BEFORE THE STATE CORPORATION COMMISSION

OF THE STATE OF KANSAS

IN THE MATTER OF THE APPLICATION OF BLACK HILLS/KANSAS GAS UTILITY COMPANY, LLC, d/b/a BLACK HILLS ENERGY, FOR APPROVAL OF THE COMMISSION TO MAKE CERTAIN CHANGES IN ITS RATES FOR NATURAL GAS SERVICE	**)**	**DOCKET NO. 21-BHCG-418-RTS**

DIRECT TESTIMONY AND SCHEDULES OF

GLENN A. WATKINS

RE: CLASS COST OF SERVICE, CLASS REVENUE DISTRIBUTION, AND RESIDENTIAL RATE DESIGN

ON BEHALF OF

THE CITIZENS' UTILITY RATEPAYER BOARD

SEPTEMBER 10, 2021

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I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Glenn A. Watkins. My business address is 6377 Mattawan Trail, Mechanicsville, Virginia 23116.

Q. What is your professional and educational background?

A. I am President and Senior Economist with Technical Associates, Inc., which is an economics and financial consulting firm with offices in the Richmond, Virginia area. Except for a six-month period during 1987 in which I was employed by Old Dominion Electric Cooperative, as its forecasting and rate economist, I have been employed by Technical Associates continuously since 1980.

During my career at Technical Associates, I have conducted marginal and embedded cost of service, rate design, cost of capital, revenue requirement, and load forecasting studies involving numerous electric, gas, water/wastewater, and telephone utilities. I have provided expert testimony on more than 250 occasions in Alabama, Arizona, Delaware, Georgia, Illinois, Indiana, Kansas, Kentucky, Maine, Maryland, Massachusetts, Michigan, Montana, Nevada, New Jersey, North Carolina, Ohio, Pennsylvania, Vermont, Virginia, South Carolina, Washington, and West Virginia.

I hold an M.B.A. and B.S. in economics from Virginia Commonwealth University and am a Certified Rate of Return Analyst. A more complete description of my education and experience as well as a list of my prior testimonies is provided in my Schedule GAW-1.

Q. Have you previously provided testimony before this Commission?

A. Yes. I have provided testimony on several occasions including the most recent rate cases for Atmos Energy and Kansas Gas Service (Docket Nos. 19-ATMG-525-RTS and 18-KGSG-560-RTS, respectively).

Q. What is the purpose of your testimony in this proceeding?

A. Technical Associates, Inc. ("TAI") has been engaged by the Citizens' Utility Ratepayer Board ("CURB") to investigate and evaluate Black Hills Energy's ("Company" or "Black Hills") class cost of service studies ("CCOSS"), class revenue allocations, and proposed Residential rate design. The purpose of my testimony is to present the findings of my investigation and offer my recommendations to the Commission in these areas.

Q. Please provide a summary of your recommendations.

A. I have concluded that Company witness Hyatt's CCOSS significantly under-assigns costs to Irrigation and Large Volume customers, thereby, over-assigning costs to the Residential and Small Commercial classes. I have conducted my own CCOSS that is in accordance with accepted industry practices and more reasonably assigns transmission and distribution mains costs across classes.

With regard to class revenue distributions, Mr. Hyatt's proposals are based primarily on the results of his cost allocations; therefore, I recommend a significantly different distribution across classes of any authorized increase in this case.

With regard to Residential rate design, my primary recommendation is to maintain the current Residential customer charge of $16.94 per month. However, should the

Commission find that some increase to this charge is warranted, I recommend that the Residential customer charge be increased to *no more than* $18.35 per month.

II. CLASS COST OF SERVICE

A. General Concepts

Q. Please briefly explain the concept of a CCOSS and its purpose in a rate proceeding.

A. Because the majority of a public utility's plant investment and expense is incurred to serve all customers in a joint manner, most costs cannot be specifically attributed to a particular customer or group of customers. Therefore, the costs jointly incurred to serve all or most customers must be allocated across specific customers or customer rate classes. To the extent that certain costs can be specifically attributed to a particular customer or group of customers, these costs are directly assigned in the CCOSS.

It is generally accepted that, to the extent possible, joint costs should be allocated to customer classes based on the concept of cost causation. That is, costs are allocated to customer classes based on analyses that measure the causes of the incurrence of costs to the utility. Although the cost analyst strives to abide by this concept to the greatest extent practical, some categories of costs, such as corporate overhead costs, cannot be attributed to specific exogenous measures or factors, and must be subjectively assigned or allocated to customer rate classes. With regard to those costs to which causation can be attributed, there is often disagreement among cost of service experts on what is an appropriate cost causation measure or factor; e.g., peak demand, energy or throughput usage, number of customers, etc.

Q. In your opinion, how should the results of a CCOSS be utilized in the ratemaking process?

A. Although certain principles are used by all cost of service analysts, there are often significant disagreements on the specific factors that drive individual costs. These disagreements can and do arise as a result of the quality of data and the level of detail available from financial records. There are also fundamental differences in opinions regarding what cost causation factors should be considered to properly allocate costs to rate schedules or customer classes. Furthermore, and as mentioned previously, cost causation factors cannot be realistically ascribed to some costs such that subjective decisions are required.

In these regards, two different cost studies conducted for the same utility and the same period of time can, and often do, yield different results. As such, regulators should consider CCOSS only as a guide, with the results being used as one of many tools to assign class revenue responsibility.

Q. Have the higher courts opined on the usefulness of cost allocations for purposes of establishing revenue responsibility and rates?

A. Yes. In an important regulatory case involving Colorado Interstate Gas Company and the Federal Power Commission (predecessor to the Federal Energy Regulatory Commission ["FERC"]), the United States Supreme Court stated:

> But where as here several classes of services have a common use of the same property, difficulties of separation are obvious. Allocation of costs is not a matter for the slide-rule. It involves judgment on a myriad of facts. It has no claim to an exact science.[1]

[1] *Colorado Interstate Gas Co. v. Federal Power Commission,* 324 U.S. 581, 590 (1945).

Q. Does your opinion, and the findings of the U.S. Supreme Court, imply that cost allocations should play no role in the ratemaking process?

A. Not at all. It simply means that regulators should consider the fact that cost allocation results are not surgically precise and that alternative, yet equally defensible, approaches may produce significantly different results. In this regard, when all cost allocation approaches consistently show that certain classes are over- or under-contributing to costs and/or profits, there is a strong rationale for assigning smaller or greater percentage rate increases to these classes. On the other hand, if one cost allocation approach shows dramatically different results than another approach, caution should be exercised in assigning disproportionately larger or smaller percentage increases to the classes in question.

Q. With regard to the practice of relying upon class cost of service studies in establishing class revenue responsibility, has this Commission provided guidance relating to the usefulness of individual CCOSS?

A. Yes. In a KCPL rate case (Docket No. 12-KCPE-764-RTS), the Commission found:

> Under the principle of cost causation adopted by the Kansas courts, one class of customers should not bear the costs created by another class. Absent a reasonable basis, the Commission may not order a discriminatory rate design. A [CCOSS] is designed to allocate the utility's total system cost of service to the various customer classes. There is no single, universally accepted method for allocating costs to customer classes.[2] [Footnotes omitted.]

[2] Order, page 23.

Q. Please explain the basic concepts of cost allocation for public utilities, particularly natural gas distribution companies ("NGDCs").

A. As I mentioned earlier, the majority of a NGDC's plant investment serves customers in a joint manner. In this regard, the NGDC's infrastructure is a system benefiting all customers. If all customers were the same size and had identical usage characteristics, cost allocation would be simple, bordering on superfluous. However, in reality, a utility's customer base is not so simplistic. Customers are categorized into groups based on comparable energy requirements and usage characteristics. However, the amount of service that each customer requires within these groups can vary greatly, depending on the time of year. Therefore, comparative usage characteristics should be considered. Because different groups of customers also utilize the system at varying degrees during the year, consideration should also be given to the particular demands placed on the system during peak usage periods.

Q. With regard to NGDCs, is there any controversial aspect of class cost allocations that tends to overshadow other issues?

A. Yes. For virtually every NGDC, the largest single rate base items are mains (distribution and/or transmission). Furthermore, several other rate base and operating income accounts are typically allocated to classes based on the previous assignment of mains. Therefore, the methods and approaches used to allocate mains to classes are usually the most important (in terms of class rate of return ["ROR"] results) and tend to be the most controversial.

Q. What methods are commonly used to allocate natural gas mains?

A. While a myriad of cost allocation methods and approaches have been developed, three methods predominate in the NGDC industry: "Peak Responsibility," "Peak and Average" ("P&A") (also known as "Demand/Commodity" or "Demand/Energy"), and "Customer/Demand," which I will address shortly in more detail. These methods differ in the criteria used to allocate mains, as cost allocation analysts do not universally agree on the cost causative factors or drivers influencing mains investments. There are three criteria generally considered when selecting a mains cost allocation method: peak demand (whether coincident, non-coincident, or actual or design day); annual (average day) usage; and number of customers. Because a NGDC system must be capable of supplying gas to its firm customers during peak demand periods (i.e., on very cold days), relative class peak day demands are often considered a good proxy for measuring the cost causation of mains investment.[3] Annual (or average day) throughput is also often used to allocate mains since this factor reflects the utilization of a utility's mains investment. Number of customers is also sometimes considered when allocating mains. That is, customer counts by class serve as a basis for allocation of mains. Even though annual levels of usage and peak load requirements vary greatly between customer classes (e.g., residential versus large industrial), some analysts are of the opinion that customer counts should be considered because at least some infrastructure investment in mains is required simply to "connect" every customer to the system. With these three criteria identified, numerous methods weigh and utilize these criteria differently within the cost allocation process. In other

[3] Embedded cost allocations are directly only concerned with relative, not absolute, criteria. That is, because embedded cost allocations reflect nothing more than dividing total system costs between classes, it is the relative (percentage) contributors to total system amounts that is relevant.

words, some methods may only rely on one criterion while others consider two or more criteria with varying weight given to each factor utilized.

As mentioned previously, the three most common NGDC cost allocation methods are the "Peak Responsibility" method (whether coincident or class non-coincident), in which peak day demands are the only factor utilized to allocate mains; the "P&A" or "Demand/Commodity" approach, in which both peak day and annual (average day) throughput is reflected within the allocation of mains;[4] and the Customer/Demand method, which utilizes a combination of peak day demands and customer counts to assign mains cost responsibility.

Under the Customer/Demand method, the weight given to class customer counts and peak day demands is determined from a separate analysis using one of two approaches: minimum-size and zero-intercept. The "minimum-size" approach prices the entire system footage of mains at the cost per foot of the smallest diameter pipe installed. This "minimum-size" cost is then divided by the actual total investment in mains to determine the weight given to customer counts. One (1) minus the customer percentage is then given to the peak day demand within the allocation process. Under the zero-intercept approach, statistical linear regression techniques are used to estimate the cost of a theoretical "zero size" main. Similar to the minimum-size approach, the cost of this estimated zero size pipe per foot is multiplied by the total system footage and is then divided by total mains investment to arrive at a customer weighting.

[4] Under the P&A or Demand/Commodity approach, peak use and annual throughput are either weighted equally or based on system load factor, where load factor is the ratio of average daily usage to peak day usage. When using a load factor approach to weight P&A usage, the weighting of average day usage is that of the system load factor, while the peak day weight is one minus the system load factor.

B. Black Hills CCOSS

Q. Please generally explain the approach Company witness Douglas Hyatt used to allocate mains-related costs.

A. Mr. Hyatt utilized a somewhat non-traditional approach to functionalize, classify, and allocate mains-related costs. Black Hills has $44.804 million of gross plant booked to transmission mains (Account 367) and $128.552 million booked to distribution mains (Account 376). These mains (both transmission and distribution) are comprised of various sizes of pipe ranging from 1-inch in diameter to 16-inches in diameter. In this regard, transmission mains typically consist of large diameter pipes that move gas from interstate pipelines to distribution city gates. However, some of Black Hills' transmission mains are very small in diameter (i.e., 8-inches or less) such that regardless of whether small diameter mains are booked to Account 367 or Account 376, Mr. Hyatt functionalized small diameter mains (less than or equal to 8-inches) as serving a distribution function and larger diameter mains (greater than 8-inches) as serving a transmission function. As such, Mr. Hyatt has ignored the booking of gross plant between transmission and distribution and re-functionalized total mains costs between small sized pipes (distribution function) and larger sized pipes (transmission function).

Mr. Hyatt continued with a non-traditional approach in that he assigned the booked costs across functions based on his calculations of the "relative capacity" of each size of pipe and then calculated a trended original cost of each size of pipe using the Handy Whitman Index.

After Mr. Hyatt re-functionalized mains, he then classified and allocated these costs based on a combination of peak day demands, winter throughput, annual throughput, and

weighted customers. The following table provides the end result of Mr. Hyatt's functionalization, classification, and allocation approach:

TABLE 1
Hyatt Functionalization, Classification & Allocation of Gross Mains Plant

	Function	Peak Demand	Winter Volume	Annual Volume	Weighted Customers	Total
367 Transmission:						
Large >8"	Trans	$2,395,936	$2,395,936	$2,395,936	--	$7,187,809
Small <= 8"	Dist	$7,158,089	$7,158,089	--	$23,299,962	$37,616,140
Total Transmission		$9,554,026	$9,554,026	$2,395,936	$23,299,962	$44,803,950
Percent		21.32%	21.32%	5.35%	52.00%	100.00%
376 Distribution:						
Large >8"	Trans	$6,874,432	$6,874,432	$6,874,432	--	$20,623,297
Small <= 8"	Dist	$20,538,024	$20,538,024	--	$66,852,365	$107,928,414
Total Distribution		$27,412,457	$27,412,457	$6,874,432	$66,852,365	$128,551,711
Percent		21.32%	21.32%	5.35%	52.00%	100.00%
Total Mains		$36,966,482	$36,966,482	$9,270,369	$90,152,327	$173,355,660
Percent		21.32%	21.32%	5.35%	52.00%	100.00%

As can be observed in the table above, Mr. Hyatt has ultimately allocated large mains (both transmission and distribution) equally between peak day demand, winter volumes and annual volumes. With regard to small mains (both transmission and distribution), Mr. Hyatt first classified and allocated small mains as 61.94% customer-related.[5] The remaining 38.06% was separated (allocated) equally between peak day demand and winter volumes.

[5] See for example, transmission customer percent equals $23,299,962 ÷ $37,616,140 = 61.94% and also distribution customer percent also equals 61.94% ($66,852,365 ÷ $107,928,414).

Q. Please provide a comparison of each of the various allocation factors Mr. Hyatt used to assign transmission and distribution mains costs.

A. The following table provides a listing and comparison of class allocation factors for each of the four categories used by Mr. Hyatt to ultimately allocate mains-related costs:

TABLE 2
Hyatt Mains Allocation Factors

Class	Peak Demand	Winter Volume	Annual Volume	Weighted Customers
Residential	61.628%	51.958%	37.251%	82.801%
Small Commercial	10.828%	9.680%	6.330%	9.415%
Small Volume	15.255%	14.801%	11.148%	3.079%
Large Volume - Firm	12.289%	22.059%	24.066%	0.549%
Irrigation – Sales	0.000%	0.000%	14.201%	3.208%
Irrigation – Transportation	0.000%	0.000%	3.339%	0.886%
Large Volume Interruptible	0.000%	1.501%	3.665%	0.061%
Total Company	100.000%	100.000%	100.000%	100.000%

Q. Why are Mr. Hyatt's peak day demands for Irrigation and Large Volume Interruptible equal to zero?

A. Mr. Hyatt calculated peak day demands only for the firm classes. Presumably, his rationale is that Interruptible customers may be curtailed during peak demand periods such that he has not assigned any peak day cost responsibility to Interruptible customers.

Q. Why are Mr. Hyatt's winter volumes for Irrigation equal to zero?

A. Although Irrigation customers used 2.286 million therms during the test year winter months (1.859 million therms for Irrigation Sales and 0.428 million therms for Irrigation Transportation),[6] Mr. Hyatt set these values to zero presumably on his rationale that Irrigation customers are predominately summer users of natural gas.

[6] Per Mr. Hyatt's workpaper entitled: "KSG Direct Exhibit DNH-2 DNH-3 DNH-5 DNH6 DNH-7.xlsx," Tab: Cust and Therms by Class.

Q. Please provide Mr. Hyatt's ultimate class allocation percentages associated with transmission and distribution mains.

A. Mr. Hyatt's mains allocation approach results in the following class allocations:

TABLE 3
Hyatt Class Allocation Percentages
(Transmission & Distribution Mains)

Class	Percent
Residential	69.273%
Small Commercial	9.608%
Small Volume	8.607%
Large Volume - Firm	8.897%
Irrigation – Sales	2.428%
Irrigation – Transportation	0.639%
Large Volume Interruptible	0.548%
Total Company	100.000%

Q. What are the results of Mr. Hyatt's CCOSS?

A. Mr. Hyatt's study produces the following class rates of return ("RORs") at current rates:

TABLE 4
Hyatt Calculated Class RORs
At Current Rates

Class	ROR
Residential	2.65%
Small Commercial	2.72%
Small Volume	6.03%
Large Volume - Firm	11.09%
Irrigation – Sales	3.65%
Irrigation – Transportation	2.07%
Large Volume Interruptible	33.88%
Total Company	3.55%

Q. Were you able to replicate Mr. Hyatt's CCOSS results?

A. Yes. Because of the way in which Mr. Hyatt's model is structured, it is difficult to evaluate how individual rate base and operating income FERC accounts are actually allocated to classes. Therefore, I utilized my own CCOSS Excel model that specifically shows class allocations by FERC account. I was able to exactly replicate Mr. Hyatt's results using my model.

Q. Before we discuss any conceptual differences with Mr. Hyatt's cost allocation study approaches, did you discover any mathematical errors in his study?

A. Yes, albeit minor. Mr. Hyatt backed into class net operating incomes at current rates. That is, Mr. Hyatt first calculated each class's total cost of service at the Company's requested rate of return. In doing so, he allocated income taxes on rate base rather than calculating taxable income based on current revenues less expenses and operating deductions. When Mr. Hyatt calculated net income at current rates, he simply deducted each class's revenue deficiency by subtracting his calculated income deficiency multiplied by one minus the tax rate of 21%. In short, Mr. Hyatt's net income at current rates is based on income taxes allocated on rate base rather than taxable income. I have corrected this slight error by calculating each class's taxable income at current rates (revenue minus operating expenses minus allocated interest). This results in a small adjustment to Mr. Hyatt's calculated RORs at current rates as shown below:

TABLE 5
Correction to Hyatt Calculated Class RORs At Current Rates

Class	Hyatt Income Tax Calculation	Corrected Income Tax Calculation
Residential	2.65%	2.57%
Small Commercial	2.72%	2.65%
Small Volume	6.03%	6.23%
Large Volume - Firm	11.09%	11.71%
Irrigation – Sales	3.65%	3.66%
Irrigation – Transportation	2.07%	1.95%
Large Volume Interruptible	33.88%	36.35%
Total Company	3.55%	3.55%

The details of Mr. Hyatt's corrected class RORs are provided in my workpapers.

Q. Do you have any disagreements with the approach Mr. Hyatt used to allocate transmission and distribution mains?

A. Yes, I have several. First, and as noted earlier, Mr. Hyatt has allocated 61.94% of his total distribution functionalized mains (transmission and distribution mains less than or equal to 8-inches) based on weighted customers.[7] Second, Mr. Hyatt has allocated very little mains cost responsibility to the Irrigation and Large Volume Interruptible classes, despite their actual load and usage profiles. Third, and somewhat minor, Mr. Hyatt's method to re-functionalize transmission and distribution mains based on his "relative capacity ratios" coupled with his calculated "trended original costs" are at odds with accepted industry practices.

[7] Mr. Hyatt's weighted customer allocation factor is based on his weighted service line cost.

Q. Please explain Mr. Hyatt's rationale for allocating 61.94% of small transmission and distribution mains based on customers.

A. In his Exhibit DNH-8, page 6, Mr. Hyatt claims that "the cost of these facilities [small transmission and distribution mains] is driven by two principle factors." First, he opines that there is a cost of extending the system that is driven by number of customers. Second, he opines that there is a cost associated with the peak day requirements of the customers connected to the system.

Q. Why do you disagree with Mr. Hyatt's consideration of customers within the allocation of small transmission and distribution mains?

A. First, there is not a single customer that connects to a natural gas system simply to be connected. Rather, natural gas customers connect to a system in order to consume natural gas for their energy needs. While it is obvious that customers must be physically connected to a NGDC's system, natural gas consumption is the very purpose for the existence of Black Hills; i.e., an infrastructure system of pipes to distribute natural gas to its consumers to meet their energy needs. NGDCs do not wantonly install mains throughout their service territory if there is no anticipated natural gas to be distributed through those mains. Indeed, the Company's current tariff concerning its extension of mains requires that there be enough revenue (natural gas usage) to warrant the economic investment required to extend the Company's distribution system.[8]

[8] Black Hill Energy tariff, General Rules, Regulations, Terms and Conditions, Index No. 11, 8-c.1 and 8-e.

Q. Please explain your disagreement with Mr. Hyatt's assignment of transmission and distribution mains cost to Irrigation and Large Volume Interruptible customers.

A. As a result of Mr. Hyatt's approach to allocate transmission and distribution mains based on a weighting of peak demands, winter volumes, annual volumes, and weighted customers, he has assigned very little cost responsibility to the Irrigation and Large Volume Interruptible classes. As an illustration, the Irrigation class (Sales plus Transportation) constitutes 17.5% of Black Hills total annual throughput while he only allocates 3.1% of the Company's total transmission and distribution mains investment to this class. Similarly, the Large Volume Interruptible class accounts for 3.7% of the Company's total annual throughput while Mr. Hyatt allocates only 0.5% of the Company's investment in transmission and distribution mains to this class.

Although peak demands should also be considered in the assignment of mains cost responsibility, annual throughput should also be considered. In this regard, Mr. Hyatt's approach to allocate transmission and distribution mains is not in accordance with accepted industry practices nor is his approach consistent with accepted cost allocation manuals such as the National Association of Regulatory Utility Commissioners' Gas Distribution Rate Design Manual or the American Gas Association's Gas Rate Fundamentals.

