Statement of Qualifications

Douglas N. Hyatt

I graduated from Colorado State University with a bachelor's degree in political science. Upon graduation, I received a commission as an Officer in the United States Air Force Reserve, and after serving on active duty I was placed on inactive individual ready reserve status for the remainder of my service commitment.

I accepted a civilian position with the United States Department of State at Embassy Budapest, Hungary. After working for three years in Budapest, I returned to Colorado in 1993 and began working towards an MBA at the University of Colorado at Denver. During a portion of my two years of studies, I accepted a civilian position in Office Automation with the Defense Finance and Accounting Service in Denver, Colorado. Upon achieving an MBA in 1995, I accepted a position as a Telecommunications Analyst with AT&T Wireless in Denver.

In April 1996, I accepted a position as a Telecommunication Analyst with First Data Corporation located in Englewood, Colorado. In that capacity, I oversaw the auditing of telecommunications services expense as well as the impact upon the unit cost to the Company of various retail customer financial transactions. I led the effort to develop a database to enable network engineers to maintain network information, to streamline the auditing of network cost, and properly account for the costs incurred for multitude of internal and external customers.

In January 2001, I accepted a position as a Senior Specialist with AT&T. In this position, I championed regulatory initiatives to reduce or mitigate potential increases to expense, and supported state advocacy plans to ensure favorable State Public Utilities Commission rulings to reduce intercarrier compensation expense. I have testified before the Colorado Public Utilities Commission and drafted written testimony for submission to State Utilities Commissions. I assisted in the preparation of highly complex unit cost modeling for state regulatory proceedings throughout Qwest's 14 state territory. While at AT&T, I completed a Master of Applied Science Degree in Telecommunications at the University of Denver.

In November 2007, I accepted a position as a Lead Telecommunications Analyst with Qwest Communications. In this position, I played a lead role in auditing switched access expense to the Company. I played a role in the development of one of the largest private corporate databases in the World. During database development, I honed my expertise in compiling very large volumes of complex data into meaningful analytics for corporate decision makers.

I began my employment with Black Hills Corporation in June 2014, as a Principal Regulatory Analyst. In this role and my current role as Manager of Regulatory, I have prepared and presented complex analyses and studies for the electric and natural gas utilities of BHC. I have prepared many studies and analyses in support of Company advocacy before the Arkansas Public Service Commission, Colorado Public Utilities Commission, Kansas Corporation Commission, Iowa Utilities Board, Nebraska Public Service Commission, and the Wyoming Public Service Commission for both electric and natural gas rate proceedings.

Mains Classification and Weighting Factor Study

Introduction

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Supporting studies are prepared for the class cost of service study that develop the classification of mains, and the customer weighting factors for service lines, meters and regulators, and customer accounting-related costs. In these studies, the following relationships are analyzed:

- 1. Mains Account 367 and Account 376 Development of the classification of mains investment between capacity, commodity, and customer-related cost;
- 2. Service Lines Account 380 Development of weighting factors that recognize the relative cost of service lines for each customer class;
- 3. 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; and
 - 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.

22 The data relied upon for the mains, service lines, and meters and regulators analyses are 23 contained in the Company's detailed property records. The base data underlying these 24 analyses are the original cost and quantity data in the Company's continuing property 25 records as of December 31, 2024, with adjustments related to large projects that are not 26 captured in that data which will be discussed in more detail below. The relative relationships 27 in these analyses are developed based on original costs restated to current cost levels (2024). 28 We restate the original cost levels using Handy-Whitman cost indices for the North Central 29 Region. By developing relationships based on current cost levels, inflationary impacts do 30 not affect the analyses, and more stable relationships result over time since the timing of 31 renewals and replacements do not distort the analyses.

The Handy-Whitman cost indices are published twice a year by Whitman, Requardt and Associates, LLP and contain cost indices and construction cost trends back to 1912 for electric, gas, and water utility assets. The indices for gas utilities are developed by the FERC Uniform System of Accounts for six regions in the United States. These indices have been published since the 1920s and are a utility standard for determining inflation adjusted cost and replacement cost analyses for utility assets.

40 The purpose of the mains classification analysis is to determine the relative relationships 41 between the commodity, capacity, and customer functions served by these facilities. The 42 underlying assets are very long-lived; as such, the underlying costs of the assets change 43 significantly over the useful life of these assets. Further, the construction of the distribution 44 system follows a natural progression with higher diameter, higher capacity facilities built 45 first, and the smaller diameter facilities built to serve individual or small groups of

1 customers are constructed as service is required. In addition, changes in construction and 2 maintenance practices over time have resulted in replacement programs that are not 3 necessarily uniform. To focus the analysis on the relative amount of investment required to 4 serve commodity, capacity, and customer functions that are not impacted by timing or the 5 transient effects of when assets are replaced or renewed, it is important to remove such 6 effects from the analyses. Restating the original costs that are based on the vintage date of 7 the installation to current cost by trending the original costs to current costs mitigates the 8 effects of time and transient effects; thus, producing a more stable result over time that 9 better reflects the function the assets serve.

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Likewise, it is important to remove timing effects from the determination of the relative costs of service lines, and meters and regulators by restating these costs to current cost levels such that we are truly reflecting the differences in the size and capacity of the facilities used to serve different customer classes. For meters and regulators, it is also important to recognize that meters and regulators are not permanently fixed and are fungible. It is not uncommon for a meter to be removed from one installation and then be installed at another location of comparable requirements.

