BEFORE THE CORPORATION COMMISSION

OF THE STATE OF KANSAS

IN THE MATTER OF THE APPLICATION OF KANSAS GAS SERVICE, A DIVISION OF ONE GAS, INC. FOR ADJUSTMENT OF ITS NATURAL GAS RATES IN THE STATE OF KANSAS	)))))	**DOCKET NO. 16-KGSG-491-RTS**

DIRECT TESTIMONY AND SCHEDULES OF

GLENN A. WATKINS

RE: CLASS COST OF SERVICE
CLASS REVENUE ALLOCATION
AND
RESIDENTIAL RATE DESIGN

ON BEHALF OF

THE CITIZENS' UTILITY RATEPAYER BOARD

SEPTEMBER 7, 2016

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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 1503 Santa Rosa Road, Suite 130, Richmond, Virginia

Q. What is your professional and educational background?

A. I am a Principal and Senior Economist with Technical Associates, Inc., which is an economics and financial consulting firm with offices in Richmond, Virginia. 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 200 occasions in Alabama, Arizona, Delaware, Georgia, Illinois, Indiana, Kansas, Kentucky, Maine, Maryland, Massachusetts, Michigan, 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. 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 Kansas Gas Service's ("Company" or "Kansas Gas") 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 recommendation to the Commission in these areas.

II. CLASS COST OF SERVICE

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

A. Generally there are two types of cost of service studies used in public utility ratemaking: marginal cost studies and embedded (or fully-allocated) cost studies. Kansas Gas has utilized a traditional embedded cost of service study for purposes of establishing the overall revenue requirement in this case, as well as for class cost of service purposes.

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 level of detail available from financial records. There are also fundamental differences in opinions regarding the cost causation factors that 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 time period 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 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]

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

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

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 (even unnecessary). However, in reality, a utility's customer base is not so simple. There are small usage customers and large usage customers, and these customers (or customer groups) tend to vary greatly in the amount of service required throughout the year. Therefore, differences in usage 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 demands placed on the system during peak usage periods.

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

A. Yes. For virtually every NGDC, the largest single rate base item (account) is distribution mains. Furthermore, several other rate base and operating income accounts are typically allocated to classes based on the previous assignment of distribution mains. As such, the methods and approaches used to allocate distribution mains to classes are usually by far 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 distribution mains?

A. While a myriad of cost allocation methods and approaches have been developed, three (3) methods predominate in the NGDC industry: "Peak Responsibility," "Peak and

Average" ("P&A") (also known as "Demand/Commodity"), 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 (3) criteria generally considered when selecting a mains cost allocation method: peak demand (whether coincident, non-coincident, 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.[2] Annual (or average day) throughput is also often used to allocate mains as 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 (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, various methods weight and utilize these criteria differently within the cost allocation process. In other words, some methods rely on only one criterion while others consider two or more criteria with varying weights given to each factor utilized.

[2] 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.

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;[3] 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 weights given to class customer counts and peak day demands are 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.

Q. On pages 23 and 24 of his direct testimony, Company witness Paul Raab claims that there are two very important factors that drive a natural gas utility's cost of service.

[3] 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.

These include the fact that NGDC's are a capital intensive enterprise and that the system must be sized in order to meet customers' demands during peak periods. Do you agree with this assertion?

A. Not in the context in which Mr. Raab draws his conclusions. That is, Mr. Raab states on page 24: "this combination of capital intensity and sizing to meet peak day demands dictates the prominence of the physical connection and the 'rate of use' customer demand characteristic." In other words, Mr. Raab claims that cost causation is related to number of customers and peak demand. With regard to the customer component, Mr. Raab opines that because NGDCs are capital intensive and customers must be physically connected to the distribution system, there must therefore be a "customer" component associated with cost incurrence.

In this regard, 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 an NGDC's system, this of course is the very purpose for the existence of Kansas Gas; 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.

Q. In your opinion, is there a preferred method to allocate natural gas distribution mains costs?

A. Yes. In my opinion, the P&A approach is the fairest and most equitable method to assign natural gas distribution mains costs to the various customer classes. This method recognizes each class' 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 during peak periods.