Q. Please explain Mr. Hyatt's method to re-functionalize transmission and distribution mains based on relative capacity ratios coupled with calculated trended original costs.

A. Mr. Hyatt ignored the Company's accounting separation of mains plant between Account 367 (Transmission Mains) and Account 376 (Distribution Mains), but rather combined the gross investment of both of these accounts and re-functionalized these amounts based on

an analysis of the sizes of pipe, the relative capacities of various sizes of pipe, and the Handy Whitman trended original costs of each size of pipe.

In response to Data Request No. CURB-6, the Company indicated that its accounting practices separate mains between transmission and distribution in accordance with 49 CFR Part 192. In this regard, the referenced Code of Federal Regulations ("CFR") defines transmission mains as:

> . . . a pipeline, other than a gathering line, that: (1) transports gas from a gathering line or storage facility to a gas distribution center, storage facility, or large volume customer that is not down-stream from a gas distribution center; (2) operates at a hoop stress of 20 percent or more of SMYS; or (3) transports gas within a storage field.[9]

The CFR then defines distribution mains as "a pipeline other than a gathering or transmission line."[10] As such, even though Black Hills separates transmission and distribution mains based on their respective functional characteristics, Mr. Hyatt has elected to re-functionalize the total investment in all mains based on his own criteria.

C. CURB CCOSS

Q. Have you allocated the Company's transmission and distributions mains utilizing a method in accordance with accepted industry practices?

A. Yes. I have allocated the Company's transmission and distribution mains utilizing the Peak and Average ("P&A") methodology. This method recognizes each class's utilization of the Company's facilities throughout the year, and also recognizes that some classes rely upon the Company's facilities (mains) more than others do during peak periods.

[9] 49 CFR Part 192.3.
[10] *Id.*

Q. Please explain how you developed your P&A allocators for transmission and distribution mains.

A. Due to differences in the facilities serving Irrigation and Large Volume Interruptible customers, I have calculated the peak portion of my P&A allocators differently for transmission-functionalized mains (greater than 8-inches) and distribution-functionalized mains (8-inches or less).

With regard to the Irrigation and Large Volume Interruptible classes, both are technically interruptible in nature. Furthermore, the Irrigation class places very little demands on the system during the winter months due to their summer seasonal nature of use. Therefore, I have assigned no peak day responsibility to the Irrigation and Large Volume Interruptible classes for transmission-functionalized mains. The following table provides the derivation of my transmission-functionalized mains P&A allocator:

TABLE 6
CURB Transmission P&A Allocator
(50% Peak/50% Average Weighting)

Class	Peak Day		Avg. (Annual Throughput)		P&A
	Amount	Percent	Amount	Percent	Allocator
Residential	913,969	61.628%	189,009	37.251%	49.440%
Small Commercial	160,580	10.828%	32,116	6.330%	8.579%
Small Volume	226,244	15.255%	56,561	11.148%	13.201%
Large Volume - Firm	182,249	12.289%	122,107	24.066%	18.177%
Irrigation – Sales	0	0.000%	72,055	14.201%	7.101%
Irrigation – Transportation	0	0.000%	16,941	3.339%	1.669%
Large Volume Interruptible	0	0.000%	18,597	3.665%	1.833%
Total	1,483,043	100.000%	507,387	100.000%	100.000%

As can be seen in the table above, there is no peak day cost assigned to the Interruptible classes to reflect the lesser quality of service afforded to these customers as well as to recognize the off-peak nature of Irrigation service. Therefore, my approach reasonably reflects cost causation and is equitable across all customer classes in that both peak day

demands and annual throughput are considered for the firm classes and that the Interruptible classes are assigned significantly less relative cost responsibility than the firm customer classes.

With regard to the P&A allocation factor utilized to assign distribution-functionalized mains costs, I have included a demand component for Irrigation customers. Although Irrigation customers are technically interruptible, there is virtually no chance that these customers will be interrupted during the summer months when these customers are utilizing natural gas. However, what is most relevant is the fact that the majority of distribution-related mains serving Irrigation customers are devoted to serving this one class of customers. In other words, Black Hills has installed a significant number of distribution-related mains to serve Irrigation customers. In response to Confidential Data Request CURB-20, the Company provided a Google Earth screenshot of the primary irrigation areas with an overlay of Black Hills' distribution mains. Upon careful evaluation of the areas serving Irrigation customers, it is apparent that distribution mains were installed and are in place to *exclusively* serve Irrigation customers.[11] Therefore, Irrigation customers should be assigned a demand component of distribution-functionalized mains.

In making this determination, I utilized the Irrigation class's average day demand during the highest month of usage in the test year (July 2020) as a surrogate for this class's non-coincident peak ("NCP") demand. The highest Irrigation average day usages in July 2020 are weather-normalized per Mr. Hyatt's normalization adjustment and are as follows:

[11] My detailed examination of these areas in Google Earth determined there are a very few farmhouses also potentially served by the irrigation distribution mains.

TABLE 7
July 2020 Irrigation Throughput

	Sales	Transport
Actual July 2020	7,571,438	1,837,730
Normalization Adj. July 2020	2,205,131	27,619
Total Weather-Normalized	9,776,569	1,865,349
Days	31	31
Avg. Use Per Day	315,373	60,173

The following table provides the derivation of my distribution-functionalized mains P&A allocator:

TABLE 8
CURB Distribution P&A Allocator
(50% Peak/50% Average Weighting)

	Peak Day		Avg. (Annual Throughput)		P&A
Class	Amount	Percent	Amount	Percent	Allocator
Residential	913,969	49.175%	189,009	37.251%	43.213%
Small Commercial	160,580	8.640%	32,116	6.330%	7.485%
Small Volume	226,244	12.173%	56,561	11.148%	11.660%
Large Volume - Firm	182,249	9.806%	122,107	24.066%	16.936%
Irrigation – Sales	315,373	16.968%	72,055	14.201%	15.585%
Irrigation – Transportation	60,173	3.238%	16,941	3.339%	3.288%
Large Volume Interruptible	0	0.000%	18,597	3.665%	1.833%
Total	1,858,589	100.000%	507,387	100.000%	100.000%

As can be seen in the table above, there continues to be no peak day cost assigned to the Large Volume Interruptible class to reflect the lesser quality of service afforded to these customers. The Irrigation classes are assigned peak day responsibility to recognize the dedicated distribution mains required to serve these customers. Therefore, this approach reasonably reflects cost causation and is equitable across all customer classes.

Q. Earlier you indicated that you had a somewhat minor disagreement with Mr. Hyatt's method to re-functionalize transmission and distribution mains. Have you conducted your CCOSS analyses utilizing both Mr. Hyatt's functionalization of transmission and distribution mains as well as the Company's per books amounts of transmission and distribution mains?

A. Yes. I have conducted my CCOSS analyses that allocates mains utilizing the P&A method under both approaches to functionalize mains; i.e., (a) accepting Mr. Hyatt's functionalization; and, (b) utilizing the Company's per books separation of transmission and distribution mains. As will be seen below, there is virtually no difference in achieved RORs at current rates under Mr. Hyatt's functionalization approach or the Company's per books separation between transmission and distribution.

Q. Please provide the results of your CCOSS analyses utilizing the P&A method to allocate transmission and distribution mains.

A. The following table provides a comparison of Mr. Hyatt's CCOSS results at current rates (as-filed and corrected) as well as my CCOSS results utilizing the P&A method to allocate mains (accepting Mr. Hyatt's functionalization as well as using per books separation between transmission and distribution):

TABLE 9
Comparison of Class RORs At Current Rates

Class	Hyatt CCOSS As-Filed	Hyatt CCOSS Corrected For Income Taxes	CURB CCOSS Hyatt Functional Trans. & Dist.	CURB CCOSS Actual Booked Trans. & Dist.
Residential	2.65%	2.57%	5.53%	5.53%
Small Commercial	2.72%	2.65%	4.13%	4.14%
Small Volume	6.03%	6.23%	3.25%	3.27%
Large Volume - Firm	11.09%	11.71%	2.17%	2.19%
Irrigation – Sales	3.65%	3.66%	-5.02%	-5.53%
Irrigation – Transportation	2.07%	1.95%	-4.82%	-5.24%
Large Volume Interruptible	33.88%	36.35%	6.50%	6.50%
Total Company	3.55%	3.55%	3.55%	3.55%

The details of my CCOSS analyses are provided in my Schedule GAW-2 (using Hyatt functionalization of transmission and distribution mains) and Schedule GAW-3 (using actual booked transmission and distribution mains).

Q. What are your conclusions regarding class cost allocations in this case?

A. As can be observed in the table above, there are significant differences in achieved class RORs at current rates between Mr. Hyatt's study and my studies. The underlying reasons for these differences are that Mr. Hyatt has assigned very little mains (transmission and distribution) cost responsibility to the Irrigation and Large Volume Interruptible classes relative to their dependence and utilization of the system. Mr. Hyatt's under-assignment of mains cost to these two classes can be attributed to: (a) the fact that he assigned 61.94% of small mains based on customers (52.00% of total transmission and distribution mains combined) such that the Irrigation and Large Volume Interruptible classes receive relatively small amounts of cost responsibility; and, (b) he has assigned no peak demand responsibility to Irrigation customers even though there are a significant amount of mains dedicated to serve just these customers.

As a result of Mr. Hyatt's under-assignment of costs to the Irrigation and Large Volume Interruptible classes, I recommend that no weight be given to his CCOSS and that my CCOSS utilizing an industry-accepted approach to allocate transmission and distribution mains should be used as a guide in establishing class revenue responsibility.

III. CLASS REVENUE DISTRIBUTION

Q. Before you discuss the Company's proposed distribution of margin revenues across classes, are there significant differences in the rates paid by the various rate classes?

A. Yes. All of Black Hills' customers subscribe to the Company's services in order to meet their natural gas energy needs. The following table presents the effective margin rates paid by the individual rate schedules (total margin revenue divided by energy throughput):

TABLE 10
Black Hills
Current Effective Margin Rates per Dekatherm (Dth)

Class	Current Margin Revenue	Throughput (Dth)	Effective Rate Per Dth
Residential	$32,580,593	6,898,821	$4.72
Small Commercial [12]	$4,893,811	1,172,237	$4.17
Small Volume [13]	$4,253,626	2,064,481	$2.06
Large Volume Firm [13]	$3,713,882	4,456,903	$0.83
Large Volume Interruptible	$536,201	678,804	$0.79
Irrigation [13]	$2,236,935	3,248,370	$0.69
Negotiated Rates	$2,947,731	14,589,578	$0.20

[12] Includes Sales and Transportation as the margin rates are identical.

Q. How does Black Hills propose to distribute its requested overall $10.2 million increase to individual classes and rate schedules?

A. The following reflects Mr. Hyatt's recommended class revenue increases:

TABLE 11
Black Hills Proposed Class Revenue Increases
($000)

Class	Current Margin Revenue	Black Hills Proposed Increase	Black Hills Proposed Percent Increase
Residential	$32,580.6	$7,779.2	23.88%
Small Commercial [13]	$4,893.8	$1,698.3	34.70%
Small Volume [14]	$4,253.6	$235.5	5.54%
Large Volume Firm [14]	$3,713.9	$0	0.00%
Large Volume Interruptible	$536.2	$0	0.00%
Irrigation [14]	$2,236.9	$486.7	21.76%
Sub-Total Margin	$48,215.0	$10,199.8	21.15%
Negotiated Rates	$2,947.7	$0	0.00%
Forfeited Discounts	$362.7	$0	0.00%
Misc. Service Revenues	$735.2	$0	0.00%
Sub-Total	$4,045.7	$0	0.00%
Total Company	$52,260.7	$10,199.8	--

Q. How did Mr. Hyatt develop his proposed class revenue increases?

A. Mr. Hyatt first assigned no increase to the Large Volume Firm and Interruptible rate schedules due to his calculated high rates of return for these rate schedules. Mr. Hyatt then increased the Small Volume and Irrigation classes equal to his calculated "cost of service" at the Company's requested 7.05% ROR. The remaining revenue increase was then spread to the Residential and Small Commercial classes proportionally.

[13] Includes Sales and Transportation as the margin rates are identical.

Q. Is Mr. Hyatt's proposed class revenue distribution reasonable?

A. No. Mr. Hyatt's class revenue distribution is premised upon his CCOSS wherein he has significantly under-assigned costs to the Irrigation and Large Volume Interruptible classes, resulting in artificially high RORs for these classes. Indeed, while Mr. Hyatt's study indicates that the Irrigation class (Sales and Transportation) is currently producing somewhat below the system average ROR, my analysis indicates that these customers are actually achieving a *negative* ROR at current rates. Similarly, Mr. Hyatt's CCOSS indicates that the Large Volume class (Firm plus Interruptible) is producing an exceptionally high ROR in excess of the Company's requested ROR; my study indicates that these customers are only contributing RORs of about 2.2% (Large Volume Firm) and 6.5% (Large Volume Interruptible). As a result, my CCOSS indicates that the Residential and Small Commercial classes are producing significantly higher RORs than those portrayed by Mr. Hyatt.

Q. Do you recommend an alternative class revenue distribution?

A. Yes. In developing my recommended class revenue distribution, I have considered gradualism as well as the results of my CCOSS. As shown in my Schedule GAW-4, I evaluated each class's relative (indexed) ROR at current rates.[14] For those classes whose indexed ROR are either significantly below the system average (Large Volume Firm) or produced a negative ROR (Irrigation), I assigned 150% of the system average percentage increase to these classes. For the class whose indexed ROR is significantly above the

[14] Indexed RORs are also known as relative RORs in that it provides each class's rate of return relative to the system average rate of return. As an example, if a class is currently earning a rate of return of 3.00% and the system average rate of return is 4.00%, that class's indexed ROR is 75%. Similarly, if a class is currently earning a rate of return of 5.00% and the system average rate of return is 4.00", that class's rate of return is 125%.

system average ROR (Large Volume Interruptible), I assigned 50% of the system average percentage increase. For those classes whose indexed RORs are relatively close to the system average (Small Commercial and Small Volume), I assigned the system average percentage increase. Finally, the Residential class was treated as the residual in order to collect the overall requested increase. The following table provides a summary of my recommended class increases at the Company's overall requested $10.2 million increase:

TABLE 12
CURB Recommended Class Revenue Increases
($000)

Class	Current Margin Revenue	Indexed ROR	Percent Of System Pct. Increase	$ Increase	% Increase
Residential	$32,580.6	156%	92%	$6,319.6	19.40%
Small Commercial [15]	$4,893.8	116%	100%	$1,035.3	21.15%
Small Volume [16]	$4,253.6	92%	100%	$899.8	21.15%
Large Volume Firm [16]	$3,713.9	61%	150%	$1,178.5	31.73%
Large Volume Interruptible	$536.2	183%	50%	$56.7	10.58%
Irrigation [16]	$2,236.9	-147%	150%	$709.8	31.73%
Sub-Total Margin	$48,215.0	100%	100%	$10,199.8	21.15%
Negotiated Rates	$2,947.7			$0.0	
Forfeited Discounts	$362.7			$0.0	
Misc. Service Revenues	$735.2			$0.0	
Sub-Total	$4,045.7			$0.0	
Total Company	$52,260.7			$10,199.8	

Q. In both Mr. Hyatt's and your CCOSS, the Irrigation class was separated between Sales and Transportation customers. Why have you combined these two for revenue allocation purposes?

A. For purposes of designing distribution margin rates, there should be no distinction between Sales and Transportation distribution rates. In fact, Irrigation Sales and Transportation

[15] Includes Sales and Transportation as the margin rates are identical.

customers pay the same distribution rates. Therefore, it is appropriate to combine Irrigation Sales and Transportation customers for class revenue responsibility.

Q. Under current rates, Large Volume Firm and Large Volume Interruptible customers pay the same distribution rates. Under your class revenue distribution, you are recommending a larger percentage increase to Large Volume Firm customers than to Large Volume Interruptible customers. Will this result in a distribution rate differential between these two types of Large Volume customers?

A. Yes. Interruptible service is considered to be a lesser quality of service than Firm service. As such, the distribution rates for Interruptible service should be priced lower than Firm service. Under the current tariff, the only difference between Large Volume Firm and Large Volume Interruptible service is within the Purchased Gas Adjustment ("PGA") charges wherein Large Volume Interruptible customers are exempt from the demand component of the PGA. However, purchased gas costs have nothing to do with distribution (margin) rates. As a result, Large Volume Interruptible service is only available to Sales customers and is meaningless to Transportation customers. Therefore, it could be argued that the current practices of offering Large Volume Interruptible service only to Sales customers is anti-competitive against other natural gas suppliers. I recommend there should be a distribution price differential between Large Volume Firm and Large Volume Interruptible service.

Q. In the event the Commission authorizes less than the $10.2 million overall increase requested by the Company, how should the overall authorized increase be distributed to individual customer classes?

A. If the Commission authorizes less of an overall increase than that requested by Black Hills, my recommended class revenue distribution should be scaled-back proportionately.

IV. RESIDENTIAL RATE DESIGN

Q. Please explain Black Hills' current and proposed Residential rate structures.

A. The Company's Residential base rates are structured with a fixed monthly customer (service) charge plus a flat delivery charge per therm. In addition, Residential customers are subject to several reconcilable riders including the Gas System Reliability Surcharge ("GSRS") rider, a Purchased Gas Adjustment ("PGA") rider, a Weather Normalization Adjustment ("WNA") rider and Ad Valorem Tax Surcharge rider.

Mr. Hyatt proposes to increase the base rate fixed monthly service charge from $16.94 per month to $20.00 per month. In this regard, the current GSRS rider of $2.39, which is based on a statutorily required fixed charge basis, will be reset to zero with the conclusion of this case. The current Residential base delivery (margin) charge is $0.16833 per therm and, under the Company's proposal, this would be increased to $0.22619 per therm.

Q. Given the current base rate Residential customer charge of $16.94 per month and the current delivery charge of $0.16833 per therm, what percentage of Residential base rate revenues are collected from the fixed monthly customer charge?

A. As shown in Mr. Hyatt's Exhibit DNH-14, $20.968 million is collected from Residential base rate fixed monthly customer charges, while $11.613 million is collected from the volumetric delivery charge. As such, 64.4% of total Residential base rate revenues are collected from the fixed monthly customer charge. However, in addition to base rate fixed charges, Residential customers pay the GSRS rider of $2.39 in a fixed charge, which represents an additional fixed charge revenue of $2.958 million. Therefore, under current rates, Residential customers' fixed monthly charge represents 67.3% of a customer's bill associated with margin rates. Under Mr. Hyatt's proposed rates, the GSRS will be set to zero such that 61.3% of Residential base rate revenues would initially be collected from fixed monthly customer charges with GSRS rates and revenues increasing over time until the Company's next rate case.

Q. Does this high percentage of revenues collected from fixed charges concern you?

A. Yes. When almost two-thirds of the Company's base rate (margin) revenue is collected from unavoidable fixed monthly charges, it inhibits Residential customers' ability to control their natural gas bills and is contrary to conservation efforts since a large portion of the customer's bill is fixed in nature and does not vary with consumption. Furthermore, such a high percentage of margin revenue collected from Residential fixed charges clearly reduces the Company's revenue risks in that customer charge revenue is guaranteed for as

long as a customer is connected to the system. Such a guarantee should be offset with some additional consideration for the ratepayers.

CURB focuses on ensuring that Residential and small commercial ratepayers are not overly-burdened by high utility bills. In Docket No. 19-ATMG-525-RTS, KCC Staff witness Dr. Robert Glass commented on the trend of higher customer charges and rate design and the need to look beyond the economics of a rate case.[16] Higher fixed charges tend to impact low-income and fixed-income Residential ratepayers the most because traditional conservation efforts (e.g. turning down the thermostat in the winter) can have diminishing returns on savings when the bulk of the bill is contained in those fixed charges.

Q. Does a lower customer charge necessarily solve the energy burden that Kansans face?

A. Not entirely. The customer charge is but one piece of the energy burden puzzle. However, it is one of the few pieces that can be addressed in the context of a rate case. A general rate case for a natural gas company may not be the optimal setting to tackle the challenges of rising utility bills overall, but CURB believes it is important to address energy burden in all forums. To the extent possible, CURB offers its recommendations and observations below in an effort to chip away at the mounting costs that ratepayers will be exposed to in the near future. Outdated or energy inefficient appliances and other weatherization problems contribute to high heating and cooling bills, as well. The impact is even more apparent during the summer months when residential gas usage is typically at its lowest, but electricity use is higher. Low-income customers are less likely to be in a position to

[16] *Transcript of Evidentiary Hearing, Volume* 3, Docket No. 19-ATMG-525-RTS, pg. 687, lns. 3-25 (December 12, 2019) (Live Testimony of Dr. Robert Glass) ("I think that you really have to use -- when you do rate design, you are really stuck with having to use a certain amount of common sense and you have to make a lot of balancing choices and economics is almost no help whatsoever.").

make costly improvements for the sake of reducing their utility bills. As such, consideration for these people warrants finding room for reductions in other areas of a customer's bill.

Q. Does the Company provide any support for its proposal to increase the base rate Residential customer charge from $16.94 to $20.00 per month?

A. Yes. Company witness Hyatt indicates that his proposed $20.00 Residential customer charge is close to the effective current fixed charge of $19.33, which is comprised of the base rate customer charge of $16.94 plus the current GSRS fixed rider of $2.39. In this regard, there are two important points to consider. First, although the GSRS will be set to zero at the conclusion of this case, this rider will ratchet up until the next case such that by the time of the Company's next rate case, the fixed monthly customer charge will increase even more. Second, and more importantly, is the fact that the GSRS is statutorily mandated to be collected on a fixed charge basis. However, the GSRS is used as a temporary rate mechanism to compensate Black Hills in between rate cases for the replacement of its facilities which should not be considered as a true customer cost (particularly as it relates to the replacement of mains). Furthermore, and as will be discussed below, the Company's costs of replacing mains, service lines, and meters that are currently embedded with the GSRS are already reflected in the Company's cost of service in this case. Therefore, it is inappropriate to conclude that the current GSRS rate of $2.39 should be treated as a "customer" cost nor should it be considered as part of the reasonableness in the Company's proposed fixed customer charge for this case.

Q. Does Mr. Hyatt provide any additional evidence in support of his proposed $20.00 per month base rate Residential customer charge?

A. Yes. In his Exhibit DNH-13, Table 5, Mr. Hyatt has calculated that the Residential class's "customer" costs are $34.668 million out of a total Residential cost of service of $41.756 million. Therefore, under Mr. Hyatt's calculations, fixed monthly customer charges on a "cost basis" represent 83% of the total Residential cost of service.

Q. Do Mr. Hyatt's calculated Residential "customer" costs reflect the costs of connecting and maintaining customers' accounts?

A. No. Mr. Hyatt's "customer" costs are simply the result of placing all costs into one of three costing buckets: customer; demand; or commodity. However, a careful examination of his analysis reveals that the vast majority of these costs that he has placed in the "customer" bucket are simply overhead costs or the result of other allocations that should be collected in volumetric charges. The following provides examples of the total Company amounts Mr. Hyatt has classified and placed in his "customer" cost bucket. The details of each FERC account are provided in my Schedule GAW-5:

TABLE 13
Examples of Inappropriate Costs Included in Mr. Hyatt's "Customer Costs"
($ Millions)

	Total Cost	Customer Cost	Percent of Total
Rate Base:			
Intangible Plant	$3.509	$2.830	81%
Production & Gathering	$0.019	$0.010	52%
Transmission Plant	$50.533	$26.279	52%
Distribution Mains	$128.552	$66.852	52%
Land & Structures	$1.423	$0.740	52%
Compressor Station Equip.	$0.175	$0.091	52%
Meas. & Reg. Station Equip	$7.341	$3.818	52%
General Plant	$28.028	$22.606	81%
Other Utility Plant	$12.792	$10.891	85%
Expenses:			
Transmission Expenses	$0.533	$0.277	52%
Mains & Services Ops.	$2.451	$1.713	70%
Meas. & Reg. Station Equip. Ops.	$0.351	$0.183	52%
Maintenance of Mains	$0.497	$0.259	52%
Meas. & Reg. Station Equip. Maint.	$0.213	$0.111	52%
Uncollectibles	$0.655	$0.655	100%
Customer Service & Info	$0.241	$0.120	50%
Sales	$0.142	$0.071	50%
A&G	$12.927	$10.085	78%
Property Taxes	$5.293	$3.877	73%

Q. In your opinion, what costs should be evaluated in determining fixed monthly customer charges?

A. In my opinion, only those direct costs required to connect and maintain a customer's account should be included in evaluating fixed monthly customer charges. These include the capital costs for meters and services and the O&M costs associated with operating and maintaining meters and services, meter reading, and customer records expenses. In this regard, overhead and non-customer distribution costs such as those included by Mr. Hyatt and outlined above should not be included in the evaluation of customers for determining

reasonable fixed monthly customer charges. I believe that this view of fixed monthly customer charges is a reasonable approach to addressing the impacts on Residential customers while allowing the Company to recovery its costs to serve customers.

Q. Is there academic support for your opinion that fixed monthly customer charges should only reflect the direct costs required to connect and maintain a customer's account?

A. Yes. In his well-known treatise Principles of Public Utility Rates, Professor James C. Bonbright states:

> But fully-distributed cost analysts dare not avail themselves of this solution, since they are the prisoners of their own assumption that "the sum of the parts equals the whole." **They are therefore under impelling pressure to fudge their cost apportionments by using the category of customer costs as a dumping ground for costs that they cannot plausibly impute to any of their other cost categories**.[17]

Q. There are some regulatory analysts of the opinion that a utility's "fixed costs" should be collected in fixed charges. Do you agree with this premise?

A. No. First and foremost, there is not a single economic theory that supports a premise that fixed costs should be collected in fixed charges. Accepted economic theory indicates that efficient price signals result when prices are equal to marginal costs. The marginal cost of a particular product or service is equal to the incremental cost of providing an additional unit of service or the incremental cost of adding an additional customer. These marginal costs reflect the incremental costs of additional capital expenditures (sunk or fixed costs) along with the incremental operating and maintenance costs of an additional unit of output

[17] Second Edition, page 492 **[Emphasis Added]**.

or customer. In no way does any economic theory even suggest that any company's sunk, or fixed costs, should be priced on a fixed charge basis.

Secondly, it is often said that regulation should serve as a surrogate for competition. In this regard, competitive market-based prices are generally structured on usage (i.e., volume-based pricing) rather than on fixed charges. These competitive pricing structures include those industries that were once regulated and are now competitive in nature including: railroads; airlines; trucking; and products pipelines.[18]

Finally, if one were to apply the philosophy that fixed costs should be collected from fixed charges to Black Hills, according to Mr. Hyatt's analysis, 98% of the Residential class's margin revenues would be collected in fixed charges.[19]

Q. Is the natural gas distribution industry unique in its cost structures, which are comprised largely of fixed costs in the short-run?

A. No. Most manufacturing and transportation industries are comprised of cost structures predominated with "fixed" costs. These fixed costs, also known as "sunk" costs, are primarily comprised of investment in plant and equipment. Virtually every capital-intensive industry is faced with a high percentage of so-called fixed costs in the short-run, and as indicated earlier, prices for competitive products and services in these capital-intensive industries are invariably established on a volumetric basis.

[18] There are competitive services that are partially priced on a fixed charge per month basis, such as cable television and cellular phone service. However, even these services are somewhat volumetrically-priced in that prices will vary depending on the level of services subscribed to. Furthermore, it is not cost effective for these industries to meter and measure every unit of usage.

[19] Calculated per Mr. Hyatt's Exhibit DNH-13, Table 5:
(Customer Costs of $34.668 million + Demand Costs of $6.259 million) ÷ Total Cost of Service of $41.756 million.

Q. How should the level of fixed monthly customer charges be evaluated?

A. Although is it my opinion that fixed monthly customer charges should only reflect the direct costs required to connect and maintain a customer's account, I recognize that some Commissions prefer to also include some level of overhead or indirect costs. The direct costs only reflect the cost of service lines, meters, meter reading, customer records, and billing. Additional overhead or indirect costs that may be considered include provisions for corporate computer billing systems, employee pensions and benefits, and employee wage taxes (FICA and Medicare).

Additionally, the Commission should give weight to energy burden considerations, as mentioned above. A review of ALL surcharges and costs not tied to volumetric usage should be a guiding factor in the Commission's review of calculating the Company's customer charge.

Q. Have you conducted analyses of those costs that more reasonably should be considered in developing fair and reasonable Residential customer charges?

A. Yes. I have conducted both a direct customer cost analysis as well as an analysis that includes a provision for certain overhead or indirect costs.

Q. What are the results of the Residential customer cost analyses you conducted for this case?

A. My Schedule GAW-6 provides the details of my Residential customer cost analyses, which are conducted using both the Company's requested 10.15% ROE as well as a placeholder ROE of 9.00%. As indicated in this Schedule, my analysis produces a direct Residential

customer cost range of $9.66 to $10.06 per month while the analysis that includes a provision for indirect costs produces a range of $10.29 per month to $10.70 per month. If that philosophy is adopted by the Commission, it is my opinion that the Commission should not authorize any increase in the Residential customer charge above $16.94 per month, which takes into account gradualism and the energy burden.

Q. Has this Commission recently authorized some increases to fixed monthly customer charges for other NGDCs?

A. Yes. In the most recent Atmos Energy rate case (Docket No. 19-ATMG-525-RTS), the Commission authorized an $0.85 increase in the Residential customer charge from $18.04 per month to $18.89 per month, which represented a 4.71% increase in the Residential fixed monthly customer charge. In the most recent Kansas Gas Service rate case (Docket No. 18-KGSG-560-RTS), the Commission authorized a $2.00 increase in the Residential customer charge from $16.70 per month to $18.70 per month, which represented an 11.98% increase in the Residential fixed monthly customer charge.

Q. What is your recommendation concerning Black Hills' Residential customer charge?

A. Although my customer cost analyses (that includes a provision for overhead) indicate that a customer charge in the range of $10.29 per month to $10.70 per month is warranted, I recognize that this Commission has recently authorized some increases to other NGDC's fixed monthly customer charges. The average authorized increases in the Atmos Energy and Kansas Gas cases was 8.35% (4.71% and 11.98%, respectively). Therefore, should the Commission authorize some increase to the Residential fixed charge rate, it should be

increased to *no more than* $18.35 per month, which is calculated as the current rate of $16.94 times 1.0835 (average authorized percentage increase) for Atmos and Kansas Gas.

Q. Do you have concluding comments regarding the establishment of reasonable fixed monthly customer charges?

A. Yes. While my lower recommended Residential customer charges would result in somewhat higher volumetric usage rates than those proposed by the Company (at the Company's full increase request), it should be recognized that the driving factors in this rate case are due to increased capital expenditures (rate base) not associated with number of customers, or customer-related costs, but rather those required to serve customers' energy needs.

In addition, it should be recognized that Residential customers utilize very little natural gas in the summer months, and at the same time, are increasing usage of electric appliances for air conditioning and cooling. As a result, high natural gas fixed monthly customer charges place a significant burden on low-income Residential customers in the summer months, regardless of additional gas conservation efforts, while dealing with larger electricity bills. In other words, an unavoidable fixed natural gas charge of upwards of $20.00 per month will further prevent relief from high utility bills during low-usage periods. CURB believes that the customer charge is one aspect of rate design that can have positive impacts on reducing a household's utility bill.

Finally, even with a lower fixed Residential customer charge, Black Hills will have every opportunity to recover its allowed overall Residential revenue requirement, particularly in light of the fact that margin rates are based on weather-normalized usage

and, to the extent that weather is abnormal, customers are subjected to a WNA rider. Furthermore, Black Hills is entitled to reconcile and recover all of its incremental Ad Valorem Taxes, PGA costs and incremental capital costs associated with the replacement of various types of plant.

Q. Does this complete your testimony?

A. Yes.

VERIFICATION

COMMONWEALTH OF VIRGINIA)
)
COUNTY OF HENRICO) ss:

Glenn A. Watkins, being duly sworn upon his oath, deposes and states that he is a consultant for the Citizens' Utility Ratepayer Board, that he has read and is familiar with the foregoing *Direct Testimony*, and that the statements made herein are true and correct to the best of his knowledge, information, and belief.

Glenn A. Watkins

SUBSCRIBED AND SWORN to before me this 10th day of September, 2021.

Notary Public

My Commission expires: 10/31/2022

JENNIFER R. DOLEN
NOTARY PUBLIC
REG # 7315146
MY COMMISSION EXPIRES
10/31/2022
COMMONWEALTH OF VIRGINIA

BACKGROUND & EXPERIENCE PROFILE

GLENN A. WATKINS

PRESIDENT/SENIOR ECONOMIST
TECHNICAL ASSOCIATES, INC.

EDUCATION

1982 - 1988	M.B.A., Virginia Commonwealth University, Richmond, Virginia
1980 - 1982	B.S., Economics; Virginia Commonwealth University
1976 - 1980	A.A., Economics; Richard Bland College of The College of William and Mary, Petersburg, Virginia

POSITIONS

Jan. 2017-Present	President/Senior Economist, Technical Associates, Inc.
Mar. 1993-Dec. 2016	Vice President/Senior Economist, Technical Associates, Inc. (Mar. 1993-June 1995 Traded as C. W. Amos of Virginia)
Apr. 1990-Mar. 1993	Principal/Senior Economist, Technical Associates, Inc.
Aug. 1987-Apr. 1990	Staff Economist, Technical Associates, Inc., Richmond, Virginia
Feb. 1987-Aug. 1987	Economist, Old Dominion Electric Cooperative, Richmond, Virginia
May 1984-Jan. 1987	Staff Economist, Technical Associates, Inc.
May 1982-May 1984	Economic Analyst, Technical Associates, Inc.
Sep. 1980-May 1982	Research Assistant, Technical Associates, Inc.

EXPERIENCE

I. Public Utility Regulation

A. Costing Studies -- Conducted, and presented as expert testimony, numerous embedded and marginal cost of service studies. Cost studies have been conducted for electric, gas, telecommunications, water, and wastewater utilities. Analyses and issues have included the evaluation and development of alternative cost allocation methods with particular emphasis on ratemaking implications of distribution plant classification and capacity cost allocation methodologies. Distribution plant classifications have been conducted using the minimum system and zero-intercept methods. Capacity cost allocations have been evaluated using virtually every recognized method of allocating demand related costs (e.g., single and multiple coincident peaks, non-coincident peaks, probability of loss of load, average and excess, and peak and average).

Embedded and marginal cost studies have been analyzed with respect to the seasonal and diurnal distribution of system energy and demand costs, as well as cost effective approaches to incorporating energy and demand losses for rate design purposes. Economic dispatch models have been evaluated to determine long range capacity requirements as well as system marginal energy costs for ratemaking purposes.

B. Rate Design Studies -- Analyzed, designed and provided expert testimony relating to rate structures for all retail rate classes, employing embedded and marginal cost studies. These rate structures have included flat rates, declining block rates, inverted block rates, hours use of demand blocking, lighting rates, and interruptible rates. Economic development and special industrial rates have been developed in recognition of the competitive environment for specific customers. Assessed alternative time differentiated rates with diurnal and seasonal pricing structures. Applied Ramsey (Inverse Elasticity) Pricing to marginal costs in order to adjust for embedded revenue requirement constraints.

GLENN A. WATKINS

C. Forecasting and System Profile Studies -- Development of long range energy (Kwh or Mcf) and demand forecasts for rural electric cooperatives and investor owned utilities. Analysis of electric plant operating characteristics for the determination of the most efficient dispatch of generating units on a system-wide basis. Factors analyzed include system load requirements, unit generating capacities, planned and unplanned outages, marginal energy costs, long term purchased capacity and energy costs, and short term power interchange agreements.

D. Cost of Capital Studies -- Analyzed and provided expert testimony on the costs of capital and proper capital structures for ratemaking purposes, for electric, gas, telephone, water, and wastewater utilities. Costs of capital have been applied to both actual and hypothetical capital structures. Cost of equity studies have employed comparable earnings, DCF, and CAPM analyses. Econometric analyses of adjustments required to electric utilities cost of equity due to the reduced risks of completing and placing new nuclear generating units into service.

E. Accounting Studies -- Performed and provided expert testimony for numerous accounting studies relating to revenue requirements and cost of service. Assignments have included original cost studies, cost of reproduction new studies, depreciation studies, lead-lag studies, Weather normalization studies, merger and acquisition issues and other rate base and operating income adjustments.

II. Transportation Regulation

A. Oil and Products Pipelines -- Conducted cost of service studies utilizing embedded costs, I.C.C. Valuation, and trended original cost. Development of computer models for cost of service studies utilizing the "Williams" (FERC 154-B) methodology. Performed alternative tariff designs, and dismantlement and restoration studies.

B. Railroads -- Analyses of costing studies using both embedded and marginal cost methodologies. Analyses of market dominance and cross-subsidization, including the implementation of differential pricing and inverse elasticity for various railroad commodities. Analyses of capital and operation costs required to operate "stand alone" railroads. Conducted cost of capital and revenue adequacy studies of railroads.

III. Insurance Studies

Conducted and presented expert testimony relating to market structure, performance, and profitability by line and sub-line of business within specific geographic areas, e.g. by state. These studies have included the determination of rates of return on Statutory Surplus and GAAP Equity by line - by state using the NAIC methodology, and comparison of individual insurance company performance vis a vis industry Country-Wide performance.

Conducted and presented expert testimony relating to rate regulation of workers' compensation, automobile, and professional malpractice insurance. These studies have included the determination of a proper profit and contingency factor utilizing an internal rate of return methodology, the development of a fair investment income rate, capital structure, cost of capital.

Other insurance studies have included testimony before the Virginia Legislature regarding proper regulatory structure of Credit Life and P&C insurance; the effects on competition and prices resulting from proposed insurance company mergers, maximum and minimum expense multiplier limits, determination of specific class code rate increase limits (swing limits); and investigation of the reasonableness of NCCI's administrative assigned risk plan and pool expenses.

GLENN A. WATKINS

IV. Anti-Trust and Commercial Business Damage Litigation

Analyses of alleged claims of attempts to monopolize, predatory pricing, unfair trade practices and economic losses. Assignments have involved definitions of relevant market areas(geographic and product) and performance of that market, the pricing and cost allocation practices of manufacturers, and the economic performance of manufacturers' distributors.

Performed and provided expert testimony relating to market impacts involving automobile and truck dealerships, incremental profitability, the present value of damages, diminution in value of business, market and dealer performance, future sales potential, optimal inventory levels, fair allocation of products, financial performance; and business valuations.

MEMBERSHIPS AND CERTIFICATIONS

Member, Association of Energy Engineers (1998)
Certified Rate of Return Analyst, Society of Utility and Regulatory Financial Analysts (1992)
Member, American Water Works Association
National Association of Business Economists
Richmond Association of Business Economists
National Economics Honor Society

BLACK HILLS ENERGY
CLASS COST OF SERVICE STUDY
HYATT FUNCTIONALIZATION OF TRANSMISSION & DISTRIBUTION MAINS
(SUMMARY)

Description	Total Gas Utility Adjusted	TAI Allocator Name	Residential Service	Firm and Transportation: Small Commercial	Small Volume	Large Volume	Irrigation: Sales	Irrigation: Transportation	Interruptible Large Volume
Allocate Current Income Taxes on Rate Base									
Current Margin Rate Revenues	$48,215,048		$32,580,593	$4,893,811	$4,253,626	$3,713,882	$1,795,968	$440,968	$536,201
Other Operating Revenues	$4,045,686		$2,126,522	$300,365	$414,693	$563,299	$477,568	$102,842	$60,397
Total Non-Gas Revenues	$52,260,734		$34,707,114	$5,194,176	$4,668,319	$4,277,181	$2,273,535	$543,810	$596,598
O&M Expenses	$27,054,450		$16,922,376	$2,750,789	$2,334,305	$2,174,787	$2,132,499	$497,109	$242,585
Depreciation & Amort.	$10,019,048		$5,914,467	$924,047	$946,200	$955,461	$957,345	$218,674	$102,854
Taxes Other Than Income	$6,373,210		$3,725,849	$586,025	$607,295	$627,265	$618,528	$140,685	$67,562
Federal Income Tax	$633,169		$364,802	$56,979	$61,749	$64,723	$63,574	$14,402	$6,940
Total Expenses	$44,079,877		$26,927,494	$4,317,840	$3,949,549	$3,822,236	$3,771,946	$870,870	$419,942
Net Operating Income	$8,180,857		$7,779,621	$876,336	$718,770	$454,945	($1,498,411)	($327,060)	$176,657
Rate Base:									
Gross Plant	$371,393,987		$214,558,708	$33,480,503	$35,950,428	$37,696,960	$37,216,193	$8,441,968	$4,049,228
Accum. Depreciation	($108,316,402)		($63,002,563)	($9,797,785)	($10,417,334)	($10,770,923)	($10,730,540)	($2,440,476)	($1,156,782)
Other Rate Base Items	($32,739,806)		($18,846,320)	($2,954,445)	($3,069,781)	($3,380,637)	($3,358,432)	($762,380)	($367,811)
Total Rate Base	$230,337,778		$132,709,824	$20,728,273	$22,463,313	$23,545,400	$23,127,221	$5,239,112	$2,524,635
ROR @ Current Rates	3.55%		5.86%	4.23%	3.20%	1.93%	-6.48%	-6.24%	7.00%
Hyatt Approach to ROR @ Current Rates									
Cost of Service @ Requested 7.05% ROR									
Required Return	$16,238,813		$9,356,043	$1,461,343	$1,583,664	$1,659,951	$1,630,469	$369,357	$177,987
O&M	$27,054,450		$16,922,376	$2,750,789	$2,334,305	$2,174,787	$2,132,499	$497,109	$242,585
Depreciation	$10,019,048		$5,914,467	$924,047	$946,200	$955,461	$957,345	$218,674	$102,854
Taxes Other Than Income	$6,373,210		$3,725,849	$586,025	$607,295	$627,265	$618,528	$140,685	$67,562
Income Taxes	$2,775,158	Rate Base	$1,598,916	$249,739	$270,643	$283,680	$278,642	$63,122	$30,417
Other Operating Revenue	($4,045,686)		($2,126,522)	($300,365)	($414,693)	($563,299)	($477,568)	($102,842)	($60,397)
Net Cost of Service	$58,414,993		$35,391,128	$5,671,577	$5,327,414	$5,137,845	$5,139,915	$1,186,106	$561,008
Revenue Deficiency	$10,199,945		$2,810,535	$777,767	$1,073,787	$1,423,963	$3,343,948	$745,138	$24,807
Return Under Current Rates	$8,180,857		$7,135,720	$846,908	$735,371	$535,020	($1,011,249)	($219,302)	$158,389
ROR @ Current Rates	3.55%		5.38%	4.09%	3.27%	2.27%	-4.37%	-4.19%	6.27%

BLACK HILLS ENERGY
CLASS COST OF SERVICE STUDY
HYATT FUNCTIONALIZATION OF TRANSMISSION & DISTRIBUTION MAINS
(SUMMARY)

Description	Total Gas Utility Adjusted	TAI Allocator Name	Residential Service	Firm and Transportation: Small Commercial	Small Volume	Large Volume	Irrigation: Sales	Irrigation: Transportation	Interruptible Large Volume
Correct Methdod to Assign Income Taxes									
Current Margin Rate Revenues	$48,215,048		$32,580,593	$4,893,811	$4,253,626	$3,713,882	$1,795,968	$440,968	$536,201
Other Operating Revenues	$4,045,686		$2,126,522	$300,365	$414,693	$563,299	$477,568	$102,842	$60,397
Total Non-Gas Revenues	$52,260,734		$34,707,114	$5,194,176	$4,668,319	$4,277,181	$2,273,535	$543,810	$596,598
O&M Expenses	$27,054,450		$16,922,376	$2,750,789	$2,334,305	$2,174,787	$2,132,499	$497,109	$242,585
Depreciation & Amort.	$10,019,048		$5,914,467	$924,047	$946,200	$955,461	$957,345	$218,674	$102,854
Taxes Other Than Income	$6,373,210		$3,725,849	$586,025	$607,295	$627,265	$618,528	$140,685	$67,562
Federal Income Tax	$633,169	See Below	$811,571	$77,398	$50,230	$9,163	($274,441)	($60,366)	$19,615
Total Expenses	$44,079,877		$27,374,262	$4,338,259	$3,938,031	$3,766,676	$3,433,931	$796,102	$432,617
Net Operating Income	$8,180,857		$7,332,852	$855,917	$730,289	$510,505	($1,160,396)	($252,292)	$163,982
Rate Base:									
Gross Plant	$371,393,987		$214,558,708	$33,480,503	$35,950,428	$37,696,960	$37,216,193	$8,441,968	$4,049,228
Accum. Depreciation	($108,316,402)		($63,002,563)	($9,797,785)	($10,417,334)	($10,770,923)	($10,730,540)	($2,440,476)	($1,156,782)
Other Rate Base Items	($32,739,806)		($18,846,320)	($2,954,445)	($3,069,781)	($3,380,637)	($3,358,432)	($762,380)	($367,811)
Total Rate Base	$230,337,778		$132,709,824	$20,728,273	$22,463,313	$23,545,400	$23,127,221	$5,239,112	$2,524,635
ROR @ Current Rates	3.55%		5.53%	4.13%	3.25%	2.17%	-5.02%	-4.82%	6.50%
Memo: Calculation of Income Taxes @ Curr. Rates									
Earnings Before Interest & Income Taxes	$8,814,026		$8,144,423	$933,315	$780,519	$519,668	($1,434,837)	($312,659)	$183,597
Interest @ 1.94%	$4,468,553		$2,574,571	$402,128	$435,788	$456,781	$448,668	$101,639	$48,978
Taxable Income	$4,345,473		$5,569,853	$531,187	$344,730	$62,887	($1,883,505)	($414,298)	$134,619
Income Tax @ Current Rates	$633,169		$811,571	$77,398	$50,230	$9,163	($274,441)	($60,366)	$19,615

BLACK HILLS ENERGY
CLASS COST OF SERVICE STUDY
HYATT FUNCTIONALIZATION OF TRANSMISSION & DISTRIBUTION MAINS
(RATE BASE)

Line Number	Acct. No.	Description			Total Gas Utility Adjusted	TAI Allocator Name	Allocator No.	Residential Service	Firm and Transportation Small Commercial	Small Volume	Large Volume	Irrigation Sales	Irrigation Transportation	Interruptible Large Volume
1		Gas Plant in Service												
2		Intangible Plant												
3	301	Organization			$186,932	Supervised O & M before General	28	$117,092	$18,957	$16,194	$14,799	$14,820	$3,450	$1,621
4	302	Franchises & Consents			$74,990	Supervised O & M before General	28	$46,973	$7,605	$6,496	$5,937	$5,945	$1,384	$650
5	303	Miscellaneous Intangible Plant			$3,246,838	Supervised O & M before General	28	$2,033,776	$329,263	$281,269	$257,039	$257,414	$59,923	$28,154
6		Total Intangible Plant			$3,508,760			$2,197,840	$355,824	$303,959	$277,774	$278,179	$64,757	$30,426
7		Production & Gathering Plant												
8	336	Purification Equipment			$18,719	Trans. + Dist. Mains	14	$8,276	$1,434	$2,229	$3,207	$2,663	$567	$343
9		Total Product. & Gather. Plant			$18,719			$8,276	$1,434	$2,229	$3,207	$2,663	$567	$343
10		Transmission Plant												
11	365	Land & Land Rights			$978,392	Trans. + Dist. Mains	14	$432,570	$74,948	$116,502	$167,647	$139,164	$29,631	$17,931
12	366	Structures & Improvements			$214,152	Trans. + Dist. Mains	14	$94,681	$16,405	$25,500	$36,695	$30,460	$6,486	$3,925
13	367	Mains	44,803,950											
		Large Mains	7,187,809											
		Demand		50.000%	$3,593,905	Transmission P&A	32	$1,776,815	$308,311	$474,449	$653,277	$255,190	$59,999	$65,864
		Commodity		50.000%	$3,593,905	Transmission P&A	32	$1,776,815	$308,311	$474,449	$653,277	$255,190	$59,999	$65,864
		Small Mains	37,616,140											
		Demand		50.000%	$18,808,070	Distribution P&A	33	$8,127,612	$1,407,748	$2,193,064	$3,185,300	$2,931,206	$618,452	$344,688
		Commodity		50.000%	$18,808,070	Distribution P&A	33	$8,127,612	$1,407,748	$2,193,064	$3,185,300	$2,931,206	$618,452	$344,688
14	368	Compressor Station Equipment			$2,475	Trans. + Dist. Mains	14	$1,094	$190	$295	$424	$352	$75	$45
15	369	Measuring & Reg. Station Eq.			$4,425,949	Trans. + Dist. Mains	14	$1,956,814	$339,041	$527,019	$758,386	$629,535	$134,041	$81,113
16	371	Other Equipment			$108,344	Trans. + Dist. Mains	14	$47,902	$8,300	$12,901	$18,565	$15,411	$3,281	$1,986
17		Total Transmission Plant			$50,533,262			$22,341,916	$3,871,001	$6,017,241	$8,658,870	$7,187,714	$1,530,416	$926,104
18		Distribution Plant												
19	374	Land & Land Rights			$392,378	Trans. + Dist. Mains	14	$173,479	$30,057	$46,722	$67,234	$55,811	$11,883	$7,191
20	375	Structures & Improvements			$1,030,848	Trans. + Dist. Mains	14	$455,761	$78,966	$122,748	$176,636	$146,625	$31,220	$18,892
21	376	Mains	128,551,711											
		Large Mains	20,623,297											
		Demand		50.000%	$10,311,649	Transmission P&A	32	$5,098,047	$884,609	$1,361,290	$1,874,385	$732,191	$172,149	$188,978
		Commodity		50.000%	$10,311,649	Transmission P&A	32	$5,098,047	$884,609	$1,361,290	$1,874,385	$732,191	$172,149	$188,978
		Small Mains	107,928,414											
		Demand		50.000%	$53,964,207	Distribution P&A	33	$23,319,785	$4,039,116	$6,292,349	$9,139,278	$8,410,232	$1,774,466	$988,981
		Commodity		50.000%	$53,964,207	Distribution P&A	33	$23,319,785	$4,039,116	$6,292,349	$9,139,278	$8,410,232	$1,774,466	$988,981
22	377	Compressor Station Equipment			$175,304	Trans. + Dist. Mains	14	$77,506	$13,429	$20,874	$30,038	$24,935	$5,309	$3,213
23	378	Meas. & Reg. Sta. Equip.			$7,340,810	Trans. + Dist. Mains	14	$3,245,541	$562,328	$874,106	$1,257,847	$1,044,137	$222,319	$134,532
24	379	Meas. & Reg. Sta. Equip. - CG			$204,676	Trans. + Dist. Mains	14	$90,492	$15,679	$24,372	$35,071	$29,112	$6,199	$3,751
25	380	Services			$76,360,950	Services (Wgtd. Customers)	10	$63,227,842	$7,189,579	$2,351,421	$419,284	$2,449,499	$676,738	$46,587
26	381	Meters			$20,990,945	Meters (Wgtd. Customers)	11	$13,436,222	$2,444,513	$2,498,441	$556,874	$1,561,591	$431,431	$61,875
27	382	Meter Installations			$1,828,548	Meters (Wgtd. Customers)	11	$1,170,446	$212,945	$217,642	$48,510	$136,032	$37,582	$5,390
28	383	House Regulators			$33,169,196	Meters (Wgtd. Customers)	11	$21,231,472	$3,862,738	$3,947,954	$879,953	$2,467,574	$681,732	$97,773
29	385	Indust. Meas. & Reg. Sta. Equip.			$6,358,436	Meters (Wgtd. Customers)	11	$4,070,010	$740,475	$756,811	$168,684	$473,027	$130,686	$18,743
30	387	Other Equipment			$109,363	Trans. + Dist. Mains	14	$48,352	$8,378	$13,022	$18,739	$15,555	$3,312	$2,004
31		Total Distribution Plant			$276,513,163			$164,062,786	$25,006,537	$26,181,392	$25,686,196	$26,688,744	$6,131,641	$2,755,869

BLACK HILLS ENERGY
CLASS COST OF SERVICE STUDY
HYATT FUNCTIONALIZATION OF TRANSMISSION & DISTRIBUTION MAINS
(RATE BASE)

Line Number	Acct. No.	Description	Total Gas Utility Adjusted	TAI Allocator Name	Allocator No.	Residential Service	Firm and Transportation Small Commercial	Small Volume	Large Volume	Irrigation Sales	Irrigation Transportation	Interruptible Large Volume
32		General Plant										
33	389	Land & Land Rights	$829,867	Supervised O & M before General	28	$519,818	$84,157	$71,890	$65,697	$65,793	$15,316	$7,196
34	390	Structures and Improvements	$11,242,251	Supervised O & M before General	28	$7,041,996	$1,140,080	$973,901	$890,002	$891,301	$207,485	$97,486
35	391	Office Furniture & Equipment	$1,513,310	Supervised O & M before General	28	$947,918	$153,465	$131,096	$119,803	$119,977	$27,929	$13,122
36	392	Transportation Equipment	$8,866,331	Supervised O & M before General	28	$5,553,752	$899,137	$768,078	$701,911	$702,935	$163,635	$76,883
37	393	Stores Equipment	$29,525	Supervised O & M before General	28	$18,494	$2,994	$2,558	$2,337	$2,341	$545	$256
38	394	Tools & Work Equipment	$2,929,845	Supervised O & M before General	28	$1,835,216	$297,116	$253,808	$231,944	$232,282	$54,073	$25,406
39	395	Laboratory Equipment	$11,714	Supervised O & M before General	28	$7,338	$1,188	$1,015	$927	$929	$216	$102
40	396	Power Operated Equipment	$1,049,376	Supervised O & M before General	28	$657,315	$106,418	$90,906	$83,075	$83,196	$19,367	$9,100
41	397	Communication Equipment	$1,526,897	Supervised O & M before General	28	$956,428	$154,843	$132,273	$120,878	$121,055	$28,180	$13,240
42	398	Misc. Equipment	$28,848	Supervised O & M before General	28	$18,070	$2,925	$2,499	$2,284	$2,287	$532	$250
43		General Plant	$28,027,965			$17,556,344	$2,842,324	$2,428,024	$2,218,858	$2,222,096	$517,278	$243,040
44	118	Other Utility Plant (Allocated on Customer Count)	$2,965,931	Cust. Accounting (Wgtd. Customers)	12	$2,236,553	$406,906	$166,353	$74,156	$57,764	$15,959	$8,240
45	118	Other Utility Plant (Allocated on Blended Ratio)	$9,826,187	Supervised O & M before General	28	$6,154,993	$996,477	$851,229	$777,899	$779,034	$181,350	$85,206
			$12,792,118			$8,391,546	$1,403,383	$1,017,582	$852,055	$836,798	$197,309	$93,446
46		Total Plant in Service	$371,393,987			$214,558,708	$33,480,503	$35,950,428	$37,696,960	$37,216,193	$8,441,968	$4,049,228
47		Accumulated Depreciation										
48		Intangible	($2,482,885)	Intangible Plant	15	($1,555,246)	($251,790)	($215,089)	($196,560)	($196,847)	($45,824)	($21,530)
49		Production & Gathering	($13,086)	Prod. & Gathering Plant	16	($5,786)	($1,002)	($1,558)	($2,242)	($1,861)	($396)	($240)
50		Transmission	($11,819,459)	Transmission Plant	17	($5,225,654)	($905,406)	($1,407,400)	($2,025,263)	($1,681,168)	($357,956)	($216,611)
51		Distribution	($85,483,078)	Distribution Plant	18	($50,719,437)	($7,730,683)	($8,093,886)	($7,940,798)	($8,250,732)	($1,895,575)	($851,967)
52		General	($6,586,665)	General Plant	19	($4,125,799)	($667,956)	($570,594)	($521,439)	($522,200)	($121,562)	($57,115)
53		Other Utility Plant (Allocated on Customer Count)	($1,260,390)	Cust. Accounting (Wgtd. Customers)	12	($950,436)	($172,917)	($70,693)	($31,513)	($24,547)	($6,782)	($3,501)
54		Other Utility Plant (Allocated on Blended Ratio)	($670,840)	Supervised O & M before General	28	($420,205)	($68,030)	($58,114)	($53,108)	($53,185)	($12,381)	($5,817)
55		Total Accumulated Depreciation	($108,316,402)			($63,002,563)	($9,797,785)	($10,417,334)	($10,770,923)	($10,730,540)	($2,440,476)	($1,156,782)
56		Net Plant	$263,077,585			$151,556,144	$23,682,718	$25,533,094	$26,926,038	$26,485,654	$6,001,492	$2,892,446
57		Other Rate Base Items										
58		Materials & Supplies	$2,673,612	Plant In Service	20	$1,544,577	$241,021	$258,802	$271,375	$267,914	$60,773	$29,150
59		Gas Storage	$1,787,128	50% winter Sales/50% peak- Sales	30	$1,300,875	$222,326	$222,003	$41,924	$0	$0	$0
60		Prepayments	$90,098	Net Plant	22	$51,904	$8,111	$8,744	$9,222	$9,071	$2,055	$991
61		Customer Advances	($114,892)	Supervised O & M before General	28	($71,967)	($11,651)	($9,953)	($9,096)	($9,109)	($2,120)	($996)
62		Customer Deposits	($1,433,558)	Cust. Accounting (Wgtd. Customers)	12	($1,081,019)	($196,675)	($80,405)	($35,843)	($27,920)	($7,714)	($3,983)
63		Accum. Deferred Income Taxes	($35,742,194)	Net Plant	22	($20,590,691)	($3,217,577)	($3,468,972)	($3,658,220)	($3,598,389)	($815,374)	($392,973)
64		Total Other Rate Base Items	($32,739,806)			($18,846,320)	($2,954,445)	($3,069,781)	($3,380,637)	($3,358,432)	($762,380)	($367,811)
65												
66		Total Rate Base	$230,337,778			$132,709,824	$20,728,273	$22,463,313	$23,545,400	$23,127,221	$5,239,112	$2,524,635

BLACK HILLS ENERGY
CLASS COST OF SERVICE STUDY
HYATT FUNCTIONALIZATION OF TRANSMISSION & DISTRIBUTION MAINS
(EXPENSES)

Line Number	Acct. No.	Description	Total Gas Utility Adjusted	TAI Allocator Name	Allocator No.	Firm and Transportation Residential Service	Small Commercial	Small Volume	Large Volume	Irrigation Sales	Irrigation Transportation	Interruptible Large Volume
			$									
1		O & M Expenses										
2		Transmission Expenses										
3		Operation										
4	850	Supervision & Engineering	$115,040	Trans. + Dist. Mains	14	$50,862	$8,812	$13,698	$19,712	$16,363	$3,484	$2,108
5	851	Sys. Control & Load Dispatch.	$248	Annual Throughput	5	$92	$16	$28	$60	$35	$8	$9
6	852	Communication System Expenses	$246	Trans. + Dist. Mains	14	$109	$19	$29	$42	$35	$7	$5
7	856	Mains Expenses	$105,110	Trans. + Dist. Mains	14	$46,471	$8,052	$12,516	$18,011	$14,951	$3,183	$1,926
8	857	Meas. & Reg. Sta. Expenses	$7,135	Trans. + Dist. Mains	14	$3,154	$547	$850	$1,223	$1,015	$216	$131
9	859	Other Expenses	$157,377	Trans. + Dist. Mains	14	$69,580	$12,056	$18,740	$26,967	$22,385	$4,766	$2,884
10	860	Rents	$21,857	Trans. + Dist. Mains	14	$9,663	$1,674	$2,603	$3,745	$3,109	$662	$401
11		Total Operation	$407,012			$179,932	$31,175	$48,463	$69,759	$57,892	$12,327	$7,464
12		Maintenance										
13	861	Supervision & Engineering	$17,489	Trans. + Dist. Mains	14	$7,732	$1,340	$2,083	$2,997	$2,488	$530	$321
14	863	Mains	$97,661	Trans. + Dist. Mains	14	$43,178	$7,481	$11,629	$16,734	$13,891	$2,958	$1,790
15	864	Compressor Station Equipment	$135	Trans. + Dist. Mains	14	$60	$10	$16	$23	$19	$4	$2
16	865	Meas. & Reg. Sta. Equip.	$5,743	Trans. + Dist. Mains	14	$2,539	$440	$684	$984	$817	$174	$105
17	867	Other Equipment	$4,846	Trans. + Dist. Mains	14	$2,143	$371	$577	$830	$689	$147	$89
18		Total Maintenance	$125,874			$55,652	$9,642	$14,988	$21,569	$17,904	$3,812	$2,307
19		Total Transmission Expenses	$532,886			$235,584	$40,817	$63,451	$91,327	$75,796	$16,139	$9,771
20		Distribution Expenses										
21		Operation										
22	870	Supervision & Engineering	$1,699,194	Accts. 871-880	23	$1,023,753	$151,848	$153,617	$156,043	$160,486	$36,712	$16,735
23	871	Load Dispatching	$5	Annual Throughput	5	$2	$0	$1	$1	$1	$0	$0
24	872	Compressor Station Expenses	$0	Annual Throughput	5	$0	$0	$0	$0	$0	$0	$0
25	874	Mains & Services	$2,451,332	Accts. 376 + 380	24	$1,436,297	$203,811	$211,248	$268,525	$248,041	$54,670	$28,741
26	875	Measuring & Regulating Sta. Equip, - General	$351,276	Acct. 378	25	$155,307	$26,909	$41,828	$60,191	$49,965	$10,639	$6,438
27	876	Measuring & Regulating Sta. Equip, - Ind.	$24,038	Meters (Wgtd. Customers)	11	$15,387	$2,799	$2,861	$638	$1,788	$494	$71
28	877	Measuring & Regulating Sta. Equp. - CG	$119,743	Trans. + Dist. Mains	14	$52,941	$9,173	$14,258	$20,518	$17,032	$3,626	$2,194
29	878	Meters & House Regulators	$610,137	Meters (Wgtd. Customers)	11	$390,546	$71,054	$72,621	$16,186	$45,390	$12,540	$1,798
30	879	Customer Installation Expenses	$477,486	Services (Wgtd. Customers)	10	$395,364	$44,957	$14,703	$2,622	$15,317	$4,232	$291
31	880	Other Expenses	$1,677,686	Distribution Plant	18	$995,417	$151,722	$158,850	$155,846	$161,928	$37,202	$16,721
32	881	Rents	$5,847	Distribution Plant	18	$3,469	$529	$554	$543	$564	$130	$58
33		Total Operation	$7,416,743			$4,468,483	$662,801	$670,541	$681,113	$700,513	$160,245	$73,048
34		Maintenance										
35	885	Supervision & Engineering	$51,130	Accts. 886 - 894	26	$29,920	$5,055	$5,597	$4,057	$4,888	$1,175	$437
36	886	Structures & Improvements	$3,423	Trans. + Dist. Mains	14	$1,513	$262	$408	$586	$487	$104	$63
37	887	Mains	$497,153	Acct. 376	27	$219,803	$38,083	$59,198	$85,187	$70,714	$15,056	$9,111
38	888	Main. Of Compressor Sta. Eq.	$58,340	Trans. + Dist. Mains	14	$25,793	$4,469	$6,947	$9,997	$8,298	$1,767	$1,069
39	889	Meas. & Reg. Sta. Eq. - Gen.	$213,297	Trans. + Dist. Mains	14	$94,304	$16,339	$25,398	$36,548	$30,339	$6,460	$3,909
40	890	Meas. & Reg. Sta. Eq. - Ind.	$29,002	Meters (Wgtd. Customers)	11	$18,564	$3,377	$3,452	$769	$2,158	$596	$85
41	891	Meas. & Reg. Sta. Eq. - City Gate	$166,714	Meters (Wgtd. Customers)	11	$106,713	$19,415	$19,843	$4,423	$12,402	$3,427	$491
42	892	Services	$217,161	Services (Wgtd. Customers)	10	$179,812	$20,446	$6,687	$1,192	$6,966	$1,925	$132
43	893	Meters & House Regulators	$852,259	Meters (Wgtd. Customers)	11	$545,528	$99,250	$101,440	$22,610	$63,403	$17,517	$2,512

BLACK HILLS ENERGY
CLASS COST OF SERVICE STUDY
HYATT FUNCTIONALIZATION OF TRANSMISSION & DISTRIBUTION MAINS
(EXPENSES)

Line Number	Acct. No.	Description	Total Gas Utility Adjusted	TAI Allocator Name	Allocator No.	Firm and Transportation Residential Service	Small Commercial	Small Volume	Large Volume	Irrigation Sales	Irrigation Transportation	Interruptible Large Volume
			$									
44	894	Other Equipment	$25,009	Distribution Plant	18	$14,838	$2,262	$2,368	$2,323	$2,414	$555	$249
45		Total Maintenance	$2,113,488			$1,236,789	$208,960	$231,338	$167,693	$202,068	$48,580	$18,060
46		Total Distribution	$9,530,230			$5,705,272	$871,760	$901,879	$848,806	$902,581	$208,825	$91,108
47		Customer Accounts Expenses										
48	901	Supervision	$192,632	Cust. Accounting (Wgtd. Customers)	12	$145,260	$26,428	$10,804	$4,816	$3,752	$1,036	$535
49	902	Meter Reading Expenses	$361,463	Cust. Accounting (Wgtd. Customers)	12	$272,572	$49,590	$20,274	$9,038	$7,040	$1,945	$1,004
50	903	Customer Records & Collection	$2,387,118	Cust. Accounting (Wgtd. Customers)	12	$1,800,081	$327,497	$133,889	$59,684	$46,491	$12,844	$6,632
51	904	Uncollectible Accounts	$654,912	Cust. Accounting (Wgtd. Customers)	12	$493,857	$89,850	$36,733	$16,375	$12,755	$3,524	$1,819
52	905	Miscellaneous	$85,568	Cust. Accounting (Wgtd. Customers)	12	$64,525	$11,739	$4,799	$2,139	$1,667	$460	$238
53		Total Customer Accounts Expenses	$3,681,694			$2,776,296	$505,104	$206,499	$92,052	$71,704	$19,810	$10,228
54		Customer Service & Inform. Exp.										
55	907	Supervision	$44,146	50% Thruput/50% Cust accts	29	$24,867	$4,425	$3,699	$5,864	$3,565	$856	$870
56	908	Customer Assistance Expenses	$176,517	50% Thruput/50% Cust accts	29	$99,432	$17,695	$14,789	$23,447	$14,253	$3,422	$3,480
57	909	Information & Instruction Exp.	$16,308	50% Thruput/50% Cust accts	29	$9,186	$1,635	$1,366	$2,166	$1,317	$316	$322
58	910	Miscellaneous	$3,945	50% Thruput/50% Cust accts	29	$2,222	$395	$331	$524	$319	$76	$78
59		Total Cust. Service & Inf. Exp.	$240,916			$135,707	$24,151	$20,184	$32,001	$19,453	$4,670	$4,750
60		Sales Expenses										
61	911	Supervision	$0	50% Thruput/50% Cust accts	29	$0	$0	$0	$0	$0	$0	$0
62	912	Demonstrating & Selling Exp.	$121,843	50% Thruput/50% Cust accts	29	$68,634	$12,214	$10,208	$16,184	$9,838	$2,362	$2,402
63	913	Advertising Expenses	$19,998	50% Thruput/50% Cust accts	29	$11,265	$2,005	$1,675	$2,656	$1,615	$388	$394
64	916	Miscellaneous	$39	50% Thruput/50% Cust accts	29	$22	$4	$3	$5	$3	$1	$1
65		Total Sales Expenses	$141,880			$79,921	$14,223	$11,887	$18,846	$11,456	$2,750	$2,797
66		Administrative & General Expenses										
67		Operation										
68	920	A & G Salaries	$6,479,803	Supervised O & M before General	28	$4,058,862	$657,119	$561,336	$512,979	$513,728	$119,590	$56,189
69	921	Office Supplies & Expenses	$1,889,648	Supervised O & M before General	28	$1,183,651	$191,630	$163,698	$149,596	$149,814	$34,875	$16,386
70	922	Transfers	($1,226,286)	Supervised O & M before General	28	($768,129)	($124,358)	($106,232)	($97,080)	($97,222)	($22,632)	($10,634)
71	923	Outside Services Employed	$1,136,556	Supervised O & M before General	28	$711,924	$115,258	$98,458	$89,976	$90,108	$20,976	$9,855
72	924	Property Insurance	$6,890	Net Plant	22	$3,969	$620	$669	$705	$694	$157	$76
73	925	Injuries & Damages	$576,743	Supervised O & M before General	28	$361,264	$58,488	$49,962	$45,658	$45,725	$10,644	$5,001
74	926	Employee Pensions & Benefits	$1,442,184	Supervised O & M before General	28	$903,365	$146,252	$124,934	$114,172	$114,338	$26,617	$12,506
75	928	Regulatory Commission Expense	$422,497	Annual Throughput	5	$157,386	$26,743	$47,098	$101,678	$60,000	$14,107	$15,486
76	929	Duplicate Charges - Credit	$4	Supervised O & M before General	28	$3	$0	$0	$0	$0	$0	$0
77	930	Miscellaneous	$378,143	Supervised O & M before General	28	$236,864	$38,348	$32,758	$29,936	$29,980	$6,979	$3,279
78	931	Rents	$801,070	Supervised O & M before General	28	$501,779	$81,237	$69,396	$63,417	$63,510	$14,784	$6,946
79	932	Maintenance of General Plant	$1,019,592	Supervised O & M before General	28	$638,659	$103,397	$88,326	$80,717	$80,835	$18,817	$8,841
80		Total A & G Expenses	$12,926,844			$7,989,596	$1,294,734	$1,130,404	$1,091,755	$1,051,509	$244,914	$123,932
81		Total Operation & Maintenance	$27,054,450			$16,922,376	$2,750,789	$2,334,305	$2,174,787	$2,132,499	$497,109	$242,585
82												
83		Supervised O & M before General	$13,466,847			$8,435,454	$1,365,677	$1,166,614	$1,066,115	$1,067,670	$248,541	$116,776

BLACK HILLS ENERGY
CLASS COST OF SERVICE STUDY
HYATT FUNCTIONALIZATION OF TRANSMISSION & DISTRIBUTION MAINS
(EXPENSES)

Line Number	Acct. No.	Description	Total Gas Utility Adjusted	TAI Allocator Name	Allocator No.	Firm and Transportation Residential Service	Small Commercial	Small Volume	Large Volume	Irrigation Sales	Irrigation Transportation	Interruptible Large Volume
			$									
1		Depreciation Expense										
2		Intangible	$112,355	Intangible Plant	15	$70,378	$11,394	$9,733	$8,895	$8,908	$2,074	$974
3		Production & Gathering	$517	Prod. & Gathering Plant	16	$229	$40	$62	$89	$74	$16	$9
4		Transmission	$790,428	Transmission Plant	17	$349,466	$60,549	$94,120	$135,440	$112,428	$23,938	$14,486
5		Distribution	$6,986,362	Distribution Plant	18	$4,145,199	$631,813	$661,497	$648,986	$674,316	$154,922	$69,630
6		General	$743,910	General Plant	19	$465,975	$75,440	$64,444	$58,892	$58,978	$13,729	$6,451
7		Other Utility Plant (Allocated on Customer Count)	$120,417	Cust. Accounting (Wgtd. Customers)	12	$90,804	$16,520	$6,754	$3,011	$2,345	$648	$335
8		Other Utility Plant (Allocated on Blended Ratio)	$1,265,059	Supervised O & M before General	28	$792,416	$128,290	$109,590	$100,150	$100,296	$23,348	$10,970
9		Total Depreciation Expense	$10,019,048			$5,914,467	$924,047	$946,200	$955,461	$957,345	$218,674	$102,854
10		Taxes Other Than Income Taxes										
11		Property Taxes	$5,293,400	Net Plant	22	$3,049,471	$476,521	$513,753	$541,780	$532,919	$120,756	$58,199
12		Payroll Taxes	$1,003,147	Supervised O & M before General	28	$628,358	$101,729	$86,901	$79,415	$79,531	$18,514	$8,699
13		Miscellaneous	$76,662	Supervised O & M before General	28	$48,020	$7,774	$6,641	$6,069	$6,078	$1,415	$665
14		Total Taxes Other than Income Taxes	$6,373,210			$3,725,849	$586,025	$607,295	$627,265	$618,528	$140,685	$67,562
		Hyatt Method to Calculate Income Taxes										
		Federal Income Tax - Current Rates	$633,169	Rate Base	31	$364,802	$56,979	$61,749	$64,723	$63,574	$14,402	$6,940

BLACK HILLS ENERGY
CLASS COST OF SERVICE STUDY
HYATT FUNCTIONALIZATION OF TRANSMISSION & DISTRIBUTION MAINS
(REVENUES)

Acct. No.	Description	Total Gas Utility Adjusted	TAI Allocator Name	Allocator No.	Residential Service	Firm and Transportation Small Commercial	Small Volume	Large Volume	Irrigation Sales	Irrigation Transportation	Interruptible Large Volume
Margin Rate Revenues		$48,215,048			$32,580,593	$4,893,811	$4,253,626	$3,713,882	$1,795,968	$440,968	$536,201
Other Operating Revenues											
487	Forfeited Discounts	$362,722	DIR	DIR	$362,722	$0	$0	$0	$0	$0	$0
488	Misc. Service Revenues	$735,233	Supervised O & M before General	28	$460,540	$74,560	$63,692	$58,205	$58,290	$13,569	$6,375
489	Negotiated Margin Revenues	$2,947,731	Trans. + Dist. Mains	14	$1,303,259	$225,805	$351,001	$505,093	$419,277	$89,273	$54,022
	Total Other Operating Revenues	$4,045,686			$2,126,522	$300,365	$414,693	$563,299	$477,568	$102,842	$60,397
Total Non-Gas Operating Revenues		$52,260,734			$34,707,114	$5,194,176	$4,668,319	$4,277,181	$2,273,535	$543,810	$596,598

BLACK HILLS ENERGY
CLASS COST OF SERVICE STUDY
HYATT FUNCTIONALIZATION OF TRANSMISSION & DISTRIBUTION MAINS
(ALLOCATION AMOUNTS)

TAI		Total		Firm and Transportation					Interruptible
Allocator Name	Allocator No.	Gas Utility Adjusted	Residential Service	Small Commercial	Small Volume	Large Volume	Irrigation Sales	Irrigation Transportation	Large Volume
Firm Winter Peak Day	1	1,483,043	913,969	160,580	226,244	182,249	0	0	0
Firm Winter Peak Day - Sales	2	1,226,035	913,969	150,955	145,884	15,227	0	0	0
Winter Throughput	3	98,896,687	51,385,131	9,572,768	14,638,100	21,816,039	0	0	1,484,649
Firm Winter Sales	4	72,336,715	51,385,131	9,091,511	9,364,559	2,495,514	0	0	0
Annual Throughput	5	185,196,158	68,988,214	11,722,368	20,644,808	44,569,025	26,300,158	6,183,546	6,788,039
Firm Throughput - Sales	6	97,043,589	68,988,214	11,019,723	13,311,946	3,723,706	0	0	0
Total Throughput - Sales	7	130,131,786	68,988,214	11,019,723	13,311,946	3,723,706	26,300,158	0	6,788,039
Average Customers	8	116,338	103,147	9,383	1,918	171	1,332	368	19
Weighted Customers - Distribution	9	124,572	103,147	11,729	3,836	684	3,996	1,104	76
Services (Wgtd. Customers)	10	124,572	103,147	11,729	3,836	684	3,996	1,104	76
Meters (Wgtd. Customers)	11	161,143	103,147	18,766	19,180	4,275	11,988	3,312	475
Cust. Accounting (Wgtd. Customers)	12	136,785	103,147	18,766	7,672	3,420	2,664	736	380
50% Peak/50% Winter Throughput	13	100.0000%	56.7932%	10.2537%	15.0284%	17.1741%	0.0000%	0.0000%	0.7506%
Trans. + Dist. Mains	14	173,355,660	76,644,519	13,279,569	20,642,302	29,704,478	24,657,637	5,250,132	3,177,023
Intangible Plant	15	3,508,760	2,197,840	355,824	303,959	277,774	278,179	64,757	30,426
Prod. & Gathering Plant	16	18,719	8,276	1,434	2,229	3,207	2,663	567	343
Transmission Plant	17	50,533,262	22,341,916	3,871,001	6,017,241	8,658,870	7,187,714	1,530,416	926,104
Distribution Plant	18	276,513,163	164,062,786	25,006,537	26,181,392	25,686,196	26,688,744	6,131,641	2,755,869
General Plant	19	28,027,965	17,556,344	2,842,324	2,428,024	2,218,858	2,222,096	517,278	243,040
Plant In Service	20	371,393,987	214,558,708	33,480,503	35,950,428	37,696,960	37,216,193	8,441,968	4,049,228
Gas Supply - Demand	21	0							
Net Plant	22	263,077,585	151,556,144	23,682,718	25,533,094	26,926,038	26,485,654	6,001,492	2,892,446
Accts. 871-880	23	5,711,702	3,441,261	510,424	516,371	524,526	539,462	123,403	56,254
Accts. 376 + 380	24	204,912,661	120,063,506	17,037,030	17,658,698	22,446,609	20,734,344	4,569,968	2,402,505
Acct. 378	25	7,340,810	3,245,541	562,328	874,106	1,257,847	1,044,137	222,319	134,532
Accts. 886 - 894	26	2,062,358	1,206,868	203,904	225,741	163,636	197,180	47,405	17,623
Acct. 376	27	128,551,711	56,835,664	9,847,450	15,307,277	22,027,325	18,284,845	3,893,230	2,355,918
Supervised O & M before General	28	13,466,847	8,435,454	1,365,677	1,166,614	1,066,115	1,067,670	248,541	116,776
50% Thruput/50% Cust accts	29	100.00000%	56.32978%	10.02452%	8.37817%	13.28306%	8.07441%	1.93849%	1.97157%
50% winter Sales/50% peak- Sales	30	100.00000%	72.79137%	12.44039%	12.42233%	2.34590%	0.00000%	0.00000%	0.00000%
Rate Base	31	230,337,778	132,709,824	20,728,273	22,463,313	23,545,400	23,127,221	5,239,112	2,524,635
Transmission P&A	32	100.0000%	49.4397%	8.5787%	13.2015%	18.1774%	7.1006%	1.6695%	1.8327%
Distribution P&A	33	100.0000%	43.2134%	7.4848%	11.6602%	16.9358%	15.5848%	3.2882%	1.8327%

BLACK HILLS ENERGY
CLASS COST OF SERVICE STUDY
HYATT FUNCTIONALIZATION OF TRANSMISSION & DISTRIBUTION MAINS
(ALLOCATION AMOUNTS)

TAI		Total		Firm and Transportation					Interruptible
Allocator Name	Allocator No.	Gas Utility Adjusted	Residential Service	Small Commercial	Small Volume	Large Volume	Irrigation Sales	Irrigation Transportation	Large Volume
Transmission Peak & Avg									
	Peak amount	1,483,043	913,969	160,580	226,244	182,249	0	0	0
	Peak Pct	100.0000%	61.6280%	10.8278%	15.2554%	12.2889%	0.0000%	0.0000%	0.0000%
	Avg amount	507,387	189,009	32,116	56,561	122,107	72,055	16,941	18,597
	Avg Pct	100.0000%	37.2514%	6.3297%	11.1475%	24.0658%	14.2012%	3.3389%	3.6653%
Transmission Peak & Avg	Total	100.0000%	49.4397%	8.5787%	13.2015%	18.1774%	7.1006%	1.6695%	1.8327%
Distribution Peak & Avg									
	Peak amount	1,858,589	913,969	160,580	226,244	182,249	315,373	60,173	0
	Peak Pct	100.0000%	49.1754%	8.6399%	12.1729%	9.8058%	16.9684%	3.2375%	0.0000%
	Avg amount	507,387	189,009	32,116	56,561	122,107	72,055	16,941	18,597
	Avg Pct	100.0000%	37.2514%	6.3297%	11.1475%	24.0658%	14.2012%	3.3389%	3.6653%
	Total	100.0000%	43.2134%	7.4848%	11.6602%	16.9358%	15.5848%	3.2882%	1.8327%

BLACK HILLS ENERGY
CLASS COST OF SERVICE STUDY
HYATT FUNCTIONALIZATION OF TRANSMISSION & DISTRIBUTION MAINS
(ALLOCATION PERCENTS)

TAI		Total		Firm and Transportation					Interruptible
Allocator Name	Allocator No.	Gas Utility Adjusted	Residential Service	Small Commercial	Small Volume	Large Volume	Irrigation Sales	Irrigation Transportation	Large Volume
Firm Winter Peak Day	1	100.0000%	61.6280%	10.8278%	15.2554%	12.2889%	0.0000%	0.0000%	0.0000%
Firm Winter Peak Day - Sales	2	100.0000%	74.5467%	12.3125%	11.8989%	1.2420%	0.0000%	0.0000%	0.0000%
Winter Throughput	3	100.0000%	51.9584%	9.6796%	14.8014%	22.0594%	0.0000%	0.0000%	1.5012%
Firm Winter Sales	4	100.0000%	71.0360%	12.5683%	12.9458%	3.4499%	0.0000%	0.0000%	0.0000%
Annual Throughput	5	100.0000%	37.2514%	6.3297%	11.1475%	24.0658%	14.2012%	3.3389%	3.6653%
Firm Throughput - Sales	6	100.0000%	71.0899%	11.3554%	13.7175%	3.8371%	0.0000%	0.0000%	0.0000%
Total Throughput - Sales	7	100.0000%	53.0141%	8.4681%	10.2296%	2.8615%	20.2104%	0.0000%	5.2163%
Average Customers	8	100.0000%	88.6615%	8.0653%	1.6486%	0.1470%	1.1449%	0.3163%	0.0163%
Weighted Customers - Distribution	9	100.0000%	82.8013%	9.4153%	3.0793%	0.5491%	3.2078%	0.8862%	0.0610%
Services (Wgtd. Customers)	10	100.0000%	82.8013%	9.4153%	3.0793%	0.5491%	3.2078%	0.8862%	0.0610%
Meters (Wgtd. Customers)	11	100.0000%	64.0096%	11.6456%	11.9025%	2.6529%	7.4394%	2.0553%	0.2948%
Cust. Accounting (Wgtd. Customers)	12	100.0000%	75.4081%	13.7193%	5.6088%	2.5003%	1.9476%	0.5381%	0.2778%
50% Peak/50% Winter Throughput	13	100.0000%	56.7932%	10.2537%	15.0284%	17.1741%	0.0000%	0.0000%	0.7506%
Trans. + Dist. Mains	14	100.0000%	44.2123%	7.6603%	11.9075%	17.1350%	14.2237%	3.0285%	1.8327%
Intangible Plant	15	100.0000%	62.6387%	10.1410%	8.6629%	7.9166%	7.9281%	1.8456%	0.8671%
Prod. & Gathering Plant	16	100.0000%	44.2123%	7.6603%	11.9075%	17.1350%	14.2237%	3.0285%	1.8327%
Transmission Plant	17	100.0000%	44.2123%	7.6603%	11.9075%	17.1350%	14.2237%	3.0285%	1.8327%
Distribution Plant	18	100.0000%	59.3327%	9.0435%	9.4684%	9.2893%	9.6519%	2.2175%	0.9967%
General Plant	19	100.0000%	62.6387%	10.1410%	8.6629%	7.9166%	7.9281%	1.8456%	0.8671%
Plant In Service	20	100.0000%	57.7712%	9.0148%	9.6799%	10.1501%	10.0207%	2.2730%	1.0903%
Gas Supply - Demand	21								
Net Plant	22	100.0000%	57.6089%	9.0022%	9.7055%	10.2350%	10.0676%	2.2813%	1.0995%
Accts. 871-880	23	100.0000%	60.2493%	8.9365%	9.0406%	9.1834%	9.4449%	2.1605%	0.9849%
Accts. 376 + 380	24	100.0000%	58.5925%	8.3143%	8.6177%	10.9542%	10.1186%	2.2302%	1.1725%
Acct. 378	25	100.0000%	44.2123%	7.6603%	11.9075%	17.1350%	14.2237%	3.0285%	1.8327%
Accts. 886 - 894	26	100.0000%	58.5189%	9.8870%	10.9458%	7.9344%	9.5609%	2.2986%	0.8545%
Acct. 376	27	100.0000%	44.2123%	7.6603%	11.9075%	17.1350%	14.2237%	3.0285%	1.8327%
Supervised O & M before General	28	100.0000%	62.6387%	10.1410%	8.6629%	7.9166%	7.9281%	1.8456%	0.8671%
50% Thruput/50% Cust accts	29	100.0000%	56.3298%	10.0245%	8.3782%	13.2831%	8.0744%	1.9385%	1.9716%
50% winter Sales/50% peak- Sales	30	100.0000%	72.7914%	12.4404%	12.4223%	2.3459%	0.0000%	0.0000%	0.0000%
Rate Base	31	100.0000%	57.6153%	8.9991%	9.7523%	10.2221%	10.0406%	2.2745%	1.0961%
Transmission P&A	32	100.0000%	49.4397%	8.5787%	13.2015%	18.1774%	7.1006%	1.6695%	1.8327%
Distribution P&A	33	100.0000%	43.2134%	7.4848%	11.6602%	16.9358%	15.5848%	3.2882%	1.8327%

BLACK HILLS ENERGY
CLASS COST OF SERVICE STUDY
HYATT FUNCTIONALIZATION OF TRANSMISSION & DISTRIBUTION MAINS
(ALLOCATION PERCENTS)

TAI		Total		Firm and Transportation					Interruptible
Allocator Name	Allocator No.	Gas Utility Adjusted	Residential Service	Small Commercial	Small Volume	Large Volume	Irrigation Sales	Irrigation Transportation	Large Volume
Transmission Peak & Avg									
	Peak amount	100.0000%	61.6280%	10.8278%	15.2554%	12.2889%	0.0000%	0.0000%	0.0000%
	Peak Pct	100.0000%	61.6280%	10.8278%	15.2554%	12.2889%	0.0000%	0.0000%	0.0000%
	Avg amount	100.0000%	37.2514%	6.3297%	11.1475%	24.0658%	14.2012%	3.3389%	3.6653%
	Avg Pct	100.0000%	37.2514%	6.3297%	11.1475%	24.0658%	14.2012%	3.3389%	3.6653%
Transmission Peak & Avg	Total	100.0000%	49.4397%	8.5787%	13.2015%	18.1774%	7.1006%	1.6695%	1.8327%
Distribution Peak & Avg									
	Peak amount	100.0000%	49.1754%	8.6399%	12.1729%	9.8058%	16.9684%	3.2375%	0.0000%
	Peak Pct	100.0000%	49.1754%	8.6399%	12.1729%	9.8058%	16.9684%	3.2375%	0.0000%
	Avg amount	100.0000%	37.2514%	6.3297%	11.1475%	24.0658%	14.2012%	3.3389%	3.6653%
	Avg Pct	100.0000%	37.2514%	6.3297%	11.1475%	24.0658%	14.2012%	3.3389%	3.6653%
	Total	100.0000%	43.2134%	7.4848%	11.6602%	16.9358%	15.5848%	3.2882%	1.8327%

BLACK HILLS ENERGY
CLASS COST OF SERVICE STUDY
PER BOOKS FUNCTIONALIZATION OF TRANSMISSION & DISTRIBUTION MAINS
(SUMMARY)

Line Number	Acct. No.	Description	Total Gas Utility Adjusted	TAI Allocator Name	Residential Service	Firm and Transportation: Small Commercial	Firm and Transportation: Small Volume	Firm and Transportation: Large Volume	Irrigation: Sales	Irrigation: Transportation	Interruptible Large Volume
Allocate Current Income Taxes on Rate Base											
		Current Margin Rate Revenues	$48,215,048		$32,580,593	$4,893,811	$4,253,626	$3,713,882	$1,795,968	$440,968	$536,201
		Other Operating Revenues	$4,045,686		$2,143,087	$303,276	$418,794	$566,602	$454,994	$98,535	$60,397
		Total Non-Gas Revenues	$52,260,734		$34,723,680	$5,197,087	$4,672,420	$4,280,484	$2,250,962	$539,503	$596,598
		O&M Expenses	$27,054,450		$16,872,059	$2,741,949	$2,321,850	$2,164,754	$2,201,063	$510,191	$242,585
		Depreciation & Amort.	$10,019,048		$5,916,524	$924,408	$946,709	$955,871	$954,541	$218,139	$102,854
		Taxes Other Than Income	$6,373,210		$3,742,102	$588,881	$611,319	$630,505	$596,382	$136,460	$67,562
		Federal Income Tax	$633,169		$366,991	$57,364	$62,291	$65,160	$60,592	$13,833	$6,940
		Total Expenses	$44,079,877		$26,897,676	$4,312,602	$3,942,168	$3,816,290	$3,812,577	$878,623	$419,942
		Net Operating Income	$8,180,857		$7,826,004	$884,485	$730,252	$464,194	($1,561,615)	($339,120)	$176,657
		Rate Base:									
		Gross Plant	$371,393,987		$215,628,128	$33,668,395	$36,215,153	$37,910,207	$35,758,947	$8,163,929	$4,049,228
		Accum. Depreciation	($108,316,402)		($63,160,243)	($9,825,489)	($10,456,366)	($10,802,365)	($10,515,678)	($2,399,481)	($1,156,782)
		Other Rate Base Items	($32,739,806)		($18,961,957)	($2,974,762)	($3,098,406)	($3,403,696)	($3,200,859)	($732,315)	($367,811)
		Total Rate Base	$230,337,778		$133,505,929	$20,868,145	$22,660,381	$23,704,147	$22,042,410	$5,032,133	$2,524,635
		ROR @ Current Rates	3.55%		5.86%	4.24%	3.22%	1.96%	-7.08%	-6.74%	7.00%
Hyatt Approach to ROR @ Current Rates											
		Cost of Service @ Requested 7.05% ROR									
		Required Return	$16,238,813		$9,412,168	$1,471,204	$1,597,557	$1,671,142	$1,553,990	$354,765	$177,987
		O&M	$27,054,450		$16,872,059	$2,741,949	$2,321,850	$2,164,754	$2,201,063	$510,191	$242,585
		Depreciation	$10,019,048		$5,916,524	$924,408	$946,709	$955,871	$954,541	$218,139	$102,854
		Taxes Other Than Income	$6,373,210		$3,742,102	$588,881	$611,319	$630,505	$596,382	$136,460	$67,562
		Income Taxes	$2,775,158	Rate Base	$1,608,507	$251,424	$273,017	$285,592	$265,572	$60,628	$30,417
		Other Operating Revenue	($4,045,686)		($2,143,087)	($303,276)	($418,794)	($566,602)	($454,994)	($98,535)	($60,397)
		Net Cost of Service	$58,414,993		$35,408,273	$5,674,590	$5,331,658	$5,141,263	$5,116,552	$1,181,648	$561,008
		Revenue Deficiency	$10,199,945		$2,827,680	$780,779	$1,078,032	$1,427,382	$3,320,585	$740,681	$24,807
		Return Under Current Rates	$8,180,857		$7,178,301	$854,389	$745,912	$543,511	($1,069,272)	($230,372)	$158,389
		ROR @ Current Rates	3.55%		5.38%	4.09%	3.29%	2.29%	-4.85%	-4.58%	6.27%

BLACK HILLS ENERGY
CLASS COST OF SERVICE STUDY
PER BOOKS FUNCTIONALIZATION OF TRANSMISSION & DISTRIBUTION MAINS
(SUMMARY)

Line Number	Acct. No.	Description	Total Gas Utility Adjusted	TAI Allocator Name	Residential Service	Firm and Transportation: Small Commercial	Firm and Transportation: Small Volume	Firm and Transportation: Large Volume	Irrigation: Sales	Irrigation: Transportation	Interruptible Large Volume
Correct Methdod to Assign Income Taxes											
		Current Margin Rate Revenues	$48,215,048		$32,580,593	$4,893,811	$4,253,626	$3,713,882	$1,795,968	$440,968	$536,201
		Other Operating Revenues	$4,045,686		$2,143,087	$303,276	$418,794	$566,602	$454,994	$98,535	$60,397
		Total Non-Gas Revenues	$52,260,734		$34,723,680	$5,197,087	$4,672,420	$4,280,484	$2,250,962	$539,503	$596,598
		O&M Expenses	$27,054,450		$16,872,059	$2,741,949	$2,321,850	$2,164,754	$2,201,063	$510,191	$242,585
		Depreciation & Amort.	$10,019,048		$5,916,524	$924,408	$946,709	$955,871	$954,541	$218,139	$102,854
		Taxes Other Than Income	$6,373,210		$3,742,102	$588,881	$611,319	$630,505	$596,382	$136,460	$67,562
		Federal Income Tax	$633,169	See Below	$816,398	$78,246	$51,425	$10,126	($281,019)	($61,621)	$19,615
		Total Expenses	$44,079,877		$27,347,083	$4,333,484	$3,931,303	$3,761,256	$3,470,966	$803,169	$432,617
		Net Operating Income	$8,180,857		$7,376,597	$863,603	$741,117	$519,228	($1,220,005)	($263,666)	$163,982
		Rate Base:									
		Gross Plant	$371,393,987		$215,628,128	$33,668,395	$36,215,153	$37,910,207	$35,758,947	$8,163,929	$4,049,228
		Accum. Depreciation	($108,316,402)		($63,160,243)	($9,825,489)	($10,456,366)	($10,802,365)	($10,515,678)	($2,399,481)	($1,156,782)
		Other Rate Base Items	($32,739,806)		($18,961,957)	($2,974,762)	($3,098,406)	($3,403,696)	($3,200,859)	($732,315)	($367,811)
		Total Rate Base	$230,337,778		$133,505,929	$20,868,145	$22,660,381	$23,704,147	$22,042,410	$5,032,133	$2,524,635
		ROR @ Current Rates	3.55%		5.53%	4.14%	3.27%	2.19%	-5.53%	-5.24%	6.50%
		Memo: Calculation of Income Taxes @ Curr. Rates									
		Earnings Before Interest & Income Taxes	$8,814,026		$8,192,995	$941,849	$792,542	$529,353	($1,501,023)	($325,287)	$183,597
		Interest @ 1.94%	$4,468,553		$2,590,015	$404,842	$439,611	$459,860	$427,623	$97,623	$48,978
		Taxable Income	$4,345,473		$5,602,980	$537,007	$352,931	$69,493	($1,928,646)	($422,910)	$134,619
		Income Tax @ Current Rates	$633,169		$816,398	$78,246	$51,425	$10,126	($281,019)	($61,621)	$19,615

BLACK HILLS ENERGY
CLASS COST OF SERVICE STUDY
PER BOOKS FUNCTIONALIZATION OF TRANSMISSION & DISTRIBUTION MAINS
(RATE BASE)

Line Number	Acct. No.	Description			Total Gas Utility Adjusted	TAI Allocator Name	Allocator No.	Residential Service	Firm and Transportation Small Commercial	Small Volume	Large Volume	Irrigation Sales	Irrigation Transportation	Interruptible Large Volume
1		Gas Plant in Service												
2		Intangible Plant												
3	301	Organization			$186,932	Supervised O & M before General	28	$116,729	$18,893	$16,104	$14,726	$15,314	$3,544	$1,621
4	302	Franchises & Consents			$74,990	Supervised O & M before General	28	$46,827	$7,579	$6,460	$5,908	$6,143	$1,422	$650
5	303	Miscellaneous Intangible Plant			$3,246,838	Supervised O & M before General	28	$2,027,484	$328,157	$279,712	$255,784	$265,987	$61,559	$28,154
6		Total Intangible Plant			$3,508,760			$2,191,041	$354,630	$302,276	$276,418	$287,445	$66,525	$30,426
7		Production & Gathering Plant												
8	336	Purification Equipment			$18,719	Trans. + Dist. Mains	14	$8,390	$1,454	$2,257	$3,230	$2,507	$537	$343
9		Total Product. & Gather. Plant			$18,719			$8,390	$1,454	$2,257	$3,230	$2,507	$537	$343
10		Transmission Plant												
11	365	Land & Land Rights			$978,392	Trans. + Dist. Mains	14	$438,541	$75,997	$117,980	$168,838	$131,027	$28,078	$17,931
12	366	Structures & Improvements			$214,152	Trans. + Dist. Mains	14	$95,988	$16,634	$25,824	$36,955	$28,679	$6,146	$3,925
13	367	Mains	44,803,950											
		Large Mains	16,524,145											
		Demand		50.000%	$8,262,072	Transmission P&A	32	$4,084,743	$708,781	$1,090,716	$1,501,826	$586,659	$137,932	$151,416
		Commodity		50.000%	$8,262,072	Transmission P&A	32	$4,084,743	$708,781	$1,090,716	$1,501,826	$586,659	$137,932	$151,416
		Small Mains	28,279,805											
		Demand		50.000%	$14,139,902	Transmission P&A	32	$6,990,724	$1,213,025	$1,866,676	$2,570,260	$1,004,021	$236,060	$259,137
		Commodity		50.000%	$14,139,902	Transmission P&A	32	$6,990,724	$1,213,025	$1,866,676	$2,570,260	$1,004,021	$236,060	$259,137
14	368	Compressor Station Equipment			$2,475	Trans. + Dist. Mains	14	$1,109	$192	$298	$427	$331	$71	$45
15	369	Measuring & Reg. Station Eq.			$4,425,949	Trans. + Dist. Mains	14	$1,983,826	$343,787	$533,706	$763,772	$592,727	$127,018	$81,113
16	371	Other Equipment			$108,344	Trans. + Dist. Mains	14	$48,563	$8,416	$13,065	$18,697	$14,510	$3,109	$1,986
17		Total Transmission Plant			$50,533,262			$24,718,962	$4,288,638	$6,605,657	$9,132,863	$3,948,633	$912,406	$926,104
18		Distribution Plant												
19	374	Land & Land Rights			$392,378	Trans. + Dist. Mains	14	$175,874	$30,478	$47,315	$67,712	$52,548	$11,261	$7,191
20	375	Structures & Improvements			$1,030,848	Trans. + Dist. Mains	14	$462,053	$80,071	$124,305	$177,890	$138,052	$29,584	$18,892
21	376	Mains	128,551,711											
		Large Mains	3,420,761											
		Demand		50.000%	$1,710,381	Distribution P&A	33	$739,114	$128,019	$199,434	$289,667	$266,560	$56,241	$31,345
		Commodity		50.000%	$1,710,381	Distribution P&A	33	$739,114	$128,019	$199,434	$289,667	$266,560	$56,241	$31,345
		Small Mains	125,130,950											
		Demand		50.000%	$62,565,475	Distribution P&A	33	$27,036,688	$4,682,905	$7,295,276	$10,595,972	$9,750,725	$2,057,296	$1,146,614
		Commodity		50.000%	$62,565,475	Distribution P&A	33	$27,036,688	$4,682,905	$7,295,276	$10,595,972	$9,750,725	$2,057,296	$1,146,614
22	377	Compressor Station Equipment			$175,304	Trans. + Dist. Mains	14	$78,576	$13,617	$21,139	$30,252	$23,477	$5,031	$3,213
23	378	Meas. & Reg. Sta. Equip.			$7,340,810	Trans. + Dist. Mains	14	$3,290,343	$570,200	$885,196	$1,266,781	$983,087	$210,671	$134,532
24	379	Meas. & Reg. Sta. Equip. - CG			$204,676	Trans. + Dist. Mains	14	$91,741	$15,898	$24,681	$35,320	$27,410	$5,874	$3,751
25	380	Services			$76,360,950	Services (Wgtd. Customers)	10	$63,227,842	$7,189,579	$2,351,421	$419,284	$2,449,499	$676,738	$46,587
26	381	Meters			$20,990,945	Meters (Wgtd. Customers)	11	$13,436,222	$2,444,513	$2,498,441	$556,874	$1,561,591	$431,431	$61,875
27	382	Meter Installations			$1,828,548	Meters (Wgtd. Customers)	11	$1,170,446	$212,945	$217,642	$48,510	$136,032	$37,582	$5,390
28	383	House Regulators			$33,169,196	Meters (Wgtd. Customers)	11	$21,231,472	$3,862,738	$3,947,954	$879,953	$2,467,574	$681,732	$97,773
29	385	Indust. Meas. & Reg. Sta. Equip.			$6,358,436	Meters (Wgtd. Customers)	11	$4,070,010	$740,475	$756,811	$168,684	$473,027	$130,686	$18,743
30	387	Other Equipment			$109,363	Trans. + Dist. Mains	14	$49,019	$8,495	$13,188	$18,872	$14,646	$3,139	$2,004
31		Total Distribution Plant			$276,513,163			$162,835,201	$24,790,855	$25,877,515	$25,441,410	$28,361,512	$6,450,802	$2,755,869
32		General Plant												
33	389	Land & Land Rights			$829,867	Supervised O & M before General	28	$518,210	$83,875	$71,492	$65,376	$67,984	$15,734	$7,196
34	390	Structures and Improvements			$11,242,251	Supervised O & M before General	28	$7,020,211	$1,136,252	$968,508	$885,658	$920,987	$213,149	$97,486

BLACK HILLS ENERGY
CLASS COST OF SERVICE STUDY
PER BOOKS FUNCTIONALIZATION OF TRANSMISSION & DISTRIBUTION MAINS
(RATE BASE)

Line Number	Acct. No.	Description	Total Gas Utility Adjusted	TAI Allocator Name	Allocator No.	Residential Service	Firm and Transportation Small Commercial	Small Volume	Large Volume	Irrigation Sales	Irrigation Transportation	Interruptible Large Volume
35	391	Office Furniture & Equipment	$1,513,310	Supervised O & M before General	28	$944,985	$152,950	$130,370	$119,218	$123,973	$28,692	$13,122
36	392	Transportation Equipment	$8,866,331	Supervised O & M before General	28	$5,536,570	$896,119	$763,825	$698,485	$726,347	$168,102	$76,883
37	393	Stores Equipment	$29,525	Supervised O & M before General	28	$18,437	$2,984	$2,544	$2,326	$2,419	$560	$256
38	394	Tools & Work Equipment	$2,929,845	Supervised O & M before General	28	$1,829,539	$296,119	$252,403	$230,812	$240,019	$55,549	$25,406
39	395	Laboratory Equipment	$11,714	Supervised O & M before General	28	$7,315	$1,184	$1,009	$923	$960	$222	$102
40	396	Power Operated Equipment	$1,049,376	Supervised O & M before General	28	$655,282	$106,060	$90,403	$82,669	$85,967	$19,896	$9,100
41	397	Communication Equipment	$1,526,897	Supervised O & M before General	28	$953,469	$154,323	$131,541	$120,288	$125,086	$28,949	$13,240
42	398	Misc. Equipment	$28,848	Supervised O & M before General	28	$18,014	$2,916	$2,485	$2,273	$2,363	$547	$250
43		General Plant	$28,027,965			$17,502,031	$2,832,782	$2,414,579	$2,208,028	$2,296,106	$531,399	$243,040
44	118	Other Utility Plant (Allocated on Customer Count)	$2,965,931	Cust. Accounting (Wgtd. Customers)	12	$2,236,553	$406,906	$166,353	$74,156	$57,764	$15,959	$8,240
45	118	Other Utility Plant (Allocated on Blended Ratio)	$9,826,187	Supervised O & M before General	28	$6,135,951	$993,131	$846,516	$774,102	$804,981	$186,301	$85,206
			$12,792,118			$8,372,504	$1,400,037	$1,012,869	$848,258	$862,745	$202,259	$93,446
46		Total Plant in Service	$371,393,987			$215,628,128	$33,668,395	$36,215,153	$37,910,207	$35,758,947	$8,163,929	$4,049,228
47		Accumulated Depreciation										
48		Intangible	($2,482,885)	Intangible Plant	15	($1,550,435)	($250,945)	($213,898)	($195,600)	($203,403)	($47,075)	($21,530)
49		Production & Gathering	($13,086)	Prod. & Gathering Plant	16	($5,866)	($1,016)	($1,578)	($2,258)	($1,753)	($376)	($240)
50		Transmission	($11,819,459)	Transmission Plant	17	($5,781,633)	($1,003,089)	($1,545,028)	($2,136,128)	($923,564)	($213,407)	($216,611)
51		Distribution	($85,483,078)	Distribution Plant	18	($50,339,933)	($7,664,006)	($7,999,943)	($7,865,123)	($8,767,862)	($1,994,243)	($851,967)
52		General	($6,586,665)	General Plant	19	($4,113,035)	($665,713)	($567,434)	($518,894)	($539,593)	($124,881)	($57,115)
53		Other Utility Plant (Allocated on Customer Count)	($1,260,390)	Cust. Accounting (Wgtd. Customers)	12	($950,436)	($172,917)	($70,693)	($31,513)	($24,547)	($6,782)	($3,501)
54		Other Utility Plant (Allocated on Blended Ratio)	($670,840)	Supervised O & M before General	28	($418,905)	($67,802)	($57,792)	($52,848)	($54,957)	($12,719)	($5,817)
55		Total Accumulated Depreciation	($108,316,402)			($63,160,243)	($9,825,489)	($10,456,366)	($10,802,365)	($10,515,678)	($2,399,481)	($1,156,782)
56		Net Plant	$263,077,585			$152,467,886	$23,842,907	$25,758,787	$27,107,843	$25,243,269	$5,764,448	$2,892,446
57		Other Rate Base Items										
58		Materials & Supplies	$2,673,612	Plant In Service	20	$1,552,276	$242,374	$260,708	$272,910	$257,424	$58,771	$29,150
59		Gas Storage	$1,787,128	50% winter Sales/50% peak- Sales	30	$1,300,875	$222,326	$222,003	$41,924	$0	$0	$0
60		Prepayments	$90,098	Net Plant	22	$52,217	$8,166	$8,822	$9,284	$8,645	$1,974	$991
61		Customer Advances	($114,892)	Supervised O & M before General	28	($71,744)	($11,612)	($9,898)	($9,051)	($9,412)	($2,178)	($996)
62		Customer Deposits	($1,433,558)	Cust. Accounting (Wgtd. Customers)	12	($1,081,019)	($196,675)	($80,405)	($35,843)	($27,920)	($7,714)	($3,983)
63		Accum. Deferred Income Taxes	($35,742,194)	Net Plant	22	($20,714,561)	($3,239,340)	($3,499,635)	($3,682,920)	($3,429,596)	($783,168)	($392,973)
64		Total Other Rate Base Items	($32,739,806)			($18,961,957)	($2,974,762)	($3,098,406)	($3,403,696)	($3,200,859)	($732,315)	($367,811)
65												
66		Total Rate Base	$230,337,778			$133,505,929	$20,868,145	$22,660,381	$23,704,147	$22,042,410	$5,032,133	$2,524,635

BLACK HILLS ENERGY
CLASS COST OF SERVICE STUDY
PER BOOKS FUNCTIONALIZATION OF TRANSMISSION & DISTRIBUTION MAINS
(EXPENSES)

Acct. No.	Description	Total Gas Utility Adjusted	TAI Allocator Name	TAI Allocator No.	Residential Service	Firm and Transportation Small Commercial	Firm and Transportation Small Volume	Firm and Transportation Large Volume	Irrigation Sales	Irrigation Transportation	Interruptible Large Volume
		$									
O & M Expenses											
	Transmission Expenses										
	Operation										
850	Supervision & Engineering	$115,040	Trans. + Dist. Mains	14	$51,564	$8,936	$13,872	$19,852	$15,406	$3,301	$2,108
851	Sys. Control & Load Dispatch.	$248	Annual Throughput	5	$92	$16	$28	$60	$35	$8	$9
852	Communication System Expenses	$246	Trans. + Dist. Mains	14	$110	$19	$30	$42	$33	$7	$5
856	Mains Expenses	$105,110	Trans. + Dist. Mains	14	$47,113	$8,164	$12,675	$18,138	$14,076	$3,016	$1,926
857	Meas. & Reg. Sta. Expenses	$7,135	Trans. + Dist. Mains	14	$3,198	$554	$860	$1,231	$955	$205	$131
859	Other Expenses	$157,377	Trans. + Dist. Mains	14	$70,541	$12,224	$18,977	$27,158	$21,076	$4,516	$2,884
860	Rents	$21,857	Trans. + Dist. Mains	14	$9,797	$1,698	$2,636	$3,772	$2,927	$627	$401
	Total Operation	$407,012			$182,415	$31,611	$49,078	$70,254	$54,509	$11,682	$7,464
	Maintenance										
861	Supervision & Engineering	$17,489	Trans. + Dist. Mains	14	$7,839	$1,358	$2,109	$3,018	$2,342	$502	$321
863	Mains	$97,661	Trans. + Dist. Mains	14	$43,774	$7,586	$11,777	$16,853	$13,079	$2,803	$1,790
864	Compressor Station Equipment	$135	Trans. + Dist. Mains	14	$61	$11	$16	$23	$18	$4	$2
865	Meas. & Reg. Sta. Equip.	$5,743	Trans. + Dist. Mains	14	$2,574	$446	$692	$991	$769	$165	$105
867	Other Equipment	$4,846	Trans. + Dist. Mains	14	$2,172	$376	$584	$836	$649	$139	$89
	Total Maintenance	$125,874			$56,420	$9,777	$15,179	$21,722	$16,857	$3,612	$2,307
	Total Transmission Expenses	$532,886			$238,835	$41,389	$64,256	$91,975	$71,367	$15,294	$9,771
	Distribution Expenses										
	Operation										
870	Supervision & Engineering	$1,699,194	Accts. 871-880	23	$1,017,822	$150,806	$152,149	$154,861	$168,567	$38,253	$16,735
871	Load Dispatching	$5	Annual Throughput	5	$2	$0	$1	$1	$1	$0	$0
872	Compressor Station Expenses	$0	Annual Throughput	5	$0	$0	$0	$0	$0	$0	$0
874	Mains & Services	$2,451,332	Accts. 376 + 380	24	$1,420,936	$201,112	$207,445	$265,462	$268,973	$58,663	$28,741
875	Measuring & Regulating Sta. Equip, - General	$351,276	Acct. 378	25	$157,451	$27,285	$42,359	$60,619	$47,043	$10,081	$6,438
876	Measuring & Regulating Sta. Equip, - Ind.	$24,038	Meters (Wgtd. Customers)	11	$15,387	$2,799	$2,861	$638	$1,788	$494	$71
877	Measuring & Regulating Sta. Equp. - CG	$119,743	Trans. + Dist. Mains	14	$53,672	$9,301	$14,439	$20,664	$16,036	$3,436	$2,194
878	Meters & House Regulators	$610,137	Meters (Wgtd. Customers)	11	$390,546	$71,054	$72,621	$16,186	$45,390	$12,540	$1,798
879	Customer Installation Expenses	$477,486	Services (Wgtd. Customers)	10	$395,364	$44,957	$14,703	$2,622	$15,317	$4,232	$291
880	Other Expenses	$1,677,686	Distribution Plant	18	$987,969	$150,413	$157,006	$154,360	$172,078	$39,139	$16,721
881	Rents	$5,847	Distribution Plant	18	$3,443	$524	$547	$538	$600	$136	$58
	Total Operation	$7,416,743			$4,442,592	$658,252	$664,132	$675,950	$735,792	$166,976	$73,048
	Maintenance										
885	Supervision & Engineering	$51,130	Accts. 886 - 894	26	$29,836	$5,040	$5,576	$4,040	$5,003	$1,197	$437
886	Structures & Improvements	$3,423	Trans. + Dist. Mains	14	$1,534	$266	$413	$591	$458	$98	$63
887	Mains	$497,153	Acct. 376	27	$214,837	$37,211	$57,969	$84,197	$77,481	$16,348	$9,111
888	Main. Of Compressor Sta. Eq.	$58,340	Trans. + Dist. Mains	14	$26,150	$4,532	$7,035	$10,068	$7,813	$1,674	$1,069
889	Meas. & Reg. Sta. Eq. - Gen.	$213,297	Trans. + Dist. Mains	14	$95,605	$16,568	$25,721	$36,808	$28,565	$6,121	$3,909
890	Meas. & Reg. Sta. Eq. - Ind.	$29,002	Meters (Wgtd. Customers)	11	$18,564	$3,377	$3,452	$769	$2,158	$596	$85
891	Meas. & Reg. Sta. Eq. - City Gate	$166,714	Meters (Wgtd. Customers)	11	$106,713	$19,415	$19,843	$4,423	$12,402	$3,427	$491
892	Services	$217,161	Services (Wgtd. Customers)	10	$179,812	$20,446	$6,687	$1,192	$6,966	$1,925	$132
893	Meters & House Regulators	$852,259	Meters (Wgtd. Customers)	11	$545,528	$99,250	$101,440	$22,610	$63,403	$17,517	$2,512
894	Other Equipment	$25,009	Distribution Plant	18	$14,727	$2,242	$2,340	$2,301	$2,565	$583	$249
	Total Maintenance	$2,113,488			$1,233,306	$208,348	$230,476	$166,999	$206,814	$49,486	$18,060
	Total Distribution	$9,530,230			$5,675,899	$866,600	$894,608	$842,949	$942,606	$216,462	$91,108

BLACK HILLS ENERGY
CLASS COST OF SERVICE STUDY
PER BOOKS FUNCTIONALIZATION OF TRANSMISSION & DISTRIBUTION MAINS
(EXPENSES)

Acct. No.	Description	Total Gas Utility Adjusted	TAI Allocator Name	TAI Allocator No.	Residential Service	Firm and Transportation Small Commercial	Firm and Transportation Small Volume	Firm and Transportation Large Volume	Irrigation Sales	Irrigation Transportation	Interruptible Large Volume
		$									
	Customer Accounts Expenses										
901	Supervision	$192,632	Cust. Accounting (Wgtd. Customers)	12	$145,260	$26,428	$10,804	$4,816	$3,752	$1,036	$535
902	Meter Reading Expenses	$361,463	Cust. Accounting (Wgtd. Customers)	12	$272,572	$49,590	$20,274	$9,038	$7,040	$1,945	$1,004
903	Customer Records & Collection	$2,387,118	Cust. Accounting (Wgtd. Customers)	12	$1,800,081	$327,497	$133,889	$59,684	$46,491	$12,844	$6,632
904	Uncollectible Accounts	$654,912	Cust. Accounting (Wgtd. Customers)	12	$493,857	$89,850	$36,733	$16,375	$12,755	$3,524	$1,819
905	Miscellaneous	$85,568	Cust. Accounting (Wgtd. Customers)	12	$64,525	$11,739	$4,799	$2,139	$1,667	$460	$238
	Total Customer Accounts Expenses	$3,681,694			$2,776,296	$505,104	$206,499	$92,052	$71,704	$19,810	$10,228
	Customer Service & Inform. Exp.										
907	Supervision	$44,146	50% Thruput/50% Cust accts	29	$24,867	$4,425	$3,699	$5,864	$3,565	$856	$870
908	Customer Assistance Expenses	$176,517	50% Thruput/50% Cust accts	29	$99,432	$17,695	$14,789	$23,447	$14,253	$3,422	$3,480
909	Information & Instruction Exp.	$16,308	50% Thruput/50% Cust accts	29	$9,186	$1,635	$1,366	$2,166	$1,317	$316	$322
910	Miscellaneous	$3,945	50% Thruput/50% Cust accts	29	$2,222	$395	$331	$524	$319	$76	$78
	Total Cust. Service & Inf. Exp.	$240,916			$135,707	$24,151	$20,184	$32,001	$19,453	$4,670	$4,750
	Sales Expenses										
911	Supervision	$0	50% Thruput/50% Cust accts	29	$0	$0	$0	$0	$0	$0	$0
912	Demonstrating & Selling Exp.	$121,843	50% Thruput/50% Cust accts	29	$68,634	$12,214	$10,208	$16,184	$9,838	$2,362	$2,402
913	Advertising Expenses	$19,998	50% Thruput/50% Cust accts	29	$11,265	$2,005	$1,675	$2,656	$1,615	$388	$394
916	Miscellaneous	$39	50% Thruput/50% Cust accts	29	$22	$4	$3	$5	$3	$1	$1
	Total Sales Expenses	$141,880			$79,921	$14,223	$11,887	$18,846	$11,456	$2,750	$2,797
	Administrative & General Expenses										
	Operation										
920	A & G Salaries	$6,479,803	Supervised O & M before General	28	$4,046,306	$654,913	$558,228	$510,475	$530,838	$122,855	$56,189
921	Office Supplies & Expenses	$1,889,648	Supervised O & M before General	28	$1,179,989	$190,986	$162,791	$148,865	$154,804	$35,827	$16,386
922	Transfers	($1,226,286)	Supervised O & M before General	28	($765,753)	($123,941)	($105,643)	($96,606)	($100,460)	($23,250)	($10,634)
923	Outside Services Employed	$1,136,556	Supervised O & M before General	28	$709,721	$114,872	$97,913	$89,537	$93,109	$21,549	$9,855
924	Property Insurance	$6,890	Net Plant	22	$3,993	$624	$675	$710	$661	$151	$76
925	Injuries & Damages	$576,743	Supervised O & M before General	28	$360,146	$58,291	$49,686	$45,435	$47,248	$10,935	$5,001
926	Employee Pensions & Benefits	$1,442,184	Supervised O & M before General	28	$900,570	$145,761	$124,243	$113,614	$118,147	$27,343	$12,506
928	Regulatory Commission Expense	$422,497	Annual Throughput	5	$157,386	$26,743	$47,098	$101,678	$60,000	$14,107	$15,486
929	Duplicate Charges - Credit	$4	Supervised O & M before General	28	$3	$0	$0	$0	$0	$0	$0
930	Miscellaneous	$378,143	Supervised O & M before General	28	$236,131	$38,219	$32,577	$29,790	$30,978	$7,169	$3,279
931	Rents	$801,070	Supervised O & M before General	28	$500,227	$80,964	$69,011	$63,108	$65,625	$15,188	$6,946
932	Maintenance of General Plant	$1,019,592	Supervised O & M before General	28	$636,683	$103,050	$87,837	$80,323	$83,527	$19,331	$8,841
	Total A & G Expenses	$12,926,844			$7,965,402	$1,290,483	$1,124,415	$1,086,930	$1,084,477	$251,205	$123,932
	Total Operation & Maintenance	$27,054,450			$16,872,059	$2,741,949	$2,321,850	$2,164,754	$2,201,063	$510,191	$242,585
	Supervised O & M before General	$13,466,847			$8,409,357	$1,361,092	$1,160,155	$1,060,911	$1,103,231	$255,326	$116,776

BLACK HILLS ENERGY
CLASS COST OF SERVICE STUDY
PER BOOKS FUNCTIONALIZATION OF TRANSMISSION & DISTRIBUTION MAINS
(EXPENSES)

Acct. No.	Description	Total Gas Utility Adjusted	TAI Allocator Name	TAI Allocator No.	Residential Service	Firm and Transportation Small Commercial	Firm and Transportation Small Volume	Firm and Transportation Large Volume	Irrigation Sales	Irrigation Transportation	Interruptible Large Volume
		$									
Depreciation Expense											
	Intangible	$112,355	Intangible Plant	15	$70,160	$11,356	$9,679	$8,851	$9,204	$2,130	$974
	Production & Gathering	$517	Prod. & Gathering Plant	16	$232	$40	$62	$89	$69	$15	$9
	Transmission	$790,428	Transmission Plant	17	$386,647	$67,082	$103,324	$142,854	$61,763	$14,272	$14,486
	Distribution	$6,986,362	Distribution Plant	18	$4,114,183	$626,364	$653,819	$642,801	$716,580	$162,986	$69,630
	General	$743,910	General Plant	19	$464,534	$75,187	$64,087	$58,605	$60,943	$14,104	$6,451
	Other Utility Plant (Allocated on Customer Count)	$120,417	Cust. Accounting (Wgtd. Customers)	12	$90,804	$16,520	$6,754	$3,011	$2,345	$648	$335
	Other Utility Plant (Allocated on Blended Ratio)	$1,265,059	Supervised O & M before General	28	$789,965	$127,859	$108,984	$99,661	$103,636	$23,985	$10,970
	Total Depreciation Expense	$10,019,048			$5,916,524	$924,408	$946,709	$955,871	$954,541	$218,139	$102,854
Taxes Other Than Income Taxes											
	Property Taxes	$5,293,400	Net Plant	22	$3,067,816	$479,745	$518,294	$545,439	$507,921	$115,987	$58,199
	Payroll Taxes	$1,003,147	Supervised O & M before General	28	$626,414	$101,388	$86,420	$79,027	$82,180	$19,019	$8,699
	Miscellaneous	$76,662	Supervised O & M before General	28	$47,872	$7,748	$6,604	$6,039	$6,280	$1,453	$665
	Total Taxes Other than Income Taxes	$6,373,210			$3,742,102	$588,881	$611,319	$630,505	$596,382	$136,460	$67,562
Hyatt Method to Calculate Income Taxes											
	Federal Income Tax - Current Rates	$633,169	Rate Base	31	$366,991	$57,364	$62,291	$65,160	$60,592	$13,833	$6,940

BLACK HILLS ENERGY
CLASS COST OF SERVICE STUDY
PER BOOKS FUNCTIONALIZATION OF TRANSMISSION & DISTRIBUTION MAINS
(REVENUES)

Acct. No.	Description	Total Gas Utility Adjusted	TAI Allocator Name	Allocator No.	Residential Service	Firm and Transportation Small Commercial	Small Volume	Large Volume	Irrigation Sales	Irrigation Transportation	Interruptible Large Volume
Margin Rate Revenues		$48,215,048			$32,580,593	$4,893,811	$4,253,626	$3,713,882	$1,795,968	$440,968	$536,201
Other Operating Revenues											
487	Forfeited Discounts	$362,722	DIR	DIR	$362,722	$0	$0	$0	$0	$0	$0
488	Misc. Service Revenues	$735,233	Supervised O & M before General	28	$459,115	$74,310	$63,340	$57,921	$60,232	$13,940	$6,375
489	Negotiated Margin Revenues	$2,947,731	Trans. + Dist. Mains	14	$1,321,250	$228,966	$355,454	$508,681	$394,762	$84,596	$54,022
	Total Other Operating Revenues	$4,045,686			$2,143,087	$303,276	$418,794	$566,602	$454,994	$98,535	$60,397
Total Non-Gas Operating Revenues		$52,260,734			$34,723,680	$5,197,087	$4,672,420	$4,280,484	$2,250,962	$539,503	$596,598

BLACK HILLS ENERGY
CLASS COST OF SERVICE STUDY
PER BOOKS FUNCTIONALIZATION OF TRANSMISSION & DISTRIBUTION MAINS
(ALLOCATION AMOUNTS)

TAI Allocator Name	Allocator No.	Total Gas Utility Adjusted	Residential Service	Firm and Transportation			Irrigation		Interruptible Large Volume
				Small Commercial	Small Volume	Large Volume	Sales	Transportation	
Firm Winter Peak Day	1	1,483,043	913,969	160,580	226,244	182,249	0	0	0
Firm Winter Peak Day - Sales	2	1,226,035	913,969	150,955	145,884	15,227	0	0	0
Winter Throughput	3	98,896,687	51,385,131	9,572,768	14,638,100	21,816,039	0	0	1,484,649
Firm Winter Sales	4	72,336,715	51,385,131	9,091,511	9,364,559	2,495,514	0	0	0
Annual Throughput	5	185,196,158	68,988,214	11,722,368	20,644,808	44,569,025	26,300,158	6,183,546	6,788,039
Firm Throughput - Sales	6	97,043,589	68,988,214	11,019,723	13,311,946	3,723,706	0	0	0
Total Throughput - Sales	7	130,131,786	68,988,214	11,019,723	13,311,946	3,723,706	26,300,158	0	6,788,039
Average Customers	8	116,338	103,147	9,383	1,918	171	1,332	368	19
Weighted Customers - Distribution	9	124,572	103,147	11,729	3,836	684	3,996	1,104	76
Services (Wgtd. Customers)	10	124,572	103,147	11,729	3,836	684	3,996	1,104	76
Meters (Wgtd. Customers)	11	161,143	103,147	18,766	19,180	4,275	11,988	3,312	475
Cust. Accounting (Wgtd. Customers)	12	136,785	103,147	18,766	7,672	3,420	2,664	736	380
50% Peak/50% Winter Throughput	13	100.0000%	56.7932%	10.2537%	15.0284%	17.1741%	0.0000%	0.0000%	0.7506%
Trans. + Dist. Mains	14	173,355,660	77,702,538	13,465,458	20,904,204	29,915,451	23,215,929	4,975,057	3,177,023
Intangible Plant	15	3,508,760	2,191,041	354,630	302,276	276,418	287,445	66,525	30,426
Prod. & Gathering Plant	16	18,719	8,390	1,454	2,257	3,230	2,507	537	343
Transmission Plant	17	50,533,262	24,718,962	4,288,638	6,605,657	9,132,863	3,948,633	912,406	926,104
Distribution Plant	18	276,513,163	162,835,201	24,790,855	25,877,515	25,441,410	28,361,512	6,450,802	2,755,869
General Plant	19	28,027,965	17,502,031	2,832,782	2,414,579	2,208,028	2,296,106	531,399	243,040
Plant In Service	20	371,393,987	215,628,128	33,668,395	36,215,153	37,910,207	35,758,947	8,163,929	4,049,228
Gas Supply - Demand	21	0							
Net Plant	22	263,077,585	152,467,886	23,842,907	25,758,787	27,107,843	25,243,269	5,764,448	2,892,446
Accts. 871-880	23	5,711,702	3,421,327	506,922	511,436	520,551	566,625	128,586	56,254
Accts. 376 + 380	24	204,912,661	118,779,446	16,811,426	17,340,841	22,190,562	22,484,068	4,903,812	2,402,505
Acct. 378	25	7,340,810	3,290,343	570,200	885,196	1,266,781	983,087	210,671	134,532
Accts. 886 - 894	26	2,062,358	1,203,470	203,307	224,900	162,959	201,811	48,289	17,623
Acct. 376	27	128,551,711	55,551,604	9,621,847	14,989,420	21,771,278	20,034,570	4,227,074	2,355,918
Supervised O & M before General	28	13,466,847	8,409,357	1,361,092	1,160,155	1,060,911	1,103,231	255,326	116,776
50% Thruput/50% Cust accts	29	100.00000%	56.32978%	10.02452%	8.37817%	13.28306%	8.07441%	1.93849%	1.97157%
50% winter Sales/50% peak- Sales	30	100.00000%	72.79137%	12.44039%	12.42233%	2.34590%	0.00000%	0.00000%	0.00000%
Rate Base	31	230,337,778	133,505,929	20,868,145	22,660,381	23,704,147	22,042,410	5,032,133	2,524,635
Transmission P&A	32	100.0000%	49.4397%	8.5787%	13.2015%	18.1774%	7.1006%	1.6695%	1.8327%
Distribution P&A	33	100.0000%	43.2134%	7.4848%	11.6602%	16.9358%	15.5848%	3.2882%	1.8327%

BLACK HILLS ENERGY
CLASS COST OF SERVICE STUDY
PER BOOKS FUNCTIONALIZATION OF TRANSMISSION & DISTRIBUTION MAINS
(ALLOCATION AMOUNTS)

TAI		Total		Firm and Transportation					Interruptible
Allocator Name	Allocator No.	Gas Utility Adjusted	Residential Service	Small Commercial	Small Volume	Large Volume	Irrigation Sales	Irrigation Transportation	Large Volume
Transmission Peak & Avg									
	Peak amount	1,483,043	913,969	160,580	226,244	182,249	0	0	0
	Peak Pct	100.0000%	61.6280%	10.8278%	15.2554%	12.2889%	0.0000%	0.0000%	0.0000%
	Avg amount	507,387	189,009	32,116	56,561	122,107	72,055	16,941	18,597
	Avg Pct	100.0000%	37.2514%	6.3297%	11.1475%	24.0658%	14.2012%	3.3389%	3.6653%
Transmission Peak & Avg	Total	100.0000%	49.4397%	8.5787%	13.2015%	18.1774%	7.1006%	1.6695%	1.8327%
Distribution Peak & Avg									
	Peak amount	1,858,589	913,969	160,580	226,244	182,249	315,373	60,173	0
	Peak Pct	100.0000%	49.1754%	8.6399%	12.1729%	9.8058%	16.9684%	3.2375%	0.0000%
	Avg amount	507,387	189,009	32,116	56,561	122,107	72,055	16,941	18,597
	Avg Pct	100.0000%	37.2514%	6.3297%	11.1475%	24.0658%	14.2012%	3.3389%	3.6653%
	Total	100.0000%	43.2134%	7.4848%	11.6602%	16.9358%	15.5848%	3.2882%	1.8327%

BLACK HILLS ENERGY
CLASS COST OF SERVICE STUDY
PER BOOKS FUNCTIONALIZATION OF TRANSMISSION & DISTRIBUTION MAINS
(ALLOCATION PERCENTS)

TAI		Total		Firm and Transportation					Interruptible
Allocator Name	Allocator No.	Gas Utility Adjusted	Residential Service	Small Commercial	Small Volume	Large Volume	Irrigation Sales	Irrigation Transportation	Large Volume
Firm Winter Peak Day	1	100.0000%	61.6280%	10.8278%	15.2554%	12.2889%	0.0000%	0.0000%	0.0000%
Firm Winter Peak Day - Sales	2	100.0000%	74.5467%	12.3125%	11.8989%	1.2420%	0.0000%	0.0000%	0.0000%
Winter Throughput	3	100.0000%	51.9584%	9.6796%	14.8014%	22.0594%	0.0000%	0.0000%	1.5012%
Firm Winter Sales	4	100.0000%	71.0360%	12.5683%	12.9458%	3.4499%	0.0000%	0.0000%	0.0000%
Annual Throughput	5	100.0000%	37.2514%	6.3297%	11.1475%	24.0658%	14.2012%	3.3389%	3.6653%
Firm Throughput - Sales	6	100.0000%	71.0899%	11.3554%	13.7175%	3.8371%	0.0000%	0.0000%	0.0000%
Total Throughput - Sales	7	100.0000%	53.0141%	8.4681%	10.2296%	2.8615%	20.2104%	0.0000%	5.2163%
Average Customers	8	100.0000%	88.6615%	8.0653%	1.6486%	0.1470%	1.1449%	0.3163%	0.0163%
Weighted Customers - Distribution	9	100.0000%	82.8013%	9.4153%	3.0793%	0.5491%	3.2078%	0.8862%	0.0610%
Services (Wgtd. Customers)	10	100.0000%	82.8013%	9.4153%	3.0793%	0.5491%	3.2078%	0.8862%	0.0610%
Meters (Wgtd. Customers)	11	100.0000%	64.0096%	11.6456%	11.9025%	2.6529%	7.4394%	2.0553%	0.2948%
Cust. Accounting (Wgtd. Customers)	12	100.0000%	75.4081%	13.7193%	5.6088%	2.5003%	1.9476%	0.5381%	0.2778%
50% Peak/50% Winter Throughput	13	100.0000%	56.7932%	10.2537%	15.0284%	17.1741%	0.0000%	0.0000%	0.7506%
Trans. + Dist. Mains	14	100.0000%	44.8226%	7.7675%	12.0586%	17.2567%	13.3921%	2.8699%	1.8327%
Intangible Plant	15	100.0000%	62.4449%	10.1070%	8.6149%	7.8779%	8.1922%	1.8960%	0.8671%
Prod. & Gathering Plant	16	100.0000%	44.8226%	7.7675%	12.0586%	17.2567%	13.3921%	2.8699%	1.8327%
Transmission Plant	17	100.0000%	48.9162%	8.4868%	13.0719%	18.0730%	7.8139%	1.8056%	1.8327%
Distribution Plant	18	100.0000%	58.8888%	8.9655%	9.3585%	9.2008%	10.2568%	2.3329%	0.9967%
General Plant	19	100.0000%	62.4449%	10.1070%	8.6149%	7.8779%	8.1922%	1.8960%	0.8671%
Plant In Service	20	100.0000%	58.0591%	9.0654%	9.7511%	10.2075%	9.6283%	2.1982%	1.0903%
Gas Supply - Demand	21								
Net Plant	22	100.0000%	57.9555%	9.0631%	9.7913%	10.3041%	9.5954%	2.1912%	1.0995%
Accts. 871-880	23	100.0000%	59.9003%	8.8751%	8.9542%	9.1138%	9.9204%	2.2513%	0.9849%
Accts. 376 + 380	24	100.0000%	57.9659%	8.2042%	8.4626%	10.8293%	10.9725%	2.3931%	1.1725%
Acct. 378	25	100.0000%	44.8226%	7.7675%	12.0586%	17.2567%	13.3921%	2.8699%	1.8327%
Accts. 886 - 894	26	100.0000%	58.3541%	9.8580%	10.9050%	7.9016%	9.7854%	2.3414%	0.8545%
Acct. 376	27	100.0000%	43.2134%	7.4848%	11.6602%	16.9358%	15.5848%	3.2882%	1.8327%
Supervised O & M before General	28	100.0000%	62.4449%	10.1070%	8.6149%	7.8779%	8.1922%	1.8960%	0.8671%
50% Thruput/50% Cust accts	29	100.0000%	56.3298%	10.0245%	8.3782%	13.2831%	8.0744%	1.9385%	1.9716%
50% winter Sales/50% peak- Sales	30	100.0000%	72.7914%	12.4404%	12.4223%	2.3459%	0.0000%	0.0000%	0.0000%
Rate Base	31	100.0000%	57.9609%	9.0598%	9.8379%	10.2910%	9.5696%	2.1847%	1.0961%

BLACK HILLS ENERGY
CLASS COST OF SERVICE STUDY
PER BOOKS FUNCTIONALIZATION OF TRANSMISSION & DISTRIBUTION MAINS
(ALLOCATION PERCENTS)

TAI		Total		Firm and Transportation					Interruptible
Allocator Name	Allocator No.	Gas Utility Adjusted	Residential Service	Small Commercial	Small Volume	Large Volume	Irrigation Sales	Irrigation Transportation	Large Volume
Transmission P&A	32	100.0000%	49.4397%	8.5787%	13.2015%	18.1774%	7.1006%	1.6695%	1.8327%
Distribution P&A	33	100.0000%	43.2134%	7.4848%	11.6602%	16.9358%	15.5848%	3.2882%	1.8327%
Transmission Peak & Avg									
	Peak amount	100.0000%	61.6280%	10.8278%	15.2554%	12.2889%	0.0000%	0.0000%	0.0000%
	Peak Pct	100.0000%	61.6280%	10.8278%	15.2554%	12.2889%	0.0000%	0.0000%	0.0000%
	Avg amount	100.0000%	37.2514%	6.3297%	11.1475%	24.0658%	14.2012%	3.3389%	3.6653%
	Avg Pct	100.0000%	37.2514%	6.3297%	11.1475%	24.0658%	14.2012%	3.3389%	3.6653%
Transmission Peak & Avg	Total	100.0000%	49.4397%	8.5787%	13.2015%	18.1774%	7.1006%	1.6695%	1.8327%
Distribution Peak & Avg									
	Peak amount	100.0000%	49.1754%	8.6399%	12.1729%	9.8058%	16.9684%	3.2375%	0.0000%
	Peak Pct	100.0000%	49.1754%	8.6399%	12.1729%	9.8058%	16.9684%	3.2375%	0.0000%
	Avg amount	100.0000%	37.2514%	6.3297%	11.1475%	24.0658%	14.2012%	3.3389%	3.6653%
	Avg Pct	100.0000%	37.2514%	6.3297%	11.1475%	24.0658%	14.2012%	3.3389%	3.6653%
	Total	100.0000%	43.2134%	7.4848%	11.6602%	16.9358%	15.5848%	3.2882%	1.8327%

BLACK HILLS ENERGY
CURB Proposed Class Revenue Distribution

Class	Current Margin Revenue	ROR @ Current Rates			Indexed ROR	CURB Proposed		
		Accept	Booked	Avg.		Pct of Sys. Avg.	$ Increase	% Increase
Residential	$32,580,593	5.53%	5.53%	5.53%	156%	92%	$6,319,605	19.40%
Sm. Commercial	$4,893,811	4.13%	4.14%	4.13%	116%	100%	$1,035,271	21.15%
Sm Volume	$4,253,626	3.25%	3.27%	3.26%	92%	100%	$899,842	21.15%
Large Volume Firm	$3,713,882	2.17%	2.19%	2.18%	61%	150%	$1,178,491	31.73%
Large Vol Interupt	$536,201	6.50%	6.50%	6.50%	183%	50%	$56,716	10.58%
Irrigation	$2,236,935	-4.98%	-5.48%	-5.23%	-147%	150%	$709,825	31.73%
Sub-Total Margin	$48,215,048	3.55%	3.55%	3.55%	100%		$10,199,750	21.15%
Negotiated Rates	$2,947,731						$0	
Forfeited Discounts	$362,722						$0	
Misc. Service Revenues	$735,233						$0	
Sub-Total	$4,045,686						$0	

BLACK HILLS ENERGY
Black Hills Functional/Classification of Rate Base and Operating Income

Acct. No.	Description	Total Gas Utility Adjusted	Total Customer	Percent Customer
Gas Plant in Service				
	Intangible Plant			
301	Organization	$186,932	$150,773	81%
302	Franchises & Consents	$74,990	$60,484	81%
303	Miscellaneous Intangible Plant	$3,246,838	$2,618,796	81%
	Total Intangible Plant	$3,508,760	$2,830,053	81%
	Production & Gathering Plant			
336	Purification Equipment	$18,719	$9,735	52%
	Total Product. & Gather. Plant	$18,719	$9,735	52%
	Transmission Plant			
365	Land & Land Rights	$978,392	$508,806	52%
366	Structures & Improvements	$214,152	$111,368	52%
367	Mains	$44,803,950	$23,299,962	52%
368	Compressor Station Equipment	$2,475	$1,287	52%
369	Measuring & Reg. Station Eq.	$4,425,949	$2,301,682	52%
371	Other Equipment	$108,344	$56,344	52%
	Total Transmission Plant	$50,533,262	$26,279,449	52%
	Distribution Plant			
374	Land & Land Rights	$392,378	$204,053	52%
375	Structures & Improvements	$1,030,848	$536,085	52%
376	Mains	$128,551,711	$66,852,365	52%
377	Compressor Station Equipment	$175,304	$91,165	52%
378	Meas. & Reg. Sta. Equip.	$7,340,810	$3,817,534	52%
379	Meas. & Reg. Sta. Equip. - CG	$204,676	$106,440	52%
380	Services	$76,360,950	$76,360,950	100%
381	Meters	$20,990,945	$20,990,945	100%
382	Meter Installations	$1,828,548	$1,828,548	100%
383	House Regulators	$33,169,196	$33,169,196	100%
385	Indust. Meas. & Reg. Sta. Equip.	$6,358,436	$6,358,436	100%
387	Other Equipment	$109,363	$56,873	52%
	Total Distribution Plant	$276,513,163	$210,372,591	76%

BLACK HILLS ENERGY
Black Hills Functional/Classification of Rate Base and Operating Income

Acct. No.	Description	Total Gas Utility Adjusted	Total Customer	Percent Customer
	General Plant			
389	Land & Land Rights	$829,867	$669,344	81%
390	Structures and Improvements	$11,242,251	$9,067,639	81%
391	Office Furniture & Equipment	$1,513,310	$1,220,588	81%
392	Transportation Equipment	$8,866,331	$7,151,298	81%
393	Stores Equipment	$29,525	$23,814	81%
394	Tools & Work Equipment	$2,929,845	$2,363,119	81%
395	Laboratory Equipment	$11,714	$9,448	81%
396	Power Operated Equipment	$1,049,376	$846,393	81%
397	Communication Equipment	$1,526,897	$1,231,546	81%
398	Misc. Equipment	$28,848	$23,268	81%
	General Plant	$28,027,965	$22,606,457	81%
118	Other Utility Plant (Allocated on Customer Count)	$2,965,931	$2,965,931	100%
118	Other Utility Plant (Allocated on Blended Ratio)	$9,826,187	$7,925,487	81%
		$12,792,118	$10,891,418	85%
	Total Plant in Service	$371,393,987	$272,989,702	74%
	Accumulated Depreciation			
	Intangible	($2,482,885)	($2,002,615)	81%
	Production & Gathering	($13,086)	($6,805)	52%
	Transmission	($11,819,459)	($6,146,622)	52%
	Distribution	($85,483,078)	($65,035,951)	76%
	General	($6,586,665)	($5,312,592)	81%
	Other Utility Plant (Allocated on Customer Count)	($1,260,390)	($1,260,390)	100%
	Other Utility Plant (Allocated on Blended Ratio)	($670,840)	($541,078)	81%
	Total Accumulated Depreciation	($108,316,402)	($80,306,054)	74%
	Net Plant	$263,077,585	$192,683,648	73%

BLACK HILLS ENERGY
Black Hills Functional/Classification of Rate Base and Operating Income

Acct. No.	Description	Total Gas Utility Adjusted	Total Customer	Percent Customer
Other Rate Base Items				
	Materials & Supplies	$2,673,612	$1,965,214	74%
	Gas Storage	$1,787,128	$0	0%
	Prepayments	$90,098	$65,990	73%
	Customer Advances	($114,892)	($92,668)	81%
	Customer Deposits	($1,433,558)	($1,433,558)	100%
	Accum. Deferred Income Taxes	($35,742,194)	($26,178,347)	73%
	Total Other Rate Base Items	($32,739,806)	($25,673,370)	78%
	Total Rate Base	$230,337,778	$167,010,278	73%
O & M Expenses				
	Transmission Expenses			
	Operation			
850	Supervision & Engineering	$115,040	$59,826	52%
851	Sys. Control & Load Dispatch.	$248	$0	0%
852	Communication System Expenses	$246	$128	52%
856	Mains Expenses	$105,110	$54,662	52%
857	Meas. & Reg. Sta. Expenses	$7,135	$3,710	52%
859	Other Expenses	$157,377	$81,843	52%
860	Rents	$21,857	$11,366	52%
	Total Operation	$407,012	$211,534	52%
	Maintenance			
861	Supervision & Engineering	$17,489	$9,095	52%
863	Mains	$97,661	$50,788	52%
864	Compressor Station Equipment	$135	$70	52%
865	Meas. & Reg. Sta. Equip.	$5,743	$2,986	52%
867	Other Equipment	$4,846	$2,520	52%
	Total Maintenance	$125,874	$65,460	52%
	Total Transmission Expenses	$532,886	$276,995	52%

BLACK HILLS ENERGY
Black Hills Functional/Classification of Rate Base and Operating Income

Acct. No.	Description	Total Gas Utility Adjusted	Total Customer	Percent Customer
	Distribution Expenses			
	Operation			
870	Supervision & Engineering	$1,699,194	$1,292,977	76%
871	Load Dispatching	$5	$0	0%
872	Compressor Station Expenses	$0	$0	
874	Mains & Services	$2,451,332	$1,713,234	70%
875	Measuring & Regulating Sta. Equip, - General	$351,276	$182,678	52%
876	Measuring & Regulating Sta. Equip, - Ind.	$24,038	$24,038	100%
877	Measuring & Regulating Sta. Equp. - CG	$119,743	$62,272	52%
878	Meters & House Regulators	$610,137	$610,137	100%
879	Customer Installation Expenses	$477,486	$477,486	100%
880	Other Expenses	$1,677,686	$1,276,392	76%
881	Rents	$5,847	$4,448	76%
	Total Operation	$7,416,743	$5,643,662	76%
			$0	
	Maintenance		$0	
885	Supervision & Engineering	$51,130	$41,793	82%
886	Structures & Improvements	$3,423	$1,780	52%
887	Mains	$497,153	$258,541	52%
888	Main. Of Compressor Sta. Eq.	$58,340	$30,339	52%
889	Meas. & Reg. Sta. Eq. - Gen.	$213,297	$110,924	52%
890	Meas. & Reg. Sta. Eq. - Ind.	$29,002	$29,002	100%
891	Meas. & Reg. Sta. Eq. - City Gate	$166,714	$166,714	100%
892	Services	$217,161	$217,161	100%
893	Meters & House Regulators	$852,259	$852,259	100%
894	Other Equipment	$25,009	$19,027	76%
	Total Maintenance	$2,113,488	$1,727,539	82%
	Total Distribution	$9,530,230	$7,371,201	77%

BLACK HILLS ENERGY
Black Hills Functional/Classification of Rate Base and Operating Income

Acct. No.	Description	Total Gas Utility Adjusted	Total Customer	Percent Customer
	Customer Accounts Expenses			
901	Supervision	$192,632	$192,632	100%
902	Meter Reading Expenses	$361,463	$361,463	100%
903	Customer Records & Collection	$2,387,118	$2,387,118	100%
904	Uncollectible Accounts	$654,912	$654,912	100%
905	Miscellaneous	$85,568	$85,568	100%
	Total Customer Accounts Expenses	$3,681,694	$3,681,694	100%
	Customer Service & Inform. Exp.			
907	Supervision	$44,146	$22,073	50%
908	Customer Assistance Expenses	$176,517	$88,259	50%
909	Information & Instruction Exp.	$16,308	$8,154	50%
910	Miscellaneous	$3,945	$1,972	50%
	Total Cust. Service & Inf. Exp.	$240,916	$120,458	50%
	Sales Expenses			
911	Supervision	$0		
912	Demonstrating & Selling Exp.	$121,843	$60,921	50%
913	Advertising Expenses	$19,998	$9,999	50%
916	Miscellaneous	$39	$20	50%
	Total Sales Expenses	$141,880	$70,940	50%
	Administrative & General Expenses			
	Operation			
920	A & G Salaries	$6,479,803	$5,226,401	81%
921	Office Supplies & Expenses	$1,889,648	$1,524,130	81%
922	Transfers	($1,226,286)	($989,083)	81%
923	Outside Services Employed	$1,136,556	$916,710	81%
924	Property Insurance	$6,890	$5,046	73%
925	Injuries & Damages	$576,743	$465,182	81%

BLACK HILLS ENERGY
Black Hills Functional/Classification of Rate Base and Operating Income

Acct. No.	Description	Total Gas Utility Adjusted	Total Customer	Percent Customer
926	Employee Pensions & Benefits	$1,442,184	$1,163,219	81%
928	Regulatory Commission Expense	$422,497	$0	0%
929	Duplicate Charges - Credit	$4	$4	81%
930	Miscellaneous	$378,143	$304,998	81%
931	Rents	$801,070	$646,117	81%
932	Maintenance of General Plant	$1,019,592	$822,370	81%
	Total A & G Expenses	$12,926,844	$10,085,094	78%
	Total Operation & Maintenance	$27,054,450	$21,606,381	80%
Depreciation Expense				
	Intangible	$112,355	$90,622	81%
	Production & Gathering	$517	$269	52%
	Transmission	$790,428	$411,056	52%
	Distribution	$6,986,362	$5,315,259	76%
	General	$743,910	$600,014	81%
	Other Utility Plant (Allocated on Customer Count)	$120,417	$120,417	100%
	Other Utility Plant (Allocated on Blended Ratio)	$1,265,059	$1,020,356	81%
	Total Depreciation Expense	$10,019,048	$7,557,993	75%
Taxes Other Than Income Taxes				
	Property Taxes	$5,293,400	$3,877,000	73%
	Payroll Taxes	$1,003,147	$809,106	81%
	Miscellaneous	$76,662	$61,833	81%
	Total Taxes Other than Income Taxes	$6,373,210	$4,747,939	74%
Other Operating Revenues				
487	Forfeited Discounts	$362,722	$0	0%
488	Misc. Service Revenues	$735,233	$593,015	81%
489	Negotiated Margin Revenues	$2,947,731	$1,532,946	52%
	Total Other Operating Revenues	$4,045,686	$2,125,961	53%

BLACK HILLS ENERGY
Residential Customer Cost Analysis

		Direct Costs		Direct + Indirect	
		ROE @ 9.00%	**ROE @ 10.15%**	**ROE @ 9.00%**	**ROE @ 10.15%**
Gross Plant					
380	Services	$63,227,842	$63,227,842	$63,227,842	$63,227,842
381	Meters	$13,436,222	$13,436,222	$13,436,222	$13,436,222
382	Meter Installations	$1,170,446	$1,170,446	$1,170,446	$1,170,446
383	House Regulators	$21,231,472	$21,231,472	$21,231,472	$21,231,472
118	Shared Services Billing System 1/			$2,236,553	$2,236,553
	Total Gross Plant	**$99,065,982**	**$99,065,982**	**$101,302,535**	**$101,302,535**
Depreciation Reserve 2/					
	Services	$25,003,722	$25,003,722	$25,003,722	$25,003,722
	Meters	$3,404,039	$3,404,039	$3,404,039	$3,404,039
	Meter Installations	$856,116	$856,116	$856,116	$856,116
	House Regulators	$2,162,989	$2,162,989	$2,162,989	$2,162,989
	Shared Services Billing System 1/			$950,436	$950,436
	Total Depreciation Reserve	**$31,426,866**	**$31,426,866**	**$32,377,303**	**$32,377,303**
Total Net Plant		**$67,639,116**	**$67,639,116**	**$68,925,232**	**$68,925,232**
Operation & Maintenance Expenses					
878	Meters & House Regulators	$390,546	$390,546	$390,546	$390,546
879	Customer Installation	$395,364	$395,364	$395,364	$395,364
892	Maintenance-Services	$179,812	$179,812	$179,812	$179,812
893	Maint. - Meters & House Regulators	$545,528	$545,528	$545,528	$545,528
902	Meter Reading	$272,572	$272,572	$272,572	$272,572
903	Records & Collections	$1,800,081	$1,800,081	$1,800,081	$1,800,081
926	Employee Pensions & Benefits 3/			$317,999	$317,999
	FICA 3/			$121,748	$121,748
	Total O & M Expenses	**$3,583,903**	**$3,583,903**	**$4,023,650**	**$4,023,650**
Depreciation Expense 4/					
	Services	$1,416,304	$1,416,304	$1,416,304	$1,416,304
	Meters	$1,104,971	$1,104,971	$1,104,971	$1,104,971
	Meter Installations	$10,534	$10,534	$10,534	$10,534
	House Regulators	$653,929	$653,929	$802,550	$802,550
	Shared Services Billing System 1/			$90,804	$90,804
	Total Depreciation Expense	$3,185,738	$3,185,738	$3,425,162	$3,425,162
Revenue Requirement					
	Interest	$1,313,353	$1,313,353	$1,338,325	$1,338,325
	Equity return	$3,064,458	$3,456,027	$3,122,727	$3,521,742
	Federal Income Tax @21.00%	$814,603	$918,691	$830,092	$936,159
	Revenue For Return	$5,192,413	$5,688,071	$5,291,144	$5,796,226
	O & M Expenses	$3,583,903	$3,583,903	$4,023,650	$4,023,650
	Depreciation Expense	$3,185,738	$3,185,738	$3,425,162	$3,425,162
	Subtotal Customer Revenue Requirement	$11,962,054	$12,457,712	$12,739,956	$13,245,038
	Total Revenue Requirement	**$11,962,054**	**$12,457,712**	**$12,739,956**	**$13,245,038**
	Number of Customers	103,147	103,147	103,147	103,147
	Number of Bills	1,237,764	1,237,764	1,237,764	1,237,764
	TOTAL MONTHLY CUSTOMER COST	$9.66	$10.06	$10.29	$10.70

1/ Shared services associated with CIS and Billing System, Per Schedule D-1.
2/ Accumulated Depreciation percent of Gross Plant per Mr. Spanos Exhibit JJS-2.
3/ Per page 2.
4/ Depreciation accrual rate times Gross Plant per Mr. Spanos Exhibit JJS-2.

BLACK HILLS ENERGY
Residential Customer Cost Analysis

Acct. No.		
926	Total Company Pension & Benefits	$1,442,184
	Total Company Salaries & Wages	$7,217,612
	Benefits Percent of Wages	19.98%

		Total Company Salaries & Wages 1/	Total Company Account Expense	Labor Percent of Total Exp.	Residential Account Expense	Residential Benefits Expense	FICA Expense
	Dist. Meter & House Regulator Expense	$482,981	$610,137	79.1594%	$390,546	$61,773	$23,650
	Dist. Customer Installation Expense	$427,327	$477,486	89.4951%	$395,364	$70,701	$27,068
	Dist. Maint. of Services	$152,694	$217,167	70.3117%	$179,812	$25,262	$9,672
	Dist. Maint. of Meters & House Regulators	$688,744	$852,259	80.8140%	$545,528	$88,091	$33,726
	Meter Reading Expenses	$279,124	$361,463	77.2207%	$272,572	$42,057	$16,102
	Customer Record & Collection Expenses	$199,864	$2,387,118	8.3726%	$1,800,081	$30,115	$11,530
Total						$317,999	$121,748

			Cost of Capital
Debt	49.66%	3.91%	1.94%
Equity	50.34%	10.15%	5.11%
Total			7.05%

			Cost of Capital
Debt	49.66%	3.91%	1.94%
Equity	50.34%	9.00%	4.53%
Total			6.47%

1/ Total Salaries and Wages per Schedule H-5.

CERTIFICATE OF SERVICE

21-BHCG-418-RTS

I, the undersigned, hereby certify that a true and correct copy of the above and foregoing document was served by electronic service on this 10th day of September, 2021, to the following:

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