Mains Classification Study

There are three basic 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 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.

32 The definition of the transmission and distribution function is not the same things as the 33 FERC Uniform System of Accounts Definition of transmission and distribution. As 34 indicated above, the transmission function for cost allocation purposes includes facilities 35 that move gas from sources of supply to general areas of consumption. This function is 36 generally served by higher diameter, higher pressure mains that only directly serve very 37 large customers. Facilities that are booked to both the transmission mains account (primarily 38 Account 367) and distribution mains (primarily Account 376) serve this function. 39 Therefore, higher diameter, higher pressure distribution mains also serve a transmission 40 function.

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42 Certain mainline non-jurisdictional industrial customers were directly assigned all the plant 43 required to serve them, thus eliminating any allocation of distribution mains related facilities 44 that are not required or used and useful to providing them service. These directly assigned 45 mains are excluded from the mains classification study used to determine the classification and allocation of mains to the non-direct assigned jurisdictional and non-jurisdictional customers.

Direct Served Customers

There are three classes of direct served customers; two classes are the same as those on the prior legacy systems and one contains a new class of customers that has evolved since the last rate cases. The two historical classes are customers who are directly connected to interstate pipelines and customers who are served from the Company transmission system. The new class includes natural gas suppliers who directly supply natural gas into the Company's transmission or distribution system.

As in the past, investment associated with customers directly connected to interstate (thirdparty) transmission systems will be directly assigned to those customers. Thus, no other customers will be allocated any of those facilities that directly serve these customers, and these directly served customers will not be allocated any of the other transmission or distribution facilities that are not used and useful to their service. In the workpapers and class cost of service study, these customers are aggregated into a separate class.

The second class are customers served from Company transmission facilities. These
customers are allocated costs of facilities classified as transmission but are not allocated
costs classified as distribution. This class is referred to as "Negotiated-Transmission".

24 The third class includes facilities associated with directly connected suppliers of natural gas. 25 The nature of this service is fundamentally different from the service provided to sales or transportation customers. The service provided by the Company is providing facilities that 26 27 connect the suppliers natural gas production facilities to the Company's transmission or 28 distribution system for delivery to the Company's customers. Currently, the suppliers are 29 landfills and a sewage treatment plant that produce renewable natural gas ("RNG") but 30 could include other facilities that also produce RNG. The investment made by the Company 31 to connect these suppliers will be directly assigned to this customer class and no other costs 32 associated with the Company's transmission and distribution system will be allocated to 33 these suppliers since the facilities used and useful to these operations are used to supply 34 natural into the Company's system, not take delivery of gas from the Company's or third-35 party systems. This class is referred to as "Negotiated-Supply".

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37 The determination of which customers are assigned to these three classes was based on 38 detailed study of the Company and third-party transmission facilities used to serve these 39 customers as shown in the Company's GIS system. Any plant directly assigned to these 40 customers is based on the plant recorded in the Company's continuing property records 41 including allowance for any direct construction contribution made by these customers. In 42 some cases, these customers are served directly off third-party transmission systems with no facilities owned by the Company and thus required no direct investment in facilities. The 43 44 maps, investment, and other allocation related information for these customers will be 45 included as confidential workpapers since they contain customer specific information. In

total, there are 44 Negotiated-Transmission customers, 16 Negotiated-Direct customers, and
 2 Negotiated-Supply suppliers.
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The remaining non-jurisdictional large volume customers not in these three classes are assigned to non-jurisdictional classes in the same manner as they have been treated in prior legacy class cost of service studies.

8 Transmission Facilities

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10 The allocation of investment in facilities serving a transmission function should recognize 11 that these facilities are used to meet both peak and annual requirements of customers. These 12 facilities, though sized to meet system peak requirements, are also influenced by annual 13 requirements. To recognize this dual nature, the cost of these facilities should be allocated 14 on a basis that recognizes both peak and annual use of the facilities. A variety of methods 15 have been used to recognize the dual nature of these facilities. For transmission-related costs 16 system equal weight is given to the capacity and commodity functions, consistent with how 17 these facilities have been assigned in past.

19 The assignment of transmission-related costs equally (50/50) to capacity and commodity has 20 historically been referred to as the Atlantic Seaboard Method. Between the early 1950's and 21 1973, the primary method used by the Federal Power Commission (now FERC) was the 22 Atlantic Seaboard methodology. Under this methodology, fixed costs were assigned equally 23 (50/50) to the fixed (demand or capacity) and variable (commodity) cost classifications. 24 More recently, the current methodology used by the FERC has evolved to a straight fixed 25 variable ("SFV") methodology that assigns 100% of fixed costs to the capacity function.

27 Distribution Facilities

29 The allocation of investment in facilities serving a distribution function should recognize 30 that the cost of these facilities is driven by two principal factors. First, is the cost of 31 extending the system to connect individual customers. Second, is the cost associated with 32 the capacity (peak day) requirements of the customers connected. Though facilities serving a 33 distribution function are also used to meet customers' annual requirements, due to the local 34 nature of the facilities and their customer specific cost, we do not allocate any cost 35 associated with the distribution function based on annual throughput. Reasonable and 36 consistent results are achieved by allocating costs of facilities, which are functionally 37 classified as distribution, based on the number of customers and peak period requirements. 38 The customer-related function of mains is not the same as the customer-specific cost 39 component. Within the distribution function, the service lines, meters and regulators, are for 40 the most part, used to serve individual customers. Costs associated with these items are 41 considered customer specific. There is also a customer component of distribution mains 42 which recognizes the cost implications of the distance between individual customers or customer density on the cost of distribution mains. The quantity (i.e. length) of smaller 43 44 diameter distribution mains is primarily driven by the distance between customers and 45 customer density.

1 2 For the lower capacity, smaller diameter mains, customer density and the relative distance 3 between customers is a significant driver in the quantity of pipe that must be installed and 4 contributes to the need for increased pipe diameter both of which have a significant impact 5 on cost. The quantity (length) of pipe required to serve smaller residential and commercial 6 customers is greater in rural and less populated urban areas, thus, resulting in a higher unit 7 cost per customer associated with the mains required to serve these customers. In urban 8 areas, there are significantly more multi-family dwelling units and strip type retailing, and 9 even single-family homes tend to be clustered closer together than is the case in rural or 10 even suburban areas. Further, as distance increases for a given demand, pipe diameter must 11 also be increased to reflect the cumulative effect of the friction losses (and resulting pressure 12 decline) in the pipe. This also increases the relative unit cost of mains per customer in rural 13 compared to urban areas. These customer related cost drivers are primarily a characteristic 14 of the design of the distribution system that serves residential and small commercial 15 customers. Larger customers are typically served at higher pressures off larger diameter pipe 16 where capacity and commodity are the primary design considerations. 17

18 We assign mains larger than a certain size as serving a transmission function based upon the 19 relative capacity of the various sizes of pipe. Pipeline flow formulas generally suggest that 20 the capacity of a pipeline is proportional to its diameter to something on the order of the 2.5 21 power. Raising the diameter to the 2.5 power and multiplying by distance results in an 22 indication of the relative capacity of the system. Further, all other things being equal, a steel 23 main of a given size is going to have more capacity than the same size plastic main because 24 the additional strength of steel allows steel mains to be operated at higher pressures than 25 plastic mains.

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27 Schedule 2-3, Lines 10-31 details how the assignment of distribution mains was developed. 28 The distribution mains are summarized on Lines 33-46 of Schedule 2-3 from lowest to 29 highest diameter. As shown on Line 38 of Schedule 2-3, the break point for distribution 30 mains between transmission- and distribution-related facilities results in approximately 64% 31 of the relative capacity being assigned to the distribution function with the remaining 45% 32 of the relative capacity being assigned to the transmission function. This split results in 33 21.41% of the investment in the distribution main's function being assigned to the 34 transmission function as shown on Line 48. The remaining 78.59% is assigned to the 35 distribution function. The 21.41% is classified 50 percent demand or capacity and 50 percent commodity. 36

38 The break point between the transmission function and distribution function is such that the 39 relative capacity of the mains classified as transmission approximately equals that of mains 40 classified as distribution. This occurs between mains of 4 and 6 inches in diameter with 41 mains of 6 inches or greater being assigned to the transmission function and the small 42 diameters being assigned to the distribution function. In the last rate review the breakpoint 43 was between 6 and 8 inches. The 78.59% assigned to the distribution function is assigned 44 between the customer and capacity functions based on examination of relative capacity and 45 cost relationships contained in Schedule 2-3 that was used to determine the amount of

distribution facilities assigned to the transmission function. The mains classified as
distribution (78.59% of cost) are classified as capacity and customer. The portion classified
as capacity is based on the unit cost of capacity of the 4-inch mains (the largest diameter,
highest capacity distribution mains) which equals \$1.40 per unit of capacity (feet times
diameter to the 2.5 power). This results in 54.91% of the investment in distribution mains
being classified as capacity-related and 45.09% as customer-related as shown on Lines 57
and 58 of Schedule 2-3.

9 The transmission-related portion of distribution mains equals 21.41% split equally between 10 the commodity and capacity function resulting in 10.71% (21.41% x 50%) of the overall 11 cost assigned to each function (Lines 49 and 50 of Schedule 2-3). The remaining 78.59% is 12 split 54.91% to capacity and 45.09% to customer, resulting in 43.15% (78.59% x 54.91%) 13 assigned to the capacity function and 35.43% (78.59% x 45.09%) assigned to the customer 14 function (Lines 68 and 69 of Schedule 2-3). Combining the transmission and distribution 15 functions for distribution mains results in 10.71% assigned to the commodity function, 16 53.86% (10.71% + 43.15%) assigned to the capacity function, and 35.43% assigned to the 17 customer function as shown on Lines 60 through 62 of Schedule 2-3.

19 The overall classification of distribution mains compared to the classifications used in the 20 last rate case are as follows:

	Commodity	Capacity	Customer
Current Rate Review	10.71%	53.86%	35.43%
Last Rate Review	6.30%	41.82%	51.88%

The results from the current case appear reasonable when compared to the range from the last rate review.

In the last rate review, the Company had the functionalization of legacy SourceGas distribution plant cost booked to Account 376 associated with former Kinder Morgan transmission facilities as Transmission and classified 50 percent to Commodity and 50 percent to Capacity. The Company now functionalizes all distribution plant cost in the manner it had previously done with legacy Black Hills, as described above.

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Service Lines Weighting Factors Study

Plant investment in service lines (Account 380) is allocated to customer classes based on the 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:

- 39 1) the average service line length and
- 40 2) the unit cost per foot.
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1 The unit cost per foot is primarily a function of the diameter of the service line required. The 2 analysis relies primarily on two sources of information. First, the Company's property 3 records provide cost information regarding the various sizes of service lines. Second, the 4 Company's Department of Transportation ("DOT") reports provide information regarding 5 the number of service lines for each size. For the same reasons discussed above regarding 6 mains, the original cost data should be restated in terms of current cost using Handy-7 Whitman indices for Account 380 - Services. Since the property records have not always 8 measured quantity in the same manner as the DOT reports for service lines. For example, in 9 some instances quantity might be number of service lines rather than the cumulative feet of 10 service lines installed. Therefore, we also consider the unit cost per foot for comparable size 11 and material of mains.

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Service Lines Customer Weighting Factors

15 The class cost of service study in the current case combines customers from the two systems 16 into one set of relatively homogeneous groups of customers having common characteristics 17 of each of the legacy customer classes. The proposed customer classes are as follows:

- 1. Residential the consolidation of the existing legacy Residential classes
- 2. Small Commercial
- 3. Large Commercial
- 4. Agricultural
- 5. Maximum Rate.
- 6. Interruptible Sales.
- 7. Negotiated Distribution.
- 8. Negotiated Transmission.
- 9. Negotiated Direct customers served off interstate pipelines
- Negotiated Supply these customers do not have service lines, nor do they use any of the Company's facilities other than the pipe used to connect them to the Company's system.

32 The analysis developing the customer class weighting factors used in the class cost of 33 service study is summarized in Schedule 2-4. As shown in Lines 3 through 6 of Schedule 2-34 4, the first step is to determine the current cost of service lines by pipe diameter from 35 information in the Company's property records and the resulting unit cost per foot. Next, the 36 DOT reports were used to determine the number of service lines by pipe diameter and the 37 average length of service lines. The DOT information was summarized into pipe diameter 38 categories of 1 inch or less, 1-2 inches, and 2-4 inches as shown in Column C and F, Lines 39 12-14. Next, the property record (both the service line data summarized in Schedule 2-4 and 40 the comparable information for mains in Schedule 2-3) and DOT data are combined to 41 estimate the unit cost and average service length of service lines for each of these sizes as 42 shown on Lines 22-25 of Schedule 2-4. The number of service lines (Column D) is based on the DOT report and the total quantity in feet (Line 25, Column C) is also based on the total 43 44 feet resulting from multiplying the average service line in the DOT report by the average 45 service length (Column J, Lines 12-14). The average length for each service line was varied

assuming longer service line lengths for higher diameter service lines to determine the
quantity in feet of each service line. The total Trended Original Cost (TOC) on line 26
Column E closely approximates the TOC determined from the analysis of the Company's
property records on Line 2 through 6. The TOC in Column E of the table on Line 22-26 is
equal to the estimated quantity in feet (Column C) times the average cost per foot (Column
F). The unit costs shown in Column F are based on both the unit costs shown on Lines 3
through 5.

9 As shown in Lines 30 through 40 of Schedule 2-4, the next step is to allocate each size of 10 service line to each proposed customer class based on the following assumptions based on 11 consideration of the relative sizes of the average size customer in each class (Column D):

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- 1. 100% of the Residential service lines are 1-inch or less.
- 2. Small Commercial Service lines are assumed to be equally split between 1-inch or less and 1-2 inches.
- 3. Large Commercial Service lines are 90% 1-2 inches and 10% greater than 2 inches.
 - 4. Agricultural customers are not provided a service line.
 - 5. 75% of the Maximum Rate legacy Aquila service lines are assumed to 1-2 inches and the remainder greater than 2 inches.
 - 6. Interruptible Sales service lines are assumed to be equally split between 1-2 inches and greater than 2 inches.
 - 7. Negotiated Distribution service lines are assumed to be equally split between 1-2 inches and greater than 2 inches.
 - 8. The remaining customer classes are not served from service lines.

27 Next, the number of services lines allocated to each proposed customer class is multiplied 28 by the applicable unit cost for each size service line, and the result is divided by the number 29 of customers in each proposed customer class to determine an average unit cost for a service 30 line per customer for each proposed customer class (Column L). A relative unit cost for each 31 class is calculated as the ratio of that proposed customer class's unit cost relative to the unit 32 cost of a Residential customer (Column M). These ratios are then used to assign weighting 33 factors to each proposed customer class considering the relative size (use per customer) of a 34 typical customer in each of the proposed customer classes (Column N).

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- The resulting proposed customer class service line weighting factors and customer
 component of mains weighting factors are as follows:
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Customer Class	Service Line Weighting Factor
Residential	1
Small Commercial Service	1
Large Commercial Service	2
Agricultural	0
Maximum Rate	3.5

Interruptible Sales	6
Negotiated - Distribution	6
Negotiated – Transmission	0
Negotiated -Direct	0
Negotiated - Supply	0

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

Meters and Regulators Weighting Factors Study

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9 For purposes of cost allocation, the meters and regulators FERC Accounts 381 through 385 10 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 11 12 various piping components may be distributed through Accounts 381 through 384. In some 13 cases, the cost of these installations may be split or allocated between Accounts 382 and 14 384; sometimes these accounts may not be used at all, and these installation costs are 15 booked to either Account 381 or 383. The approaches differ between utilities and may 16 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 17 18 FERC Uniform System of Accounts especially compared to the definition of industrial that 19 may be used in the development of rates. Furthermore, rates change over time and 20 customers migrate between rates over time, but the plant accounting is not adjusted for this, 21 nor would it be practical to do so. Finally, meters and regulators are fungible. Unlike piping, 22 meters and regulators are commonly removed, rehabilitated or repaired, and then reinstalled 23 in a different location. Based on all these factors, it is most reasonable to treat Accounts 381 24 through 385 as a group and assign cost responsibility based on the installed cost of the entire 25 meter and regulator set for each customer class regardless of where a customer's specific 26 meter may be booked.

28 Plant investment in meters and regulators (Accounts 381 - 385) is allocated to customer 29 classes based on the number of customers weighted to recognize relative differences in the 30 unit investment cost of the different types and sizes of meter and regulator sets used to 31 connect customers in that class in a manner like that used to allocate service lines. The 32 analysis primarily relies upon the data contained in the Company's property records which 33 provides an inventory and original cost of each type and size of meter and regulator. For the 34 same reasons discussed above regarding mains and service lines, the original cost data 35 should be restated in terms of current cost using Handy-Whitman indices for meters and 36 regulators. 37

The Company's plant accounting records contain sufficient detail to determine which meters are used for each proposed customer class. 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

1 meters for each proposed customer class provides a unit cost per meter. In BH Nebraska 2 Gas, most of the regulator inventory is not assigned to as specific size, thus the overall 3 regulator trended cost divided by the overall meter trended cost provides the relative relationship of the regulator cost to the meter cost, and this is used to determine the amount 4 5 of regulator related costs assigned to each proposed customer class's meter related cost. The 6 meter and regulator set also includes an encoder-receiver-transmitter ("ERT") that is part of 7 the automated meter reading system. This cost is also included in the estimated unit cost of 8 each meter and regulator set for each proposed customer class. The total unit cost of a meter 9 and regulator set for each proposed customer class is the summation of each of these 10 components. According to the Company's records, some of the larger customers have more 11 than one meter and regulator set, thus the unit cost per customer reflects the typical number 12 of meter and regulator sets per customer. The relative unit cost is calculated for each 13 proposed customer class as the ratio of that class's unit cost relative to the unit cost of a 14 Residential customer. These ratios are then used to assign weighting factors to each 15 proposed customer class, again with consideration also given to the relative size of a typical 16 customer in each proposed customer class.

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Schedule 2-5 shows the calculations discussed above and the resulting proposed customer
 class meters and regulators weighting factors are as follows:

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Customer Class	Meter and Regulator Weighting Factor
Residential	1
Small Commercial Service	2
Large Commercial Service	14
Agricultural	4
Maximum Rate	68
Interruptible Sales	13
Negotiated - Distribution	43
Negotiated – Transmission	49
Negotiated -Direct	60
Negotiated - Supply	24

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These weighting factors are applied to the number of customers for each proposed customer
 class in the CCOSS to determine the meters and regulators allocation basis for each
 proposed customer class. For example, a weighting factor of 14 means that the relative unit
 cost for that class is 14 times that of a Residential customer.

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Customer Accounting Weighting Factors

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. There are also other costs
and revenues that are included in the Customer Accounting cost function as discussed earlier
regarding the CCOSS. 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. The following customer accounting weighting factors are used in the CCOSS:

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Customer Class	Customer Accounting Weighting Factor
Residential	1
Small Commercial Service	1.5
Large Commercial Service	2.5
Agricultural	1.5
Maximum Rate	5
Interruptible Sales	5
Negotiated - Distribution	10
Negotiated – Transmission	20
Negotiated -Direct	20
Negotiated - Supply	20

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5 These weighting factors are comparable to the weighting factors in the last rate review.

6 These weighting factors recognize that customer accounting services provided to the

7 Residential, Commercial and Agricultural classes are comparable and that as the other non-

8 jurisdictional customers become larger, the rates migrate from being standardized to

becoming more customer specific negotiated rates and thus the services provided to these
 larger customers require higher levels of attention and service not only for connecting

11 service but also maintaining communication with larger customers.

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Direct Exhibit DNH-2 Weighting Factors Studies Page 13 of 16

Black Hills Nebraska Gas, LLC

Mains Classifation Study Test Year Ending December 31, 2024

	[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]	[1]
						Cumulative	Trended	Trended	TOC per	Cumulative
Line			Original		Relative	Relative	Original	Cost per	Capacity	Trended
No.	Description	Diameter	Cost	Length	Capacity	Capacity	Cost	Foot	Unit	Original Cost
		Inches	\$	Feet			\$	\$/ft		
					(1)			(2)	(3)	
1	Transmission Mains - Account 367									
2	Steel	2	31,133	415			60,096	\$144.81		
3	Steel	3	67,996	292			67,492	\$231.14		
4	Plastic	4	90,225	400			115,185	\$287.96		
5	Steel	6	16,731	2,851			93,676	\$32.86		
6	Steel	8	690,647	23,918			3,933,220	\$164.45		
7	Steel	10	347	105			1,978	\$18.84		
8	Steel	12	3,998,469	165,167			47,930,559	\$290.19		
9	Subtotal Transmission		4,895,549	193,148			52,202,206			
10	Distribution Mains - Account 376									
11	Plastic	1	5,078,853	239,799			7,217,077	\$30.10		
12	Plastic	2	135,302,315	15,935,864			228,720,528	\$14.35		
13	Plastic	3	2,923,298	315,088			6,618,210	\$21.00		
14	Plastic	4	64,555,760	3,572,361			98,490,219	\$27.57		
15	Plastic	6	20,125,428	574,388			27,017,822	\$47.04		
16	Plastic	8	141,366	1,219			200,809	\$164.73		
17	Plastic	10	59,523	433			95,313	\$220.12		
18	Subtotal Distribution		228,186,543	20,639,152			368,359,978			
19	Steel	1	1,294,381	150,061			5,981,536	\$39.86		
20	Steel	2	108,032,773	19,452,025			595,734,651	\$30.63		
21	Steel	3	13,466,016	3,850,881			127,238,907	\$33.04		
22	Steel	4	50,767,926	4,497,287			262,174,755	\$58.30		
23	Steel	6	23,941,771	1,856,843			138,917,372	\$74.81		
24	Steel	8	22,233,937	684,944			71,239,058	\$104.01		
25	Steel	10	1,497,249	109,478			14,256,799	\$130.23		
26	Steel	12	29,621,949	206,504			62,270,358	\$301.55		
27	Steel	16	13,447,073	36,220			27,543,209	\$760.44		
28	Steel	18	32,086	3,775			3,031,165	\$802.96		
29	Steel	20	324,210	20,845			9,153,219	\$439.11		
30	Steel	24	409,660	24,014			9,254,935	\$385.40		
31	Subtotal Distribution		265,069,030	30,892,877			1,326,795,964			
32	Total Distribution Mains - Account 376		493,255,573	51,532,029			1,695,155,943			

33 Net Mains - Account 376

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Black Hills Nebraska Gas, LLC

Mains Classifation Study Test Year Ending December 31, 2024

1000 1	[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]	[J]
Line	Derivi		Original	T d	Relative	Cumulative Relative	Trended Original	Trended Cost per	TOC per Capacity	Cumulative Trended
No.	Description	Diameter	Cost	Length	Capacity	Capacity	Cost	Foot	Unit	Original Cost
24	Diation 0. Charal	Inches	\$	Feet	200.070	0.020/	\$	\$/II \$22.95	622.95	0.700/
34 25	Plastic & Steel	1		25 287,800	200 184 120	0.03%	13,198,013	\$33.83	\$33.83	0.78%
35	Plastic & Steel	2		1 1 6 5 0 6 0	200,184,130	1/.4070	624,433,179 122,857,117	\$25.50	\$4.12	49.4170
37	Plastic & Steel	4		8,069,648	258,228,736	45.64%	360.664.973	\$44.69	\$1.40	78.59%
38	Plastic & Steel	6		2.431.231	214,389,914	64.33%	165,935,194	\$68.25	\$0.77	88.38%
39	Plastic & Steel	8		686,163	124,208,771	75.15%	71,439,867	\$104.12	\$0.58	92.59%
40	Plastic & Steel	10		109,911	34,756,910	78.18%	14,352,112	\$130.58	\$0.41	93.44%
41	Steel	12		206,504	103,010,521	87.16%	62,270,358	\$301.55	\$0.60	97.11%
42	Steel	16		36,220	37,089,280	90.39%	27,543,209	\$760.44	\$0.74	98.74%
43	Steel	18		3,775	5,189,174	90.84%	3,031,165	\$802.96	\$0.58	98.91%
44	Steel	20		20,845	37,288,670	94.09%	9,153,219	\$439.11	\$0.25	99.45%
45	Steel	24		24,014	67,762,998	100.00%	9,254,935	\$385.40	\$0.14	100.00%
46	Total Distribution			51,532,029	1,147,439,993		1,695,155,943			
47	Classification of Distribution (Account 376)									
48	Total 6 inches and Over - Transmission Function			3,518,663	623,696,237		362,980,060		-	21.41%
49	Capacity Assignment				50%					10.71%
50	Commodity Assignment				50%					10.71%
51	Total 4 inches and Less - Distribution			48,013,366	523,743,756		1,332,175,883			78.59%
52	Distribution Capacity/Customer Assignment								-	
53	Relative Capacity of less than 6 inches				523,743,756	Column E, Line 62				
54	Unit TOC per Capacity of 4 inch				1.40	Column I, Line 48				
55	TOC of less than 6 inch that is Capacity Related				731,506,612	Line 64 times Line 65				
56	TOC of less than 6 inches				1,332,175,883	Sum on Column G, Lir	es 44 through 48			
57	Capacity Assignment				54.91%	Line 66 / Line 67				43.15%
58	Customer Assignement				45.09%	1 minus Line 68				35.43%
59	Overall Asssignment of Account 376									
60	Commodity				10.71%	Column J, Line 61				
61	Capacity				53.86%	Column J Line 60 plus	Column J Line 68			
62	Customer				35.43%	Column J Line 69				

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

Black Hills Nebraska Gas, LLC Service Lines Weighting Factor Study Base Year Ending December 31, 2024

	[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[1]	[J]	[K]	[L]	[M]	[N
Line														

276,704

1 Property Data

40

Company	Diam	Quantity	Book Cost	TOC	Ave Cost/Foot			
Black Hills Nebraska Gas, LLC	1" or less	11,890,293	\$217,868 <u>,</u> 535	\$326,607,067	\$27.47			
Black Hills Nebraska Gas, LLC	>1" thru 2"	649,645	\$14,671,648	\$19,590,346	\$30.16			
Black Hills Nebraska Gas, LLC	>2" thru 4"	52,521	\$907,809	\$1,391,959	\$26.50			
	Totals	12,592,459	233,447,993	347,589,371	\$27.60			
2024 DOT Report - Number of Services				2024 DOT Report S	ummary			
		DOT Number of			DOT Number of			
Company	Diam	Services		Diameter	Service Lines		2024 PHMSA I	Report
Black Hills Nebraska Gas, LLC	Unknown	6,790		1" or less	275,769		Total Services	
	1" or less	275,769		>1" thru 2"	44,305		Avg Serv Lengt	h
	>1" thru 2"	44,305		> 2"	392		Number of feet	
	>2" thru 4"	392		Total	320,466			
	Total	327,256		Unknown	6,790			
				Total w/Unknown	327,256			
	Average Cost	Г Г					Average	
					Ave Cost per	Average	Cost/	
	Diameter	Quantity - ft	Quantity - #	TOC	Foot	Length	Customer	
	1	12,100,000	275.769	121.000.000	\$10.00	43.9	\$438.77	
	1-2	760,000	44,305	15,200,000	\$20.00	17.2	\$343.08	
	2+	55,000	392	1,925,000	\$35.00	140.3	\$4,910.71	
	T.4.1.	12 01 5 000			· · · · ·			
	lotais	12,915,000	320,466	\$138,125,000				
Customer Class Weighting Factors	Totais	12,915,000	320,466	\$138,125,000				
Customer Class Weighting Factors	Number of	Number of Service	320,466 Percent	\$138,125,000 Percent	Percent			
Customer Class Weighting Factors Customer Class	Number of Customers	Number of Service Lines	320,466 Percent 1" or less	\$138,125,000 Percent >1" thru 2"	Percent > 2"	1" or less	>1" thru 2"	> 2
Customer Class Weighting Factors Customer Class Residential	Number of Customers 263,485	Number of Service Lines 263,485	320,466 Percent 1" or less 100%	\$138,125,000 Percent >1" thru 2" 0%	Percent > 2"	1" or less 263,485	> 1" thru 2 "	> 2'
Customer Class Weighting Factors Customer Class Residential Small Commercial Service	Number of Customers 263,485 26,438	Number of Service Lines 263,485 26,438	320,466 Percent 1" or less 100% 50%	\$138,125,000 Percent >1" thru 2" 0% 50%	Percent > 2"	1" or less 263,485 13,219	> 1" thru 2" 0 13,219	> 2'
Customer Class Weighting Factors Customer Class Residential Small Commercial Service Large Commercial Service	Number of Customers 263,485 26,438 3,247	Number of Service Lines 263,485 26,438 3,247	320,466 Percent 1" or less 100% 50% 0%	\$138,125,000 Percent >1" thru 2" 0% 50% 90%	Percent > 2"	1" or less 263,485 13,219 0	> 1" thru 2" 0 13,219 2,922	> 2'
Customer Class Weighting Factors Customer Class Residential Small Commercial Service Large Commercial Service Agricultural	Number of Customers 263,485 26,438 3,247 4,699	Number of Service Lines 263,485 26,438 3,247 0	320,466 Percent 1" or less 100% 50% 0%	\$138,125,000 Percent >1" thru 2" 0% 50% 90%	Percent > 2" 10%	1" or less 263,485 13,219 0	> 1" thru 2" 0 13,219 2,922	> 2'
Customer Class Weighting Factors Customer Class Residential Small Commercial Service Large Commercial Service Agricultural Maximum Rate	Number of Customers 263,485 26,438 3,247 4,699 6	Number of Service Lines 263,485 26,438 3,247 0 0 6	320,466 Percent 1" or less 100% 50% 0%	\$138,125,000 Percent >1" thru 2" 0% 50% 90% 75%	Percent > 2" 10% 25%	1" or less 263,485 13,219 0	> 1" thru 2" 0 13,219 2,922 5	> 2'
Customer Class Weighting Factors Customer Class Residential Small Commercial Service Large Commercial Service Agricultural Maximum Rate Interruptible Sales	Number of Customers 263,485 26,438 3,247 4,699 6 140	Number of Service Lines 263,485 26,438 3,247 0 6 6 140	Percent 1" or less 100% 50% 0%	\$138,125,000 Percent >1" thru 2" 0% 50% 90% 75% 50%	Percent > 2" 10% 25% 50%	1" or less 263,485 13,219 0	> 1" thru 2" 0 13,219 2,922 5 70	> 2'
Customer Class Weighting Factors Customer Class Residential Small Commercial Service Large Commercial Service Agricultural Maximum Rate Interruptible Sales Negotiated Distribution	Number of Customers 263,485 26,438 3,247 4,699 6 140 82	Number of Service Lines 263,485 26,438 3,247 0 6 4 140 82	320,466	\$138,125,000 Percent >1" thru 2" 0% 50% 90% 	Percent > 2" 10% 25% 50% 50%	1" or less 263,485 13,219 0	>1" thru 2" 0 13,219 2,922 5 70 41	> 2'
Customer Class Weighting Factors Customer Class Residential Small Commercial Service Large Commercial Service Agricultural Maximum Rate Interruptible Sales Negotiated Distribution Negotiated Transmission	Number of Customers 263,485 26,3485 3,247 4,699 6 1400 82 44	Number of Service Lines 263,485 26,438 3,247 0 6 140 822 0 0	320,466 Percent 1" or less 100% 50% 0%	\$138,125,000 Percent >1" thru 2" 0% 50% 90% 75% 50% 50%	Percent > 2" 10% 25% 50% 50%	1" or less 263,485 13,219 0	>1" thru 2" 0 13,219 2,922 5 70 41	> 2'
Customer Class Weighting Factors Customer Class Residential Small Commercial Service Large Commercial Service Agricultural Maximum Rate Interruptible Sales Negotiated Distribution Negotiated Transmission Negotiated Direct	Number of Customers 263,485 26,3485 3,247 4,699 6 140 82 44 16	Number of Service Lines 263,485 26,438 3,247 0 6 6 140 82 0 0 0 0	320,466 Percent 1" or less 100% 50% 0%	\$138,125,000 Percent >1" thru 2" 0% 50% 90% 0% 50% 50%	Percent > 2" 10% 25% 50% 50%	1" or less 263,485 13,219 0	> 1" thru 2" 0 13,219 2,922 5 70 41	> 2'
Customer Class Weighting Factors Customer Class Residential Small Commercial Service Large Commercial Service Agricultural Maximum Rate Interruptible Sales Negotiated Distribution Negotiated Direct Negotiated Direct Negotiated Supply	Number of Customers 263,485 26,438 3,247 4,699 6 140 82 44 16 2 400 ± 20 ± 20	Number of Service Lines 263,485 26,438 3,247 0 6 6 140 82 0 0 0 0 0	320,466 Percent 1" or less 100% 50% 0%	\$138,125,000 Percent >1" thru 2" 0% 50% 90% 75% 50% 50%	Percent > 2" 10% 25% 50% 50%	1" or less 263,485 13,219 0	>1" thru 2" 0 13,219 2,922 5 70 41	> 2

293,398

298,158

Totals

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325,343

Customer

\$438.77

\$390.92

\$799.84

\$1,494.81

\$2,628.46

\$2,618.91

> 2''

16,257

325

2

70

41

437

49.86 16,221,602

Unit Cost/ Relative Unit Weighting

Cost

1.00

0.89 2.05

3.41

5.99 5.97

Factor

1.00

1.00 2.00

3.50

6.00

6.00

No.

Black Hills Nebraska Gas, LLC Meters Weighting Factor Study Base Year Ending December 31, 2024

	Α	В	С	D	Е	F	G	Н	I	J	K	L
		Average								Total Meter		
Line		Number of				Ave		Total Meters	Meter per	Installation per		Weighting
No.	Customer Class	Bills	Meters	Booked Cost	TOC	TOC/Meter	Regulators	& Regulators	Customer	Customer	Relative Cost	Factor
1	Residential	263,485	255,727	\$26,213,932	\$45,892,276	\$179	\$324	\$503	1.0	\$503	1	1
2	Small Commercial	26,438	28,608	\$6,522,229	\$10,846,287	\$379	\$684	\$1,063	1.1	\$1,150	2	2
3	Large Commercial	3,247	4,527	\$4,539,350	\$8,021,190	\$1,772	\$3,197	\$4,969	1.4	\$6,928	14	14
4	Agricultural	4,699	8,982	\$4,393,510	\$7,105,873	\$791	\$1,427	\$2,218	1.9	\$4,241	8	4
5	Maximum Rate	6	21	\$64,748	\$72,737	\$3,464	\$6,249	\$9,713	3.5	\$33,994	68	68
6	Interruptible Sales	140	162	\$191,406	\$314,275	\$1,940	\$3,500	\$5,440	1.2	\$6,299	13	13
7	Negotiated Distribution	82	213	\$510,361	\$819,652	\$3,848	\$6,943	\$10,791	2.6	\$27,944	56	43
8	Negotiated Transmission	44	95	\$224,127	\$391,550	\$4,122	\$7,436	\$11,558	2.2	\$24,860	49	49
9	Negotiated Direct	16	57	\$103,794	\$165,643	\$2,906	\$5,243	\$8,149	3.7	\$29,967	60	60
10	Negotiated Supply	2	2	\$9,858	\$8,200	\$4,100	\$7,397	\$11,497	1.0	\$11,997	24	24
11	Totals	298,158	298,394	\$42,773,315	\$73,637,682							
				TO G								
12	Retirement Unit	Quantity	Booked Cost	TOC								
13	Meter Bar Regulator Assembly- "</td <td>136 620</td> <td>\$78 084 152</td> <td>\$74 738 905</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	136 620	\$78 084 152	\$74 738 905								

13	Meter Bar Regulator Assembly-<2"	136,620	\$78,084,152	\$74,738,905
14	Meter Bar Regulator Assembly->=3"	79	\$160,331	\$193,399
15	Meter Bar Regulator Assembly-2"	3,918	\$4,227,184	\$4,062,251
16	Regulator, Gas - Less Than 2"	68,386	\$20,760,744	\$21,303,946
17	Regulator, Gas - 2"	2,150	\$4,013,807	\$4,532,949
18	Regulator, Gas - >=3"	85	\$406,790	\$537,989
19	Regulator, Gas - Not Available	176,185	\$13,447,909	\$27,484,005
20	Totals	387,423	\$121,100,917	\$132,853,444
21				