Q. Earlier you indicated that some analysts prefer to employ the Peak Responsibility method in which mains are allocated solely on the basis of peak loads. In your opinion, why is this method generally inferior to the P&A method to allocate mains?

A. While it is appropriate to consider and reflect class peak demands when allocating distribution mains, it should not be the only criterion. A NGDC system is constructed and is in existence in order to serve the natural gas energy needs of its customers throughout the year. If Kansas Gas' (or any NGDC's) customers only demand gas for one day of the year (the so-called peak day), the costs to deliver gas throughout the system would be prohibitively high such that a system would never exist. In other words, Kansas Gas' customers demand and utilize natural gas every day of the year, not just one day out of 365 days. If by chance, a customer did require gas for only one day a year, it would be prohibitively expensive to the Company (and ultimately the customer) to provide service; Kansas Gas would have to recover the investment in mains from a

very small amount of natural gas energy (usage), which would be economically infeasible.

The major shortcoming of the Peak Responsibility method (which allocates mains entirely on peak day demand) is that it is premised on the incorrect assumption that there is a direct and perfectly linear relationship between peak loads, system capacity, and costs. In fact, there is no direct relationship between peak loads (capacity requirements) and the cost incurred to install mains. With regard to system capacity, the amount of gas that can be delivered throughout a NGDC system is not only a function of the size of pipe(s) but also pressurization of gas within these pipes, and the presence or absence of looping various segments of the distribution system as well. For example, if the peak load on one line segment of mains is double that of another line segment, the cost of mains for the higher capacity pipe may be higher, but it is not double that of the lower capacity. In very simple terms, and all else constant, the *capacity* of pipes increase by a factor of exactly 4 to 1 as the *diameter* of pipe increases.[4] Therefore, if the size of a pipe is doubled, the capacity of the pipe increases by a factor of four. At the same time, the cost of this additional capacity is far less than four times as much.[5]

Additionally, and as important as the geometric capacity of pipe at a given pressure, the amount of gas required to be pushed through a distribution system can be met with larger pipes at lower pressures or smaller pipes at higher pressures. With improvements in materials, technology, and pipe coupling, we are seeing that NGDCs

[4] The volume of a cylinder (pipe) is equal to pi (3.14159) x Radius^2 x length. Therefore, it can be seen that as the diameter doubles, the area (volume) of the pipe increases by four times that of the smaller pipe.

[5] The cost of mains investment reflects the cost of capitalized labor to install the main plus the cost of materials (the piping). Although the labor cost of installing pipe increases somewhat with larger size pipe, these additional labor costs tend to be much smaller than the capacity added. Similarly, although the materials cost of the pipe also increases, it is by a much smaller percentage than the capacity added.

are replacing their systems with *smaller* plastic pipes operated at *higher* pressures. Because the allocation of mains only concerns the assignment of the pipes costs, there is not a clear relationship between a main segment's capacity (peak load ability) and the cost of that pipe. The relevance of this is that an allocation method that only considers peak load assumes there is a direct and perfectly linear relationship between load (capacity) and the cost of mains. As demonstrated above, this assumption is clearly not accurate.

Q. The third allocation method you mentioned earlier allocates mains partially on some measure of peak demand and partially on number of customers. What rationale is used to allocate mains investment, at least partially, based on customer counts?

A. I am aware of two rationales, or arguments, used to advocate the allocation of natural gas distribution mains based partially on number of customers. While the conceptual argument has no economic or practical logic in my opinion, the second rationale may produce reasonable results in some instances, but is rarely applicable to NGDCs.

The first rationale used by some analysts is that because every customer (regardless of size) must be physically connected to the utility's distribution network, there is some minimum level of investment required to simply connect customers to the distribution system. It is certainly true that, unless natural gas is delivered in a portable tank or cylinder, some form of physical "plumbing" is required to deliver natural gas to each and every end-user.[6] Indeed, this is the very purpose of the distribution system. However, no customer connects to a NGDC system simply to be connected but never

[6] If natural gas was delivered to end-users in tanks (as is done with propane), there would be no distribution system, or mains, to allocate.

utilize natural gas, nor do NGDCs haphazardly install natural gas mains where no usage is present or anticipated. Because there is no economic utility (benefit) derived from simply being connected to a system, there is no economic (or cost causative) basis for assigning some value of a NGDC's distribution mains required to simply connect customers.

The second rationale used to consider number of customers within the allocation of mains relates to customer densities and differences in the mix of customers (by class) throughout a utility's service area. Possibly the best way to explain why customer densities may be relevant in the assignment of distribution costs to individual classes is by way of example. Consider two different utilities: an electric utility with urban, suburban, and rural service areas and another electric utility with only urban and suburban customers. With respect to the electric utility with a rural service area, many miles of conductors and associated plant must be installed in order to serve the demands of relatively few customers. Conversely, many more customers are served on a per mile basis for the urban/suburban utility. With respect to the utility with a rural service area, an allocation based on usage or demand may be unfair if some classes are located mainly in urban or suburban areas, while other classes of customers are located in rural areas. As a result, some cost studies classify distribution plant as partially demand-related and partially customer-related.

Q. In the above example, you referred to electric utilities instead of natural gas utilities. Is there a reason why you selected the electric utility industry for your example?

A. Yes. Although the concepts are the same between electric and natural gas distribution facilities (e.g., conductors are synonymous with mains), electric utilities are *required* to serve rural (sparsely populated) areas. NGDCs, however, have no such requirement. Moreover, electric utilities are required to connect all consumers regardless of density or usage. That is not the case for NGDCs: their tariffs allow them to only connect those customers in areas with sufficient customer densities and usage.

As a general matter, a Customer/Demand classification of *electric* distribution facilities may be appropriate given the characteristics of a utility's service area, but is rarely appropriate for NGDCs with more densely populated service areas and that are not required to serve all potential residences and businesses.

Q. Which method did the Company use to allocate costs to customer classes for this case?

A. Company witness Raab utilized the Customer/Demand approach to allocate mains. He classified and allocated distribution mains 53.5% based on number of customers and 46.5% based on monthly coincident peak ("CP") demand.

Q. Please explain the importance of Mr. Raab's classification and allocation of distribution mains based 53.5% on number of customers and 46.5% based on CP demands.

A. As indicated earlier, the Company's investment in distribution mains represents its single largest investment in rate base. Furthermore, because of the use of internal (or composite) allocators, many other expense and rate base items are also directly or

indirectly allocated based on the mains allocation. By allocating more than half of the Company's mains investment (53.5%) based simply on customer counts, Mr. Raab has assigned the same cost responsibility to a small apartment-dwelling customer that uses natural gas only for cooking as he does to a very large industrial customer that uses millions of MCF per year – 53.5%.

Q. Is there a simple way to show the bias and over-assignment of costs to small volume user classes under Mr. Raab's cost allocation approach?

A. Yes. Mr. Raab's classification process results in an ultimate allocation of 67.4% of the Company's total requested non-gas revenue requirement based on number of customers.[7] As a result of his classification of distribution mains as partially customer-related, Mr. Raab has assigned $303,723,800 of gross distribution mains plant to the Residential class and only $47,390 to the LVT-T4 (t plus k systems) class. When his allocated distribution mains investment costs are compared to the annual throughput for these classes of 42,284,167 MCF and 10,312,812 MCF respectively, we see that Mr. Raab's allocation approach assigns a distribution mains cost of $7.18/MCF to Residential customers and less than one-half of one cent to the LVT-T4 class ($0.0046/MCF).

Q. Is Mr. Raab's allocation of distribution mains cost responsibility to the LVT-T4 class within any range of reasonableness?

A. Of course not. The 90 LVT-T4 customers are large industrial customers that utilize an average of 114,587 MCF per year. These large customers depend and rely upon the

[7] Calculated as $217,928,059 (per Exhibit PHR-5, page 3) ÷ $323,378,082 (per Exhibit PHR-5, page 1).

Company's distribution mains to supply their natural gas needs each and every day of the year. Yet, under Mr. Raab's cost allocation approach, they are assigned less than $50,000 in distribution mains investment ($47,390).

Q. Have you conducted CCOSS utilizing the P&A method?

A. Yes. Although I will recommend additional adjustments to Mr. Raab's CCOSS later in my testimony, I have utilized Mr. Raab's approach and choice of allocators for all accounts except for transmission and distribution mains costs wherein I utilized the P&A method.[8] A comparison of Mr. Raab's calculated RORs at current rates to those obtained using the P&A method to allocate mains is provided below:

TABLE 1
Comparison of CCOSS Results At Current Rates

	ROR		Relative ROR	
Class	Raab CCOSS	Raab CCOSS But for P&A To Allocate Mains	Raab CCOSS	Raab CCOSS But for P&A To Allocate Mains
RS	2.31%	3.80%	47%	78%
GSS	9.01%	9.80%	184%	200%
GSL	8.48%	4.36%	173%	89%
GSTE	9.77%	3.03%	199%	62%
SGS	28.18%	42.41%	574%	864%
GIS	112.12%	31.04%	2,285%	633%
KGSSD	7.85%	9.60%	160%	196%
SSRk	99.67%	99.30%	2,031%	2,024%
STk	24.78%	10.74%	505%	219%
STt	18.18%	9.35%	370%	191%
CNG	17.48%	1.47%	356%	30%
GIT	133.06%	27.49%	2,712%	560%
LVTk-T1	25.83%	8.76%	526%	179%

[8] In conducting my P&A analysis, I have utilized the load factor approach used by Mr. Raab to weigh between peak and average usage.

LVTk-T2	20.45%	4.60%	417%	94%
LVTk-T3	24.04%	5.03%	490%	103%
LVTk-T4	31.68%	6.10%	646%	124%
LVTt-T1	22.54%	9.26%	459%	189%
LVTt-T2	16.39%	5.83%	334%	119%
LVTt-T3	20.80%	6.80%	424%	139%
LVTt-T4	26.75%	7.74%	545%	158%
WTt	27.94%	26.14%	569%	533%
Total	4.91%	4.91%	100%	100%

As can be seen above, there are significant differences in several class' RORs at current rates based on different approaches to allocate mains costs. Most notably, these differences can be seen for the Residential (RS), General Service-Large (GSL), and CNG Transport (CNG) classes.

Q. In addition to utilizing the P&A method to allocate mains, do you recommend other adjustments to Mr. Raab's CCOSS?

A. Yes. I recommend several other adjustments to Mr. Raab's CCOSS as they relate to his selection of allocation factors for specific rate base and expense accounts.

With regard to rate base, Mr. Raab has allocated general plant stores, tools, shop and garage equipment, laboratory equipment, power operated equipment, communication equipment, and miscellaneous equipment based on his allocation of labor costs. In my opinion, these accounts are better allocated based on plant-in-service (production, storage, transmission, and distribution). It should be noted that this adjustment has a relatively minor impact on class RORs. The next rate base item concerns prepayments. Mr. Raab has allocated this rate base item based totally on number of customers. A more appropriate allocation is based upon O&M expense less other gas supply costs.

With regard to operating expenses, Mr. Raab has allocated distribution load dispatching expense based upon CP monthly demand. A more appropriate allocation is based on retail MCF throughput. Similarly, Mr. Raab has allocated distribution maintenance of structures and improvements based on CP monthly demand wherein a more appropriate allocator is distribution mains investment.

My final adjustment relates to the calculation of income taxes. Even though Mr. Raab's Excel model shows the deductibility of interest in determining income tax responsibility, he ignores this very important deduction in calculating individual class income tax expenses. As such, I have recognized the deductibility of interest expense in determining class income tax responsibility.

Q. Please provide a summary of class RORs at current rates under your recommended CCOSS.

A. The following table provides a comparison of Mr. Raab's and my recommended RORs at current rates. The details of my recommended CCOSS are presented in my Schedule GAW-2.

TABLE 2
Comparison of CCOSS Results At Current Rates

	ROR		Relative ROR	
Class	Raab CCOSS	CURB CCOSS	Raab CCOSS	CURB CCOSS
RS	2.31%	4.03%	47%	82%
GSS	9.01%	9.09%	184%	185%
GSL	8.48%	4.46%	173%	91%
GSTE	9.77%	3.28%	199%	67%
SGS	28.18%	35.65%	574%	727%
GIS	112.12%	26.65%	2,285%	543%
KGSSD	7.85%	9.18%	160%	187%
SSRk	99.67%	81.22%	2,031%	1,655%
STk	24.78%	9.52%	505%	194%
STt	18.18%	8.36%	370%	170%
CNG	17.48%	1.37%	356%	28%
GIT	133.06%	23.29%	2,712%	475%
LVTk-T1	25.83%	7.89%	526%	161%
LVTk-T2	20.45%	4.54%	417%	92%
LVTk-T3	24.04%	4.88%	490%	99%
LVTk-T4	31.68%	5.72%	646%	117%
LVTt-T1	22.54%	8.02%	459%	163%
LVTt-T2	16.39%	5.31%	334%	108%
LVTt-T3	20.80%	5.95%	424%	121%
LVTt-T4	26.75%	6.71%	545%	137%
WTt	27.94%	21.76%	569%	443%
Total	4.91%	4.91%	100%	100%

As shown above, Mr. Raab's study indicates that the Residential class is significantly deficient compared to the system average ROR (below parity), but my study indicates that the Residential class is only slightly below parity. Similarly, Mr. Raab's study indicates that the GSL, GSTE, and CNG classes are contributing significantly more to profits than the system average, my study indicates that these class' RORs are below parity at current rates.

Q. What are your findings and recommendations concerning class cost allocations in this case?

A. I have shown that Mr. Raab's CCOSS is significantly biased against small volume user classes in it unfairly burdens these classes with an excessive level of mains investment cost, while large industrial classes are significantly under-assigned mains investment cost. As a result, I recommend that this Commission give no weight or consideration to Mr. Raab's CCOSS and instead rely upon my study for purposes of evaluating class revenue responsibility.

III. CLASS REVENUE DISTRIBUTION

Q. How does the Company propose to allocate, or assign, its requested as-filed $35.445 million base rate increase?

A. Company witness Raab sponsors Kansas Gas' class revenue allocations and rate design. Mr. Raab proposes to assign the entire requested increase to the Residential class.

Q. Is Mr. Raab's class revenue allocation reasonable?

A. No. In its application, the Company indicates that in the intervening four-year period since the Company's last rate case, it has made significant additional capital investments of approximately $230 million. In addition, the Company claims that it has experienced increases in employee wages and benefits and in material and supplier costs. These capital expenditures and increased expense levels have been incurred to serve all customers, not simply the residential class. Furthermore, it is important to note the fact that more reasonable class cost allocations do not support the residential class absorbing the entire increase requested by the Company.

Q. Do you recommend an alternative class revenue distribution to that proposed by Mr. Raab?

A. Yes. I recommend a class revenue distribution that reflects the fact that under the Company's proposed revenue requirement, virtually all of its costs have increased since the last rate case to serve all customers as well as recognition of class cost of service.

In developing my class revenue distributions, I have placed the following constraints on individual rate class revenue changes: first, no class should receive a rate reduction; second, my class cost of service study serves as a guide in evaluating class revenue responsibility; and, third, class increases should be limited to 150% of the system average percentage increase in base rates. The table below presents the development of my recommended class revenue increases at the Company's requested base rate revenue requirement:

TABLE 3
CURB Recommended Class Revenue Distribution
At Company Requested Revenue Requirement

Class	CURB Relative ROR @ Current Rates	Current Margin Revenue	Increase: Percent of System Average	Increase: Percent Increase	Increase: Dollar Increase
RS	82%	$196,678,858	113%	14.62%	$28,755,159
GSS	185%	$20,760,708	50%	6.49%	$1,346,727
GSL	91%	$15,698,681	100%	12.97%	$2,036,716
GSTE	67%	$2,484,991	125%	16.22%	$402,997
SGS	727%	$413,030	0%	0.00%	$0
GIS	543%	$343,320	0%	0.00%	$0
KGSSD	187%	$31,379	50%	6.49%	$2,036
SSRk	1,655%	$86,147	0%	0.00%	$0
STk	194%	$10,812,536	50%	6.49%	$701,398
STt	170%	$4,187,632	50%	6.49%	$271,648
CNG	28%	$124,191	150%	19.46%	$24,168
GIT	475%	$1,652,870	0%	0.00%	$0
LVTk - T1	161%	$1,266,461	50%	6.49%	$82,154
LVTk - T2	92%	$1,815,937	100%	12.97%	$235,596
LVTk - T3	99%	$1,833,245	100%	12.97%	$237,842
LVTk - T4	117%	$6,030,454	75%	9.73%	$586,784
LVTt - T1	163%	$414,374	50%	6.49%	$26,880
LVTt - T2	108%	$907,711	100%	12.97%	$117,765
LVTt - T3	121%	$1,210,746	75%	9.73%	$117,810
LVTt - T4	137%	$5,129,986	75%	9.73%	$499,166
WTt	443%	$1,319,969	0%	0.00%	$0
Total		$273,203,225		12.97%	$35,444,845
Competitive Transport Revenue		$11,457,684			$0
Other Utility Revenue		$3,270,504			$0
Total Revenue		$287,931,413			$35,444,845

As shown in the table above, those classes that exhibit an exceptionally high ROR are assigned no increase. Those classes with RORs less than 200% of the system average,

but more than 150%, are assigned 50% of the system average percentage increase (6.49%). Classes that are between 120% and 150% relative ROR are assigned 75% of the system average percentage increase (9.73%). Classes that are reasonably close to the system average ROR are assigned the system average ROR of 12.97%. Classes that are deficient, but within 50% of parity, are assigned 125% of the system average percentage increase (16.22%). Classes that are significantly deficient (less than 50% of the system ROR) are assigned 150% of the system average percentage increase (19.46%). Finally, the Residential class serves as the residual such that this class receives a 14.62% increase (113% of the system average percentage increase).

Q. In the event that the Commission authorizes an overall increase less than the amount requested by Kansas Gas, do you recommend an alternative class revenue allocation?

A. Yes. If the Commission authorizes an overall increase in the base rate revenue requirement less than that requested by the Company, I recommend that the authorized overall increase be allocated in proportion to my recommended class increases shown above.

IV. RESIDENTIAL RATE DESIGN

Q. Please explain Kansas Gas' current and proposed Residential rate structure.

A. The Company's Residential (Rate RS) base rates are structured with a fixed monthly customer (service) charge plus a flat monthly delivery charge per MCF. Mr. Raab proposes to increase the fixed monthly service charge from $15.35 per month to $20.45

per month which represents a 33.2% increase. Because of the exceptionally large increase proposed to the fixed Residential customer charge, Mr. Raab proposes a negligible rate reduction to the volumetric delivery charge from the current level of $2.1267 to $2.1262. In essence, the Company proposes that its entire requested overall base rate increase of $35.445 million be collected from increases to the Residential fixed monthly customer charge.

Q. What rationale does the Company provide for the very large percentage increase to the Residential customer charge?

A. On page 38 of his direct testimony, Mr. Raab indicates that 98.1% of the Company's total cost of delivering natural gas reflects fixed costs and that only 48% of its total cost to serve customers is currently collected from fixed service charges. As a result, Mr. Raab opines that:

> "this mismatch has a number of consequences, the most significant of which is the creation of intra-class subsidies between higher volume users within a particular customer class and lower volume users. These subsidies can influence a residential consumer to make uneconomic energy consumption decisions relative to alternative fuels or significantly impact a larger user's decision to expand operations or locate its operations within the service territory."

Q. Are Kansas Gas' proposed increases to Residential fixed monthly charges reasonable or in the public interest?

A. No. Kansas Gas' objective to collect a large percentage of its sunk investment costs (aka fixed costs) through fixed charges, as well as its proposed increases to such charges, violate the regulatory principle of gradualism, violate the economic theory of efficient competitive pricing, and are contrary to effective conservