PLEASE DISCUSS HOW NON-JURISDICTIONAL CUSTOMER CLASSES ARE DEFINED.

A. The non-jurisdictional customer classes are defined as the following:

- The Agricultural customer class includes agricultural customers.
- The Maximum Rate customer class includes the large volume (i.e. non-jurisdictional) customers that are firm (not interruptible) and whose rates are not individually negotiated.
- The Interruptible customer class includes large volume customers whose service is non-firm and whose rates are not individually negotiated.
- The customers included in the Negotiated-Distribution class are customers whose rates are individually negotiated and are not included in the remaining three non-jurisdictional customer classes.
- The Negotiated-Transmission customers are those customers, as defined in Exhibit DNH-2, who are directly served by the Company's transmission facilities and are not served by the distribution system.
- The Negotiated-Direct customers are those customers, as defined in Exhibit DNH-2, who are directly served off third-party transmission systems and are not served off either the Company's transmission or distribution system.

- The Negotiated-Supply customers include the service associated with customers who provide supply into the Company's system. To the extent that any Negotiated-Supply customer receives gas through Company facilities, these services are provided through facilities separate from the supply function and these services are counted as separate customers under one of the other non-jurisdictional rate classes.

Q. PLEASE DISCUSS EXHIBIT DNH-4, TABLE 4.

A. Exhibit DNH-4, Table 4 - Class Allocation Bases, shows the determination of the allocation factors used to allocate the rate base and cost of service that were functionalized and classified in Exhibit DNH-3 to customer classes. Rate Base is allocated to customer classes in Exhibit DNH-4, Table 3 and cost of service is allocated to customer classes in Exhibit DNH-4, Table 2.

Q. PLEASE EXPLAIN THE ALLOCATION FACTORS USED TO ALLOCATE TRANSMISSION RELATED COSTS.

A. As previously discussed, transmission related costs are classified as either Transmission – Demand or Transmission – Commodity. The Transmission-Demand related costs are allocated to the jurisdictional and non-jurisdictional customer classes served by the Company's transmission facilities based on the classes' Winter Period Peak Demand. The demand is based on the estimated peak day demand of the customer class as developed in Mr. Fritel's Exhibit EJF-10. The Transmission-Commodity related costs are allocated to the jurisdictional and non-jurisdictional customer classes served by the Company's transmission facilities based on the classes' sales plus

transportation volumes ("Annual Throughput"). The Annual Throughput is based on the Test Year adjusted annual volumes as developed in Mr. Fritel's Exhibit EJF-7.

No transmission functionalized costs are allocated to the Negotiated-Direct or Negotiated-Supply customer classes because these customers are either directly connected to interstate pipelines or provide supply into the Company's system. The Company's pipeline facilities that are required to serve these customers are directly assigned to these customers as discussed in Exhibit DNH-2.

Q. PLEASE EXPLAIN THE ALLOCATION FACTORS USED TO ALLOCATE DISTRIBUTION RELATED COSTS.

A. As previously discussed, distribution related costs are classified as either Distribution – Demand, Distribution – Commodity or Distribution - Customer. The Distribution-Demand related costs are allocated to the jurisdictional and non-jurisdictional customer classes served by the Company's distribution facilities based on the classes' Winter Period Peak Demand. The demand is based on the estimated peak day demand of the customer class as developed in Mr. Fritel's Exhibit EJF-10. The Distribution-Commodity related costs are allocated to the jurisdictional and non-jurisdictional customer classes served by the Company's distribution facilities based on the classes' Annual Throughput. The Annual Throughput is based on the Test Year adjusted annual volumes as developed in Mr. Fritel's Exhibit EJF-7. The Distribution-Customer-related costs are allocated to the jurisdictional and non-jurisdictional customer classes served by the Company's distribution facilities based on the classes' number of customers weighted by the distribution customer weighting factors discussed in Exhibit DNH-2.

No distribution functionalized costs are allocated to the Negotiated-Direct or Negotiated-Supply customer classes for the same reason that no transmission facilities are allocated to these customer classes. In addition, no distribution functionalized costs are allocated to the Negotiated-Transmission customer class because these customers are served by the Company's transmission facilities and do not utilize distribution facilities.

Q. PLEASE EXPLAIN THE ALLOCATION FACTOR USED TO ALLOCATE SERVICE LINE RELATED COSTS.

A. Service line-related costs are allocated to the jurisdictional and non-jurisdictional customer classes based on the classes' number of customers weighted by the service line customer weighting factors discussed in Exhibit DNH-2. The weighting factors recognize the relative cost of the service lines (size and length) used to serve each customer class.

Q. PLEASE EXPLAIN THE ALLOCATION FACTOR USED TO ALLOCATE METERS AND REGULATORS RELATED COSTS.

A. Meters and regulators-related costs are allocated to the jurisdictional and non-jurisdictional customer classes based on the classes' number of customers weighted by the meters and regulators customer weighting factors discussed in Exhibit DNH-2. The weighting factors recognize the relative cost of the meter and regulator installation used to serve each customer class.

Q. PLEASE EXPLAIN THE ALLOCATION FACTOR USED TO ALLOCATE CUSTOMER ACCOUNTING RELATED COSTS.

A. Customer accounting related costs are allocated to the jurisdictional and non-jurisdictional customer classes based on the classes' number of customers weighted by the customer accounting weighting factors discussed in Exhibit DNH-2. The weighting factors recognize the relative cost of providing customer accounting related services to each customer class.

Q. PLEASE EXPLAIN THE ALLOCATION OF DIRECTLY ASSIGNED COSTS AND OTHER OPERATING REVENUES (REVENUE CREDITS).

A. In the CCOSS, the following costs are directly assigned to customer classes:

1. All plant investment except for meters and regulators associated with service to Negotiated-Direct and Negotiated-Supply customers are directly assigned to the customer class where the customer is assigned. These directly assigned costs are shown on Exhibit DNH-3, Table 2, Columns N and O, Lines 10 through 28. These directly assigned plant costs also drive the assignment of the other components of the rate base, operation and maintenance expenses, depreciation expenses, taxes other than income taxes, and other operating revenues (revenue credits) to these customer classes following the same principles used to assign these costs to the other cost functions and classifications that in turn allocate these costs to the other customer classes.

2. Revenues (revenue credit) from forfeited discounts are directly assigned to the Residential customer class because these revenues are primarily derived from that customer class.

Q. PLEASE SUMMARIZE THE ALLOCATION OF RATE BASE IN EXHIBIT DNH-4, TABLE 3.

A. The classified rate base from Exhibit DNH-3, Table 1, Line 2, is allocated to the customer classes in Exhibit DNH-4, Table 3 based on the allocators developed in Exhibit DNH-4, Table 4, and previously discussed in my testimony, or is directly assigned to a particular class. The direct assignments and allocators used to allocate the various cost of service components are shown in Column O of Table 3 of Exhibit DNH-4.

Q. PLEASE SUMMARIZE THE ALLOCATION OF THE COST OF SERVICE IN EXHIBIT DNH-4, TABLE 2.

A. The classified cost of service from Exhibit DNH-3, Table 1, Line 11, is allocated to the customer classes in Exhibit DNH-4, Table 2 based on the allocators developed in Exhibit DNH-4, Table 4 and previously discussed in my testimony, or is directly assigned to a particular class. The direct assignments and allocators used to allocate the various cost of service components are shown in Column H of Table 2 of Exhibit DNH-4.

Q. WHAT IS THE TOTAL COST-OF-SERVICE FOR JURISDICTIONAL CUSTOMERS BY FUNCTION?

A. The total allocated cost-of-service for jurisdictional customers is $180,108,104, as shown in Exhibit DNH-4, Table 2, Line 23, Column F. The total cost by function is shown in Column F, and in Table DNH-1 below.

Table DNH-1- Jurisdictional Cost-of-Service by Function

Description	Jurisdictional Cost-of-Service	% of Total
Supply	$146,576	0.1%
Transmission	$2,221,474	1.2%
Distribution	$84,426,747	46.9%
Services	$46,282,268	25.7%
Meters and Regulators	$27,586,426	15.3%
Customer Accounting	$21,358,945	11.9%
Jurisdictional Direct	($1,914,332)	-1.1%
Total	**$180,108,104**	**100%**

Q. WHAT PORTION OF THE TOTAL JURISDICTIONAL COST-OF-SERVICE IS FIXED IN THE SHORT-RUN?

A. 99.9% of the total allocated costs are fixed in the short-run. Supply costs are the only costs that vary depending upon the amount of gas used by customers, with all other costs being fixed in the short-run.

Q. PLEASE DISCUSS EXHIBIT DNH-4, TABLE 5.

A. Table 5 summarizes the unit cost of service by functional classification for each jurisdictional customer class by dividing the functionalized and classified cost of service by customer class by the applicable billing determinants. These unit costs are used in the next section of my Direct Testimony to develop the cost of service-based rates.

Q. WHAT ARE THE PRINCIPLE FINDINGS OF THE CCOSS?

A. The principle finding is that the jurisdictional rate of return on BH Nebraska Gas utility operations under current rates amounts to 4.26% based on a jurisdictional rate base of $785,247,119. The rate of return under current rates indicates that the current rate

revenues associated with service to BH Nebraska Gas jurisdictional customers are insufficient to cover cost, including an opportunity for BH Nebraska Gas to earn a reasonable return on its investment devoted to public service. For BH Nebraska Gas to earn the 7.63% jurisdictional rate of return requested in this Rate Review Application, the current BH Nebraska Gas rate revenues must be increased by approximately $34.9 million. A summary of rates of return under current rates for the proposed BH Nebraska Gas jurisdictional customer classes is shown in Table DNH-2 below as shown in Exhibit DNH-4, Table 1, Line 15.

Table DNH-2 - Summary of Rates of Return under Current Rates

Customer Class	Rate of Return
Residential	3.55%
Small Commercial Service	8.37%
Large Commercial Service	3.84%

V. COMPETITIVE ISSUES

Q. PLEASE EXPLAIN THE NATURE OF THE COMPETITION THE COMPANY IS FACING FROM ELECTRIC UTILITIES.

A. The Company faces competition in the form of prices, cash incentives (rebates), and advertising. Electric utilities in Nebraska are using all three means to attract traditional natural gas space heating, water heating, and other loads (cooking and clothes drying) from Residential and Commercial customers.

Q. WHAT INCENTIVES ARE AVAILABLE TO NATURAL GAS HEATING CUSTOMERS TO SWITCH FROM NATURAL GAS TO ELECTRICITY?

A. There are two primary interrelated incentives offered by the local electric utilities to encourage customers to switch from natural gas to electricity, or to use all-electric

appliances in new construction. Rebates reduce the upfront cost of changing from natural gas appliances to electric appliances and reduce the cost of the initial installation of appliances. The second incentive is a rate design used by the electric utilities that specifically targets reducing the energy cost of operating space and water heating equipment.

Q. WHICH ELECTRIC UTILITIES DOES THE COMPANY COMPETE IN NEBRASKA?

A. The electric utility industry in Nebraska is comprised of numerous publicly owned electric utilities. However, the prices generally offered to residential and commercial customers are very similar in structure. In Exhibit DNH-7, I summarize the Residential and Commercial rates offered by the 15 electric utilities who serve most of the Company's natural gas customers. The three largest of these electric utilities are Lincoln Electric System ("LES"), Nebraska Public Power District ("NPPD"), and Omaha Public Power District ("OPPD"). These three electric systems serve approximately seventy (70%) percent of the Company's customers. The next 6 serve approximately eight (8%) percent; and the numerous other small electric systems serve the remaining twenty-two (22%) percent. A cursory examination of the rates summarized in Exhibit DNH-6 reveals how similar they are in structure and pricing. The discussion below will focus on characteristics specific to the three largest electric utilities, LES, NPPD, and OPPD.

Q. DO YOU HAVE ANY OBSERVATIONS REGARDING LES' PRICING STRUCTURE?

A. Yes. My observations include:

1. The customer charges for service to Residential customers are tiered based on the size of the customer and range from $28.50 per month to $63.75 per month.
2. The customer charges for service to Commercial (General Service) customers are tiered based on the size of the customer and range from $26.50 per month to $45.50 per month.
3. LES also offers a Heating Service rate for non-residential (i.e. Commercial) customers who use electricity for space heating and/or water heating. The customer charges for Heating Service customers are tiered based on the size of the customer and range from $53.25 per month to $422 per month.
4. LES prices residential service at a flat rate of 7.09 cents per kilowatt-hour during the summer and at a flat rate during the winter of 5.35 cents per kWh.
5. LES prices General Service (secondary) at a flat rate of 9.55 cents per kWh during the summer and at a flat rate of 6.49 cents per kWh during the winter. General Service (primary) is similarly priced at 9.40 cents per kWh during the summer and 6.20 cents per kWh during the winter.
6. For its Heating Service, LES prices a flat rate of 8.74 cents per kWh during the summer and at a flat rate of 6.40 cents per kWh during the winter.

Q. DO YOU HAVE ANY OBSERVATIONS REGARDING NPPD'S PRICING STRUCTURE?

A. Yes. My observations include:

1. The customer charge for service to Residential customers is $24.25 per month.
2. The customer charge for service to small Commercial (Single-phase General Service) customers is $31.00 per month. The customer charge for larger Commercial (Three-phase General Service) is $46.00 per month.
3. Like LES, NPPD also offers an electric space heating service for Commercial customers. The customer charges for small commercial and larger commercial customers are $41.00 per month and $57.00 per month, respectively.
4. NPPD prices residential service under two blocks and charges seasonally differentiated prices. NPPD sets the second block for service in the winter at 7.43 cents per kWh which is below the other energy charges for non-heating winter load at 7.85 cents, and summer usage set at 9.78 for both blocks.
5. NPPD prices commercial service at a flat rate of 9.56 cents per kWh during the summer and at flat rate of 7.65 cents per kWh during the winter.
6. NPPD prices its Commercial space heating rate under two blocks (using an hour's use formula) and charges seasonally differentiated prices. The second block during the winter is 3.95 cents per kWh and during the summer at 4.25 cents per kWh, both substantially lower than the first blocks

of 10.02 cents per kWh during the winter and 12.23 cents per kWh during the summer.

Q. DO YOU HAVE ANY OBSERVATIONS WITH REGARDS TO OPPD'S PRICING STRUCTURE?

A. Yes. My observations include:

1. The customer charge for service to Residential customers is $30 per month, but there is also a minimum bill of $32.07 per month.
2. The customer charges for service to Commercial (General Service Non-Demand) customers are $33 per month.
3. OPPD has a targeted rate like NPPD and LES, except that it targets residential customers with high-efficiency heat pumps. The rate is called Residential Conservation Service. The customer charges and minimum bill for this service are the same as the regular residential rate.
4. OPPD prices residential service a flat rate of 10.95 cents per kilowatt-hour during the Summer and under a three-block declining rate during the winter with the last block at 8.74 cents per kWh.
5. OPPD's block structure for commercial service is like the structure it offers for residential service but with slightly lower rates and two blocks during both the summer and winter. The second winter block is priced at 7.19 cents per kWh.
6. OPPD prices the Residential Conservation (high efficiency heat pump) service at the same rate as Residential service during the summer, but with a lower last winter block of 7.11 cents per kWh.

Q. WHAT ARE THE COMMON THREADS IN ALL THREE OF THESE SETS OF RATES?

A. The following are three common threads in their rates:

1. All three utilities price winter service substantially below summer service.
2. All three utilities have customer charges that are significantly higher than Black Hills Nebraska Gas' Residential customer charges.
3. All three utilities have special rates that specifically target space or water heating.

Q. PLEASE DISCUSS IN MORE DETAIL THE ELECTRIC UTILITY WINTER PRICING IN THEIR RESIDENTIAL RATES.

A. The table below compares the summer consumption rates and winter rates of LES, NPPD, and OPPD. The winter rate shown is for the last block which is designed to incrementally reflect heat usage above typical average usage excluding heat load.

Table DNH-3 - Comparison of Winter and Summer Residential Electric Rates

Utility	Summer Cents/kWh	Winter Cents/kWh	Difference
LES	7.09	5.35	-25%
NPPD	9.78	7.43	-24%
OPPD	10.95	8.74	-20%
OPPD-Res. Conservation	9.61	7.11	-26%

The comparison for LES, NPPD, and OPPD's commercial rates is similar.

Q. PLEASE DISCUSS IN MORE DETAIL THE ELECTRIC UTILITY CUSTOMER AND FIXED CHARGES IN THEIR RESIDENTIAL RATES.

A. The table below compares the customer and fixed charges in the electric rates of LES, NPPD, and OPPD. LES fixed per bill charges include a customer charge and a facilities

charge; the facilities charge is tiered based on the size of the customer. NPPD's fixed charge is referred to as a customer charge. OPPD's fixed charge is referred to as a service charge. Also, shown in the table is the level of these fixed charges at the time of the Company's last rate review.

Table DNH-4 - Comparison of Residential Electric Utility Customer and Other Fixed Charges

Utility	Current Customer Charge $/bill	Last BH Rate Review Customer Charge $/bill
LES	28.50 to 63.75	23.00 to 50.00
NPPD	24.25	22.50
OPPD	30.00	30.00

As shown in the table above, the electric utilities have substantially increased the fixed price component of their residential rates. As with natural gas rates, to the extent that fixed or customer charges are increased, less revenue margin needs to be recovered from the variable components of the rates. Thus, by substantially increasing their customer charges, the electric utilities are collecting more of the revenue requirement through the fixed charges and proportionately less through their volumetric charges.

The commercial and general service rates of these electric utilities have seen similar increases since the Company's most recent rate reviews.

Q. PLEASE DISCUSS IN MORE DETAIL THE SPECIAL TARGETED RATES OFFERED BY THE ELECTRIC UTILITIES.

A. All three of the electric utilities, LES, NPPD, and OPPD, offer rates that are intended to target specific end-use customers who might otherwise use natural gas for their

appliances or equipment. LES offers a Heating Service for non-residential (i.e. commercial) customers that is available to "any non-residential customer for space heating and/or approved water heating installations". This Heating Service Rate is priced not only substantially below the summer rate but also substantially below the standard winter rate offered to General Service (commercial) customers. Depending upon the size of the customer, the winter rate for the Heating Service rate is 6.90 cents per kWh compared to a summer rate of 8.74 cents per kWh; and compares to a winter rate for the General Service rate of 6.49 cents per kWh.

NPPD offers a similar rate targeted at commercial customers called Commercial Electric Space Heating. This rate is offered to customers where "electricity is the primary (greater than 50%) source of energy for space heating". The winter last block rate for the Commercial Space Heating rate is 3.95 cents per kWh compared to the standard General Service winter rate of 7.65 cents per kWh. The summer first block rate for the Commercial Space Heating rate is 12.23 cents per kWh.

OPPD offers a Residential Conservation Service rate available to residential customers who "have an electric heat pump in operation that has a Seasonal Efficiency Rating of 14 or higher…and supply at least 50% of space conditioning requirements using the electric heat pump." The winter last block rate for this Residential Conservation Service is 7.11 cents per kWh compared to 8.74 cents per kWh for the Standard Residential winter rate and 9.61 cents per kWh for the summer rate, compared to the Standard Residential rate of 10.95 cents per kWh.

Q. WHAT IS THE COMMON THEME IN ALL OF THE SPECIFIC RATES YOU HAVE DISCUSSED?

A. In all cases, the lower winter block rates and higher customer charges allow the electric utilities to lower the incremental cost for the customers of operating electric heating equipment.

Q. PLEASE EXPLAIN WHY THE LAST WINTER BLOCK OF ELECTRIC RATE PRICING IS CRITICAL TO SPACE HEATING.

A. In the typical Nebraska electric utility residential block rate design, the blocks are set such that the normal or base use is priced in the first block and then incremental use above this level, for seasonal space heating, for example, is priced at a lower price. The base use includes electricity used for such things as lighting, computers, televisions, refrigerators, freezers, etc. that are used all year long and do not have a significant seasonal pattern. Natural gas does not compete with these loads that almost exclusively run on electricity.

LES does not have block rates for its residential services, but, as discussed earlier, their winter rates are substantially below their summer rates and this winter rate is what primarily competes with natural gas space heating. The last winter block of NPPD's rate is based on usage over 750 kilowatt-hours. Residential customers who are or were using natural gas space heating are likely not using more than 750 kilowatt-hours of electricity in the winter months. Therefore, the 750-kilowatt-hour block applies to electric customers who use some form of electric space heating. In other words, this block is specifically targeted at electric space heating. Similarly, OPPD's last winter block is for use over 880 kilowatt-hours.

The fact that LES, NPPD, and OPPD (and the other electric utilities shown in Exhibit DNH-6) are heavily discounting either their winter residential rate or the last block of their winter rate is strong evidence that these utilities are leveraging this rate to attract electric space heating load. Since the customers are already electric customers, most of the additional winter usage (that would result from switching from natural gas to electric space heating) would be priced at these discounted rates.

Q. UP TO THIS POINT YOU HAVE DISCUSSED THE SPECIFICS OF THE THREE LARGEST ELECTRIC UTILITIES IN NEBRASKA, ARE THE RATE STRUCTURES FOR THE SMALLER ELECTRIC UTILITIES SIMILAR?

A. Yes. As shown in Exhibit DNH-6, these electric utility pricing structures are almost universal in the state of Nebraska. Of the nine utilities shown in Exhibit DNH-7, all have different summer and winter rates for Residential customers. All but two of these same utilities have different summer and winter rates for General Service customers. The only two exceptions for General Service customers that do not differentiate summer and winter rates are the Cities of Alliance and Sidney. All the others have pricing structures like NPPD and OPPD.

Q. ARE THERE ANY OTHER RATES YOU WOULD LIKE TO DISCUSS FOR COMPARISON PURPOSES?

A. Yes. The current rates of NorthWestern Energy Group, LLC d/b/a NorthWestern Energy ("NWE"), the other investor-owned natural gas jurisdictional utility in Nebraska, have rate structures and rates for residential and commercial service that are very similar to the current BH Nebraska Gas rates and rate structures. NWE's residential rate has two blocks with the second block priced approximately 62% lower than the first block and

the general service (commercial) rate has three blocks with the second block priced 52% lower than the first block and the third block at 72% less than the first block.

VI. PROPOSED JURISDICTIONAL RATE DESIGN

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

A. The rate design guidelines for the proposed Residential, Small Commercial Service, and Large Commercial Service rates (i.e. the jurisdictional rates) are as follows:

1. The overall increase in jurisdictional rates should total approximately $34.9 million.
2. Customer classes should be of homogeneous groups of customers with similar characteristics in cost and use of the system.
3. No customer class should be given a decrease in revenue responsibility when other classes see an increase.
4. The customer charges should reflect the customer-related costs.
5. The rates should be designed as close as practical to align with each class's cost of service.
6. Rates should be designed to reflect the competition faced by the Company from local municipal electric utilities with volumetric tiered rates for each customer class
7. The thresholds between Tier 1 and Tier 2 volumetric tiers for each customer class should be set as close to the summer non-heating baseload as is practical.

A. Rate Design

Q. IS THE COMPANY PROPOSING TO MAKE ANY CHANGES TO THE JURISDICTIONAL RATE DESIGN?

A. Yes. The Company is proposing the following rate design changes for all jurisdictional customers:

1. The threshold between Tier 1 and Tier 2 volumetric rates for Residential customers is lowered.
2. Commercial customers are separated into two classes with a Small Commercial Service and Large Commercial Service, each with its own unique threshold between Tier 1 and Tier 2 volumetric rates.
3. The proposed Tier 1 volumetric rates for the three classes are not linked with each other, as they are under the current rates for all jurisdictional customers.
4. The Tier 2 volumetric rates for all jurisdictional customers are set at the current rate of $0.15 per therm.

Q. PLEASE DESCRIBE THE PROPOSED RATE DESIGN CHANGES FOR RESIDENTIAL CUSTOMERS.

A. The proposed rate design changes will affect all Residential customers, but are designed to be just and reasonable, limit potential impact to ‘low-use’ customers, and recognize different usage patterns.

1. Residential

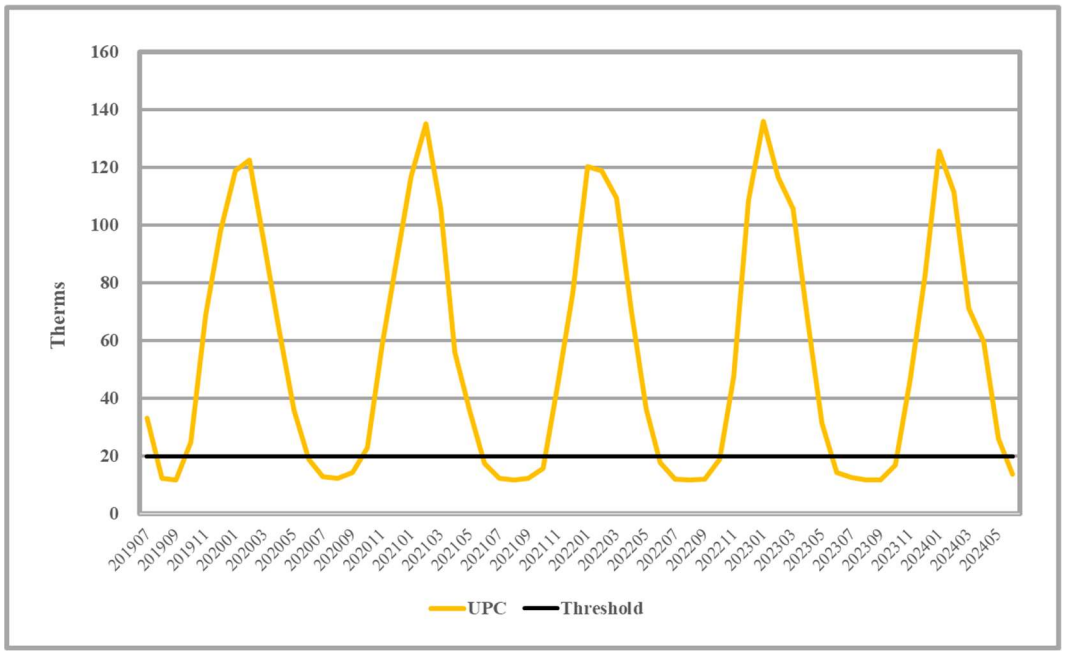
Under the current rates Residential customers, the Tier 1 volumetric rate applies to the first 20 therms, and the lower Tier 2 volumetric rate applies to all therms greater

than 20 therms each billing cycle. Under the proposed rates the threshold between the tiers is lowered to 10 therms so the Tier 1 volumetric rate applies to the first 10 therms and the lower Tier 2 volumetric rate applies to all therms greater than 10 therms each billing cycle.

Q. WHY IS THE COMPANY PROPOSING TO LOWER THE VOLUMETRIC THRESHOLD BETWEEN TIER 1 AND TIER 2 FOR THE RESIDENTIAL CUSTOMER CLASS?

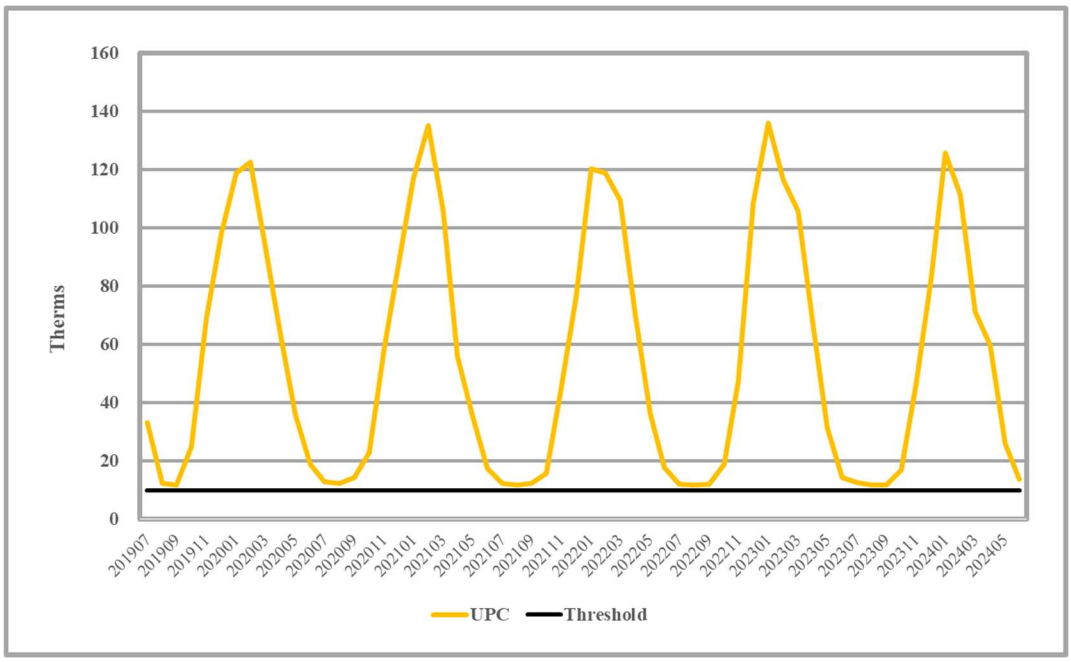
A. The Company is proposing to lower the volumetric threshold to better align with the actual baseload use during the non-heating months. As shown below in Figure DNH-1, the average Residential use per customer ("UPC") falls below the current volumetric threshold between Tier 1 and Tier 2. Residential customers are paying the higher Tier 1 rate use between the 11^{th} and 20^{th} therm for heating throughout the year.

Figure DNH-1- Residential UPC to the Current Volumetric Tier Threshold



As shown below in Figure DNH-2, the average Residential UPC during the non-heating months is approximately 10 therms, the proposed volumetric threshold between Tier 1 and Tier 2. By lowering the threshold to 10 therms, Residential customers would pay the lower Tier 2 rate for use between the 11th and 20th therm for heating throughout the year.

Figure DNH-2- Residential UPC to the Proposed Volumetric Tier Threshold



Q. WOULD LOWERING THE VOLUMETRIC THRESHOLD BENEFIT RESIDENTIAL CUSTOMERS?

A. Yes. As shown above, under the current rate design Residential customers are paying the higher Tier 1 rate for heating throughout the year for the 11th to 20th therm per bill. Lowering the threshold down to 10 therms will benefit 'low-use' customers by reducing the incremental cost for use between the 11th and 20th therm per month.

Q. HOW MANY RESIDENTIAL BILLS ARE BELOW OR ABOVE THE CURRENT AND PROPOSED THRESHOLDS?

A. A bill frequency study of Residential customer bills from each month of 2024 shows the number of customer bills that either fall below or above proposed thresholds. Reducing the Residential volumetric threshold to 10 therms per bill increases the

percentage of bills that reach the lower Tier 2 rate. The percentage of bills that exceed the threshold increases from 55% to 75%, with the total percentage of therms billed at the lower Tier 2 rate increasing from 69% to 82%. The percentage of bills that either fall below or above the thresholds is shown below in Table DNH-5.

Table DNH-5- Residential Bill Frequency

		Current			Proposed		
Month	**Zero Bills**	**Bills Below Threshold**	**Bills Above Threshold**	**Total Bills**	**Bills Below Threshold**	**Bills Above Threshold**	**Total Bills**
January	1%	4%	96%	100%	2%	98%	100%
February	1%	4%	95%	100%	2%	97%	100%
March	1%	7%	92%	100%	3%	96%	100%
April	1%	10%	89%	100%	4%	95%	100%
May	3%	43%	54%	100%	16%	81%	100%
June	10%	71%	18%	100%	35%	55%	100%
July	14%	72%	14%	100%	38%	48%	100%
August	14%	73%	13%	100%	39%	47%	100%
September	14%	75%	12%	100%	41%	45%	100%
October	9%	70%	21%	100%	34%	58%	100%
November	3%	33%	64%	100%	13%	85%	100%
December	1%	6%	93%	100%	3%	96%	100%
Totals	6%	39%	55%	100%	19%	75%	100%

Correspondingly, the total number of therms billed to Residential customers at the higher Tier 1 rate falls from 31% to just 18% of annual total therms. This benefits customers with a monthly total billed use falling between the 11th and 20th therms.

2. Commercial

Q. PLEASE DESCRIBE THE PROPOSED RATE DESIGN CHANGES FOR COMMERCIAL CUSTOMERS.

A. The proposed rate design changes for Commercial customers are intended to be just and reasonable and better align with customers' use of the system.

The proposed Small Commercial Service and Large Commercial Service customer classes recognize the differences in the average use of the system and the average cost to serve these two different groups of customers. The Company has separated the jurisdictional commercial customers based upon the total annual use measured at each individual billing meter.

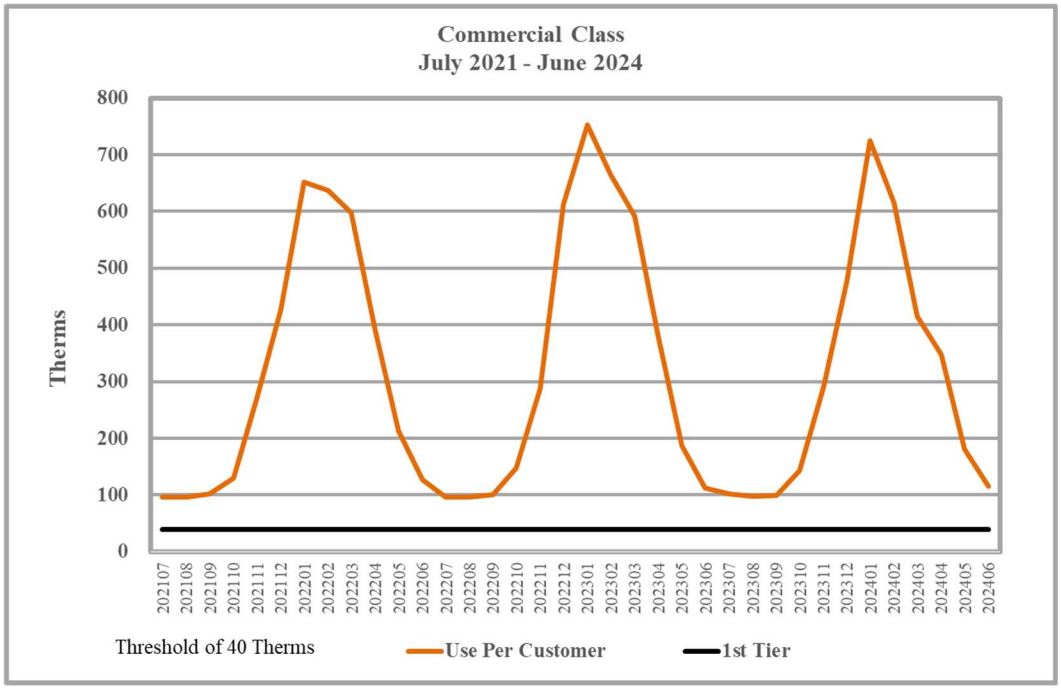
a. Commercial Tiers

Under the current rates for Commercial customers the Tier 1 volumetric rate applies to the first 40 therms, and the lower Tier 2 volumetric rate applies to all therms greater than 40 therms each billing cycle.

As shown below in Figure DNH-3, the average Commercial UPC is significantly above the current volumetric threshold between Tier 1 and Tier 2. The baseload use during the non-heating months is far above the current volumetric threshold. Under the current rate design and volumetric threshold, the average Commercial customer is paying the higher Tier 1 rate for the first 40 therms each month. The non-heating baseload for under current rate design for Commercial

customers is approximately 100 therms per month, so any base use more than the 41st therm for non-heating purposes is billed at the lower Tier 2 rate. Since the goal of the volumetric tiers is competition from the public electric utilities with seasonal rates for customers with heat pumps, the threshold between the tiers should be closely aligned with the non-heating baseload during the summer months.

Figure DNH-3- Commercial UPC to the Current Volumetric Tier Threshold



Q. WHAT ANALYSIS WAS PERFORMED TO UNDERSTAND WHY THE CURRENT COMMERCIAL RATE DESIGN IS NOT ALIGNED WITH THE LOAD SHAPE FOR THE CLASS?

A. To understand why the current rate design is not aligned with the load shape for the Commercial customers, it was necessary to compile three years of billed use data for each customer meter. With billed use data, it was possible to understand each

customer's load pattern over the three heating seasons covering the period of July 2021-June 2024. When this data was reviewed it became clear there are differences between Commercial customers in (a) non-heating baseload during the summer months, (b) heating load during the winter months; and (c) total annual use of gas. When customers are classified into one of two groups based upon these characteristics, two distinct patterns emerge.

Customers with lower load curves and lower total annual use tend to have use between the 21st and 40th therms that are used for heating that is billed at the higher Tier 1 rate. Customers with higher load curves and total annual use tend to have much of their non-heating load billed at the lower Tier 2 rate. While the Company does not have information on the types of equipment or operations these customers have that use natural gas, there is a clear correlation between the load curves and colder temperatures during the winter months for the average customer, so the conclusion that groups of customers are using different amounts of gas for heating is reasonable.

Q. PLEASE DESCRIBE THE PROPOSED RATE DESIGN FOR THE PROPOSED COMMERCIAL CUSTOMERS.

A. The Company is proposing a Small Commercial Service customer class for those customers that use less than 5,001 therms per year, and a Large Commercial customer class for customers that use more than 5,000 therms per year. Differentiating customers based upon total therms per year is a method used in BHC's other natural gas utility subsidiaries including Black Hills Energy Arkansas, Inc. ("BH Arkansas"), Black Hills Colorado Gas, Inc., Black Hills/Iowa Gas Utility Company, LLC, BH Kansas, Black Hills Wyoming Gas, LLC. The threshold between the proposed commercial classes is

also the same threshold used by the legacy BH Gas Distribution (SourceGas) prior to the last rate review.

The proposed rate design is the result of several steps to classify customers into either of the proposed classes. The first step was to determine the total annual number of billed therms to differentiate customers so they could be placed into either of the two proposed classes. The second step was to then analyze the billed use for all customers in each of the proposed classes to determine the base use for each class. The results of this analysis showed that customers with <5,000 total annual therms have an average base use during the summer months of 20 therms. The results also showed that customers with >5,000 total annual therms have an average base use during the summer months of 500 therms.

The monthly average UPC for the proposed Small Commercial Service and Large Commercial Service classes were used to develop load curves. The load curves show that customers in each of these classes have seasonal heating load that peaks in January and February, while loads in the summer months of July and August reveal non-heating baseload average UPC. These load curves are shown below for Small Commercial Service in Figure DNH-4 and Large Commercial Service in Figure DNH-5, respectively.

Figure DNH-4- Small Commercial Service Monthly Average Use

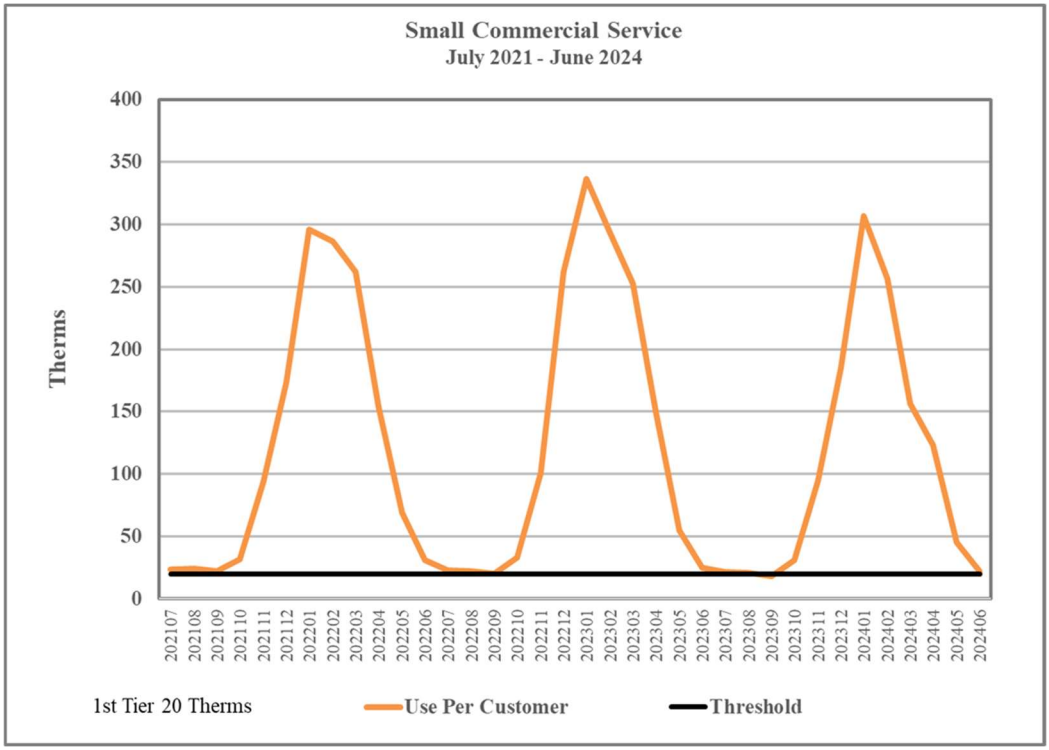
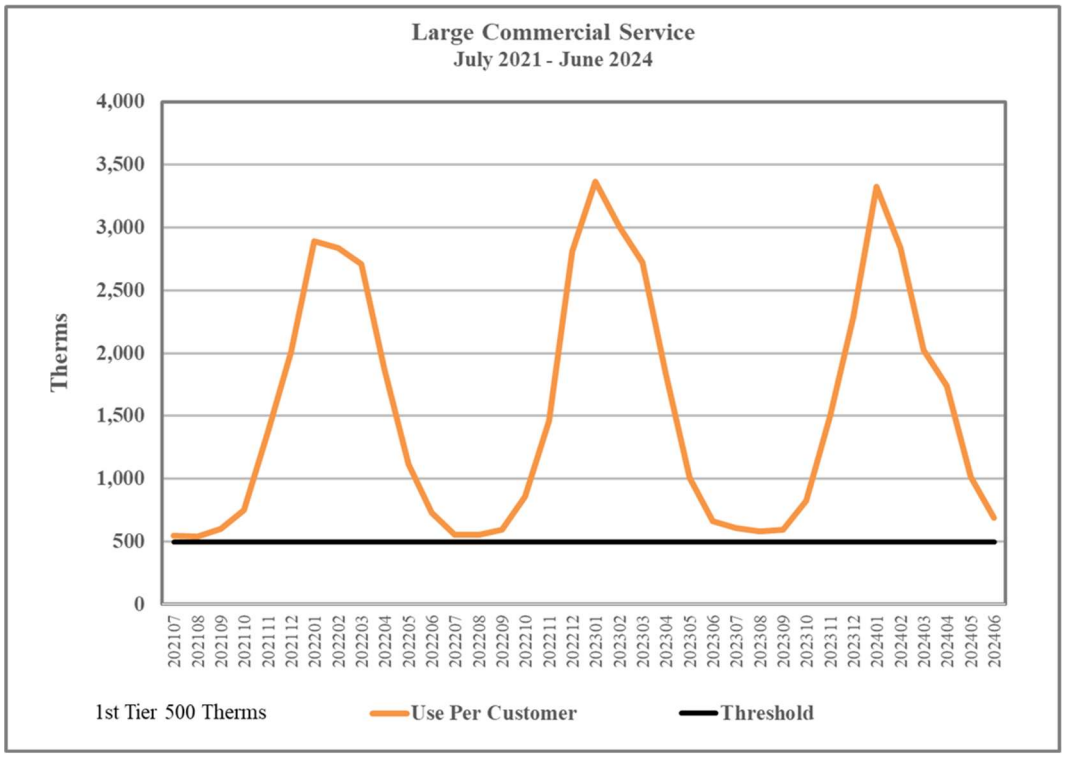


Figure DNH-5- Large Commercial Service Monthly Average Use



These curves of the average base use during the summer months of the Small Commercial Service customers are approximately 20 therms, with the average base use of the Large Commercial Service customers of approximately 500 therms. Setting the thresholds between Tier 1 and Tier 2 at the summer base load for each customer class means that most of the Tier 2 use by customers will predominantly be for space heating needs.

Q. HOW MANY CUSTOMERS ARE CLASSIFIED TO EITHER CLASS, AND HOW MANY THERMS WOULD BE BILLED UNDER THE CURRENT AND PROPOSED RATE DESIGNS?

A. As shown in Direct Exhibit EJF-5, based upon a total annual average of 33,397 monthly bills, 28,744 customers are classified as Small Commercial Service, and 4,653 customers are classified as Large Commercial Service.

Under the current Commercial class rate design approximately 8% of total unadjusted therms for 2024 were billed at Tier 1 rates. Under the proposed Small Commercial Service and Large Commercial Service classes, the portion of unadjusted therms billed at Teir 1 rates will change for those customers classified into either class. Customers classified into the Small Commercial Service class will see an approximate decrease in the average number of therms billed under the Tier 1 rate from 21% to 12%. As a result, more of a small commercial customer's annual therms will be billed at the lower Tier 2 rate. Customers classified in the Large Commercial Service class will see an approximate increase in the average number of therms billed under Tier 1 rates from 2% to 25%. The total unadjusted therms per volumetric tier under the current and proposed rate design are shown below in Table DNH-6.

Table DNH-6 - Current and Proposed Therms (Unadjusted) per Volumetric Tier

		Proposed Customer Classes	
Description	**Current Commercial Class**	**Small Commercial Service**	**Large Commercial Service**
Tier 1 Threshold	40	20	500
Ave. Annual Number of Customer Bills	33,397	28,744	4,653
Total Therms	120,274,994	36,488,225	83,786,769
Current			
1st Tier Therms	9,616,636	7,617,934	1,998,702
2nd Tier Therms	110,658,358	28,870,291	81,788,067
	120,274,994	36,488,225	83,786,769
% 1st Tier	8%	21%	2%
Proposed			
1st Tier Therms		4,269,435	20,679,892
2nd Tier Therms		32,218,790	63,106,877
		36,488,225	83,786,769
% 1st Tier		12%	25%

Q. WILL THE PROPOSED COMMERCIAL CUSTOMER CLASSES RESULT IN DIFFERING BILL IMPACTS FOR CUSTOMERS?

A. Yes. The bill impacts upon individual customers will vary based upon the total annual use of natural gas and their unique use of gas each month. Customers that are billed under the proposed Small Commercial Service class will see an average bill increase of 4.4%, and customers in the proposed Large Commercial Service class will see an average increase of 8.8%. Rate design is based upon averages and each customer within each of the proposed commercial classes will either see bill changes to their monthly bill that will be either above or below based upon the amount of gas used each month.

Q. HOW WILL THE PROPOSED RATE DESIGN ENABLE THE COMPANY TO BE COMPETITIVE WITH THE PUBLIC ELECTRIC UTILITIES?

A. The proposed rate design enables the Company to offer rates to commercial customers with attributes like those offered by the public electric utilities. For example, LES offers rates based upon customer demand measured in kW and energy measured in kWh. The customers that have a higher kW demand and higher kWh of energy used are offered lower rates than those with both lower demand and energy used.

Table DNH-7 - Lincoln Electric Service Rates (non-Residential)

Rate	Demand	Energy
General Service	< 100 kW[1]	
General Service -Demand	>100 kW[1]	>25,000 kWh[1]
Large Light and Power	>400 kW[1]	<20,000 kWh[1]
Large Power Customer	>4,000 kW	<20,000 kWh

[1]During the summer months.

As described above, LES offers seasonal energy rates to customers with lower rates in the winter months than in the summer months. The lower rates during the months when customers are using energy for space heating offers an incentive for customers to use electricity for space heating.

B. <u>Cost-based Rates</u>

Q. HAVE YOU PREPARED RATE ANALYSES BASED ONLY ON THE RESULTS OF THE CCOSS?

A. Yes. For demonstration purposes, I have prepared analyses showing purely cost-based jurisdictional rates using the results of the CCOSS. These are not the jurisdictional rates proposed by BH Nebraska Gas in this matter; they are provided in comparison to the jurisdictional rates proposed by BH Nebraska Gas based upon all the guidelines

identified at the beginning of this section of my direct testimony that I discuss later in my direct testimony.

Q. WHERE DO YOU SHOW THE COST-BASED RATES?

A. As discussed earlier in my testimony regarding the CCOSS, Exhibit DNH-4, Table 5 shows the calculation of the unit costs of service for the jurisdictional customer classes. These unit costs of service are summarized on Lines 2 through 12. The various components of customer-related costs are summarized in Exhibit DNH-6, on Lines 1 through 7. The cost-based jurisdictional rates are shown on Lines 9 through 12 of Exhibit DNH-6. The difference between the proposed jurisdictional customer charges shown on Line 15 and the costs on Lines 1 through 7 is primarily due to rounding the customer charges to the nearest dollar below the cost of service. The cost-based volumetric rates are shown on Line 12.

Q. PLEASE EXPLAIN HOW YOU DETERMINED THE COST-BASED RESIDENTIAL AND COMMERCIAL CUSTOMER CHARGES?

A. The cost-based customer charges shown in Exhibit DNH-6 are set equal to the customer-related costs indicated in the CCOSS model as shown in Exhibit DNH-4, Table 5 rounded down to the nearest dollar. The customer-related costs by customer class are summarized in Table DNH-8 below.

Table DNH-8 - Customer-Related Costs

Customer Class	Total Customer-Related Cost per Bill
Residential	$31.29
Small Commercial Service	$47.87
Large Commercial Service	$120.91

Q. WHAT CUSTOMER-RELATED COSTS ARE FUNCTIONALIZED AND ALLOCATED TO CUSTOMER CLASSES?

A. The costs for meters, regulators, service lines, and approximately 35% of distribution mains are functionalized as customer-related costs. A detailed discussion of the functionalization and allocation of these costs can be found in Direct Exhibit DNH-2.

Q. HAVE ANY OF THE METHODOLOGIES FOR THE FUNCTIONALIZATION AND ALLOCATION OF CUSTOMER-RELATED COSTS CHANGED FROM THE LAST RATE REVIEW?

A. The only change has been the allocation of customer-related costs to the two proposed classes for commercial customers rather than a single class for these customers.

Q. HAVE THE CUSTOMER-RELATED COSTS INCREASED FOR THE RESIDENTIAL CUSTOMER CLASS SINCE THE LAST RATE REVIEW?

A. Yes. The customer-related costs for the Residential customer class have increased since the final CCOSS was filed for compliance with Application No. NG-109.

Table DNH-9 - Residential Customer-Related Costs

	Application No. NG-109*	Application No. NG-124		
Description	**$/Bill**	**$/Bill**	**Change**	**% Change**
Distribution - Customer	$6.99	$7.62	$0.63	9%
Services	$6.99	$12.64	$5.64	81%
Meters & Regulators	$4.65	$6.19	$1.55	33%
Customer Accounting	$5.23	$5.53	$0.30	6%
Jurisdictional Direct	($0.47)	($0.51)	($0.05)	-10%
Total	$23.39	$31.47	$8.08	35%

* Exhibit 3 - Final CCOSS and Rate Design filed on January 15, 2021.

Q. PLEASE SUMMARIZE WHAT WOULD BE THE OVERALL IMPACT BY JURISDICTIONAL CLASS OF COST-BASED RATES.

A. The revenue impact of these rates is shown in Line 48 of Exhibit EJF-11 and is summarized below in Table DNH-10. Within the rounding of the rate design, these increases are equal to the revenue deficiencies shown in Exhibit DNH-4, Table 1, Lines 6 and 7.

Table DNH-10- Class Revenue Impact of Cost-Based Rates

Customer Class	Revenue Increase (Decrease)	% Change
Residential	$31,199,563	30.34%
Small Commercial Service	($1,065,859)	-4.07%
Large Commercial Service	$4,789,508	29.6%
Total	$34,923,212	24.05%

Q. HOW DO THE COST-OF-SERVICE RESULTS COMPARE WITH THE OTHER NATURAL GAS LOCAL DISTRIBUTION COMPANIES ("LDC'S) IN NEBRASKA?

A. For example, the other natural gas LDCs in Nebraska are very limited in their service areas and the number of customers they serve. The costs incurred by BH Nebraska Gas to provide service to its' customers are unique to a system that covers much of the state, with both urban and rural areas. Comparing BH Nebraska Gas with NWE or MidAmerican Energy Company would not produce any meaningful results since each would have unique systems and costs of serving customers limited to the urban areas and customer base each serves. The Metropolitan Utilities District is not comparable because it is a public entity and serves natural gas and water only in the Metro-Omaha area.

Q. ARE YOU RECOMMENDING BH NEBRASKA GAS IMPLEMENT FULLY COST-BASED RATES IN THIS PROCEEDING?

A. No. The Company is proposing a revenue rebalancing strategy that would set revenue responsibility for the Small Commercial Service customers at zero, with the cost-of-service reduction used to reduce the revenue responsibility for the Residential class. The resulting revenue for each customer class is shown in Exhibit DNH-5 Revenue Rebalancing, and below in Table DNH-11.

Table DNH-11 - Revenue Rebalancing

Description	Residential Service	Small Commercial Service	Large Commercial Service	Total Jurisdictional
Cost-of-Service	$31,199,563	($1,065,859)	$4,789,508	$34,923,212
Revenue Rebalancing	($1,065,859)	$1,065,859	$0	$0
Revenue Responsibility	$30,133,704	$0	$4,789,508	$34,923,212

C. Proposed Rates

Q. PLEASE SUMMARIZE THE SPECIFIC RATES YOU ARE RECOMMENDING.

A. As indicated in my CCOSS results summarized in Exhibit DNH-4, Table 1, Lines 6-7, the overall revenue deficiency is approximately $34.9 million which results in an overall increase of 7.63%.

Based on these levels of customer-related costs, the proposed customer charges are as follows:

- Residential - $31.00 per month.
- Small Commercial Service - $48.00 per month.
- Large Commercial Service - $121.00 per month.

Q. WHAT ARE THE PROPOSED RATES FOR JURISDICTIONAL CUSTOMERS?

A. The proposed rates for the jurisdictional customer classes are shown in Direct Exhibit DNH-6 Rate Design, and in Table DNH-12 below.

Table DNH-12- Proposed Rates for Jurisdictional Customers

Description	Residential	Small Commercial Service	Large Commercial Service
Customer Charge $/Month	$31.00	$48.00	$121.00
Therm Threshold	10 Therms	20 Therms	500 Therms
Distribution Charge Tier 1 $/therm	$0.42242	$0.95940	$0.22484
Therm Threshold	>10 Therms	> 20 Therms	> 500 Therms
Distribution Charge Tier 2 $/therm	$0.15000	$0.15000	$0.15000

Q. HAS THE COMPANY PREPARED A REVENUE PROOF BASED UPON THE PROPOSED RATES?

A. Yes. A revenue proof is contained in Mr. Fritel's Exhibit EJF-11. The revenues under the proposed rates are compared to the revenues under existing rates on Lines 76-78.

Q. HAVE YOU PREPARED A COMPARISON OF THE RESIDENTIAL BILL IMPACT AT DIFFERENT TOTAL BILLED THERMS UNDER CURRENT AND PROPOSED RATES?

A. Yes. A comparison of Residential bills under the current and proposed rates including the monthly Customer Charge, the System Safety and Integrity Rider ("SSIR") fixed charge, Tier 1 and Tier 2 volumetric charges, and the Gas Cost Adjustment ("GCA") has been prepared. Residential bills with different amounts of gas use based upon a range of zero through 100 are shown in Figure DNH-6 for current rates and Figure DNH-7 for proposed rates.

Figure DNH-6 -Residential Bills Under Current Rates

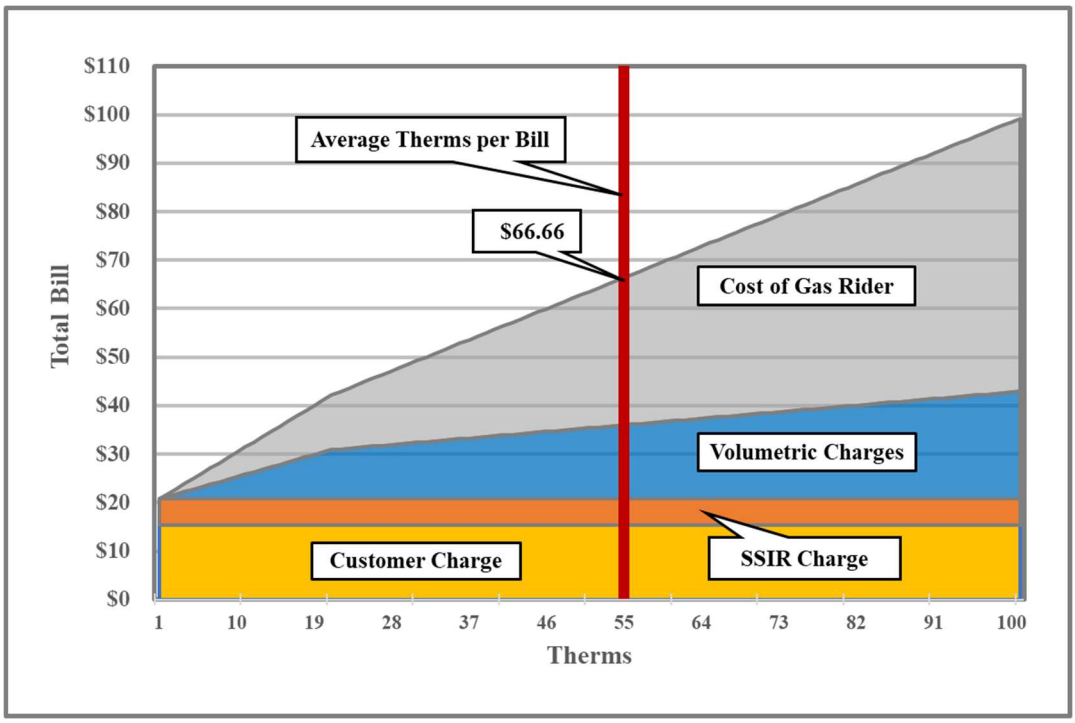
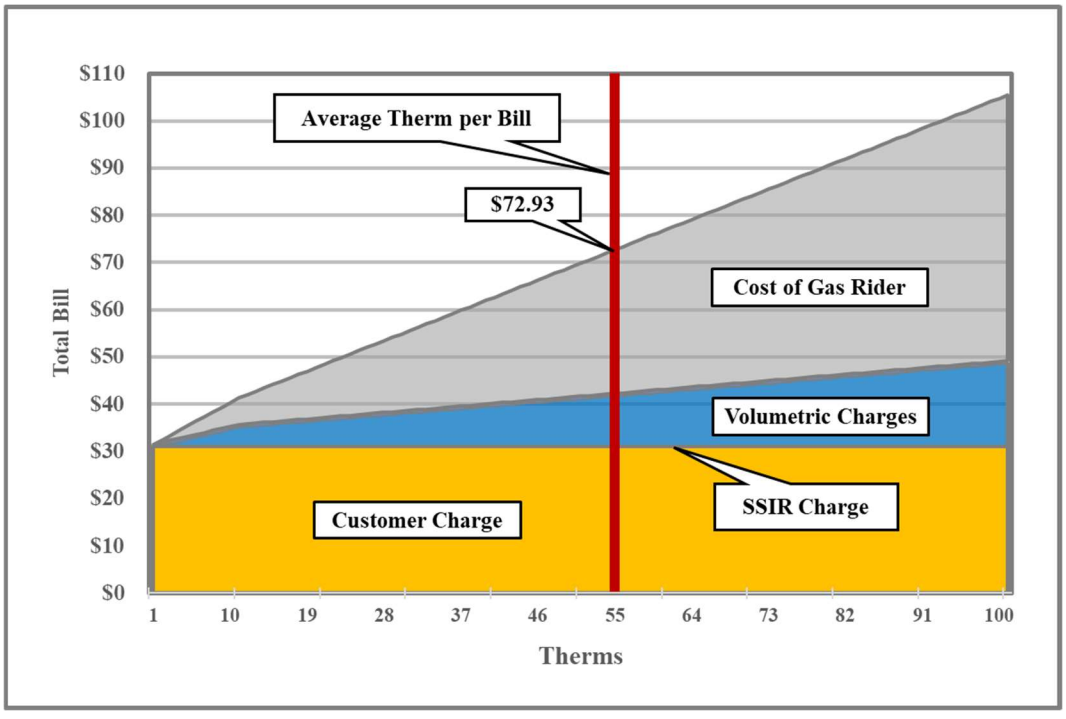


Figure DNH-7- Residential bills Under Proposed Rates



Q. WHAT ARE YOUR OBSERVATIONS BASED UPON THESE FIGURES?

A. The total charges under current rates based upon the adjusted average use per Residential customer is $66.41, and $72.23 under the proposed rates. This is an increase of $5.82. The current Residential fixed SSIR charge of $5.28 is being set to $0.45 with costs currently recovered through the SSIR included in base.

Q. UNDER THE PROPOSED RATES WILL RESIDENTIAL CUSTOMERS STILL HAVE A FINANCIAL INCENTIVE TO CONSERVE ENERGY?

A. Yes. As shown in Figure DNH-7 above, customers still have a strong incentive to conserve energy as they incur the total volumetric GCA for each additional therm used. At the total current GCA rate of $0.56306/therm plus the proposed Tier 2 volumetric rate of $0.15/therm, the total bill could be reduced by $0.71306/therm, thereby giving customers control over a sizeable portion of their total bill.

Q. PLEASE SUMMARIZE THE OVERALL IMPACT BY CLASS OF THE PROPOSED RATES.

A. The overall impact is shown in Exhibit DNH-4, Table 1, Lines 8-13 and summarized below in Table DNH-13.

Table DNH-13- Class Revenue Impact and Rate of Return

Under Proposed Rates[2]

Customer Class	Revenue Increase (Decrease)	% Change	Rate of Return Under Proposed Rates
Residential	$30,133,524	29.3%	7.49%
Small Commercial Service	($24)	0.0%	8.36%
Large Commercial Service	$4,789,613	29.6%	7.63%
Total	$34,923,112	24.1%	7.63%

VII. WEATHER NORMALIZATION ADJUSTMENT RIDER

Q. WHAT ARE WNA MECHANISMS?

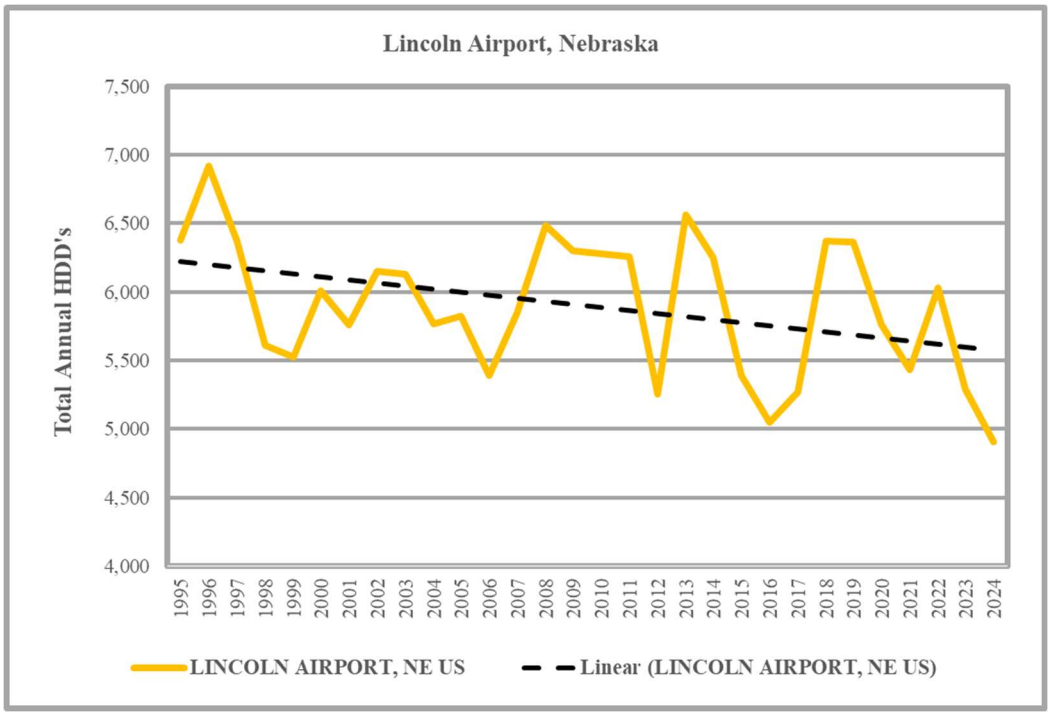
A. WNA mechanisms also known as riders are ratemaking tools that can offset the impact of unusually warm or unusually cold weather on a gas company's operating revenues and earnings. They work by utilizing an adjustment factor that increases or decreases the volumetric portion of base rates to compensate for deviations from normal weather. Gas rates charged by LDCs are predicated in part on an assumption of anticipated gas throughput. Because throughput, particularly for heating customers, is highly weather sensitive, deviations from the weather conditions assumed in the development of those rates ("normal" weather) can lead to deviations in revenues and earnings.

Table EJF-1 of Mr. Fritel's testimony provides a comparison of the actual to normal Heating Degree Days ("HDD") at the 13 weather stations the Company uses

[2] The differences between the revenue increase produced by the proposed rates and the calculated revenue deficiency (existing revenues minus CCOSS) are due to rounding the rates to significant digits.

shows how 2024 was warmer than normal. The degree to which actual HDDs can deviate from "normal' is apparent in the total annual HDDs for the Lincoln Airport in Figure DNH-8 below.

Figure DNH-8- Lincoln Airport Annual HDD 1995-2024



The figure shows how the average annual HDDs are generally declining over time, and how the actual annual HDDs vary from year to year from the average.

Q. WHAT ARE THE DIFFERENCES BETWEEN THE NORMALIZATION OF BILLING DETERMINANTS AND A WEATHER NORMALIZATION ADJUSTMENT RIDER?

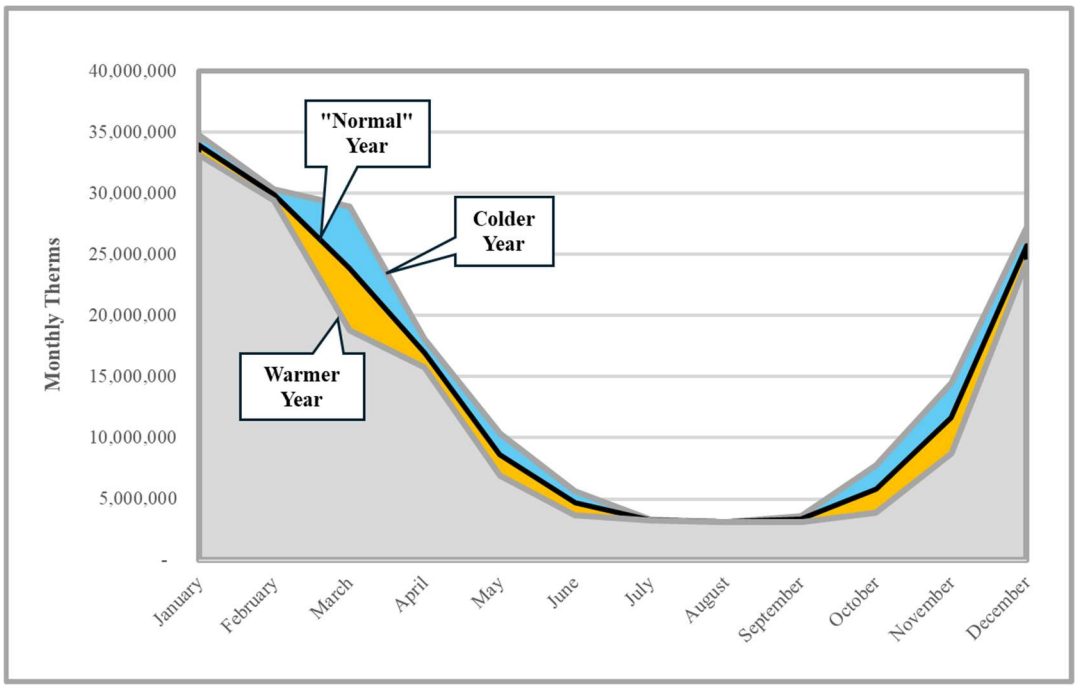
A. The normalization of billing determinants for weather is discussed by Mr. Fritel in his Direct Testimony. In a rate review, proposed rates are based on Test Year volumes (therms), and the Base Year volumes are adjusted to reflect sales expected in a "normal" (typical) year. Assuming all other factors 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 actual costs during similar periods of colder-than-normal conditions. Similarly, if weather is warmer-than-normal, then rates will be set too high and the rates will over-recover costs during periods of normal and colder weather. Thus, if Base Year weather conditions deviate from normal, it is necessary to adjust heating load to recognize what volumes would have been if conditions were normal.

A WNA rider is designed to adjust volumes between rate reviews with either an upward or downward adjustment to align with the normalized billing determinants that are established within the rate review. The adjustment of volumes and revenue are either upwards in a warmer than normal year, or downwards in a cooler than normal year are shown in Figure DNH-9 below.

Figure DNH-9 illustrates the following: The actual billed Residential volumes during 2024 are shown as the grey shaded area. Normalized volumes are shown as a black line. These are the proposed rates established within the rate review which are designed to recover the approved revenue based upon these normalized volumes. The normalization of monthly total Residential therms is discussed in Mr. Fritel's Direct Testimony. The highest line shows what sales volumes might look like during a colder than normal year. An adjustment of volumes downward to the normalized volumes is shown as the blue shaded area.

Figure DNH-9- Normalization of Residential Sales Volumes



Q. WHAT BENEFITS DOES THE WNA RIDER PROVIDE TO CUSTOMERS?

A. The primary benefit that a WNA rider provides to customers is bill stability throughout the year. This rider would also provide a secondary benefit to customers by moderating winter bills in colder than normal periods. A WNA rider aims to provide protection from spikes in customer bills because of higher usage that would occur in colder than normal weather. For example, after a colder than normal year the excess revenues earned by the Company because of this program would be returned to the customers. The proposed WNA rider is designed to adjust customer's bills for periods of abnormal weather so that customers pay approximately the same amount for utility gas distribution services (non-gas costs) as they would have during normal weather.

Q. HOW DOES THE WNA RIDER BENEFIT THE COMPANY?

A. The WNA rider will help the Company earn its allowed rate of return by reducing the impact of weather on earnings. Avoiding a revenue shortfall due to warmer than

normal weather benefits the Company and its shareholders. The WNA rider is designed to provide less volatility in revenues by better matching actual annual revenue and allowed revenue.

Q. ARE ALL WNA MECHANISMS THE SAME IN TERMS OF DESIGN?

A. No. WNA mechanisms generally have two types of designs. The first is a mechanism that is adjusted for the actual weather variation based upon the current monthly bill. The second is a mechanism that adjusts bills on a lagged basis where the adjustment for actual weather variation appears on the customers' bills from a few months to a year after a variation from normal weather is experienced.

Q. HOW MANY STATES CURRENTLY UTILIZE A WNA MECHANISM?

A. According to an American Gas Association ("AGA") study issued in November of 2018,[3] approximately 56 utility companies in 24 states have approved WNA riders.

Q. DOES THE COMPANY CURRENTLY UTILIZE THIS RIDER IN OTHER BHC STATES?

A. Yes. The Company has two long-standing WNA riders in place for BH Arkansas and BH Kansas.

Q. PLEASE SUMMARIZE THE BH ARKANSAS WNA RIDER.

A. The WNA rider in BH Arkansas has been in place since 1996.[4] The BH Arkansas WNA rider is calculated and billed real time on a monthly basis for six months out of the year (November 1 – April 30). Residential and Small Business rate classes in Arkansas are subject to the WNA rider and there is a separate rate for each class. The

[3] American Gas Association Innovative Rates, Non-Volumetric Rates and Tracking Mechanisms November 2018, pp. 12-13. *See* DNH WP-27 for reference.
[4] Arkansas Public Service Commission Docket No. 96-030-U.

current approved.[5] Arkansas WNA Rider tariff can be found in Black Hill Energy Arkansas' Gas Tariff, Fourth Revised Rider Schedule No. 3.4.[6]

Q. PLEASE SUMMARIZE THE KANSAS WNA RIDER

A. The WNA rider in BH Kansas has been in place since 2003[7]. The BH Kansas WNA rider has an annual calculation period (October 1 – September 30) and an annual collection period (November 1 – October 31). All Firm Sales classes are subject to the WNA rider and there is one rate for all classes. The current approved[8] WNA Rider tariff can be found in Black Hills Energy Kansas Gas Tariff Index No. 16 Schedule WNA Rider, Third Revised.[9]

Q. HOW WILL THE WNA RIDER WORK IN NEBRASKA?

A. BH Nebraska Gas plans to model the WNA rider like the current approved WNA rider in Kansas, where bills are adjusted on a lagged basis several months after the abnormal weather has occurred. Under the proposed WNA rider, the revenue deviations resulting from abnormal weather will be captured in a deferred account throughout the year and will be collected or refunded over future bills. The WNA rider will apply to all jurisdictional sales customers. Each month of the twelve-month calculation period, the actual non-gas revenue collected is compared with the revenue that would have been collected under normal weather conditions. At the end of the calculation period, the

[5] Arkansas Public Service Commission Docket No. 23-074-U Order No. -7 October 14, 2024.
[6] Black Hills Energy Arkansas Tariff Fourth Revised Rider Schedule 3.4.
[7] Kansas Public Service Commission Docket No. 03-AQLG-1076-TAR.
[8] Kansas Corporation Commission Docket No. 21-BHCG-418-RTS December 30, 2021.
[9] Black Hills Energy Kansas Tariff Index No. 16 WNA Rider Third Revised.

net excess or deficient revenue for the year is either refunded or surcharged over the next twelve months (i.e. the collection period).

Under the proposal, the Calculation Period is the twelve months ending June 30 and the Collection Period is the twelve months ending August 31. An annual report will be filed by August 1, detailing the WNA rider calculation, with the new rider effective September 1. This will allow BH Nebraska Gas the time to collect the necessary weather normalized data and will allow the Commission and the Public Advocate time to audit the Company's calculation. If approved, the WNA collection year will extend from September 1 to August 31 of the following year. During that time, BH Nebraska Gas will either refund or collect the revenue difference through the WNA rider applied to a volumetric charge for all customer classes.

Proposed Tariff Sheet Nos. 138-140 detail the timeline and calculations for the rider. The weather normalization coefficients (heat sensitive factors by rate class and weather station) as well as normal heating degree day data to be used in the calculations are discussed in Mr. Fritel's testimony and are set forth in Mr. Fritel's Direct Exhibit EJF-2, Table 3. The heat sensitive factors and normal degree days established in this proceeding would be the basis for the WNA rider calculation. Each month BH Nebraska gas will calculate the revenue deficiency or excess as the product of the heat sensitive factors, the difference between normal weather sales and actual sales, and the number of customers. The resulting figure is multiplied by the Tier 2 distribution charge to calculate the excess or deficient revenue for the month. Exhibit DNH-8 is a hypothetical example of how the WNA rider calculation would work.

In summary, when the Commission sets rates during a rate review, those rates are based on weather normalized billing determinants. If the weather is normal, then the expectation is that the Company will recover its allowed revenue, and the customer will pay no more/no less than its required revenue. However, if weather is colder than normal, then customers pay more revenue, and if the weather is warmer than normal, then the Company under earns. The Commission's approval of the WNA rider proposed by BH Nebraska Gas will help address the revenue volatility due to abnormal weather.

VIII. CONCLUSION

Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?

A. Yes.

STATE OF COLORADO)

) SS

City of
COUNTY OF DENVER)

I, Douglas N. Hyatt, being first duly sworn on oath, depose and state that I am the witness identified in the foregoing prepared testimony, and I am familiar with its contents, and that the facts set forth are true to the best of my knowledge, information and belief.

Douglas N. Hyatt

Subscribed and sworn to before me this 21st day of April, 2025.

(SEAL)

ELAINE D HEGLER
Notary Public
State of Colorado
Notary ID # 19984031852
My Commission Expires 11-17-2026

Notary Public

My Commission Expires: 11-17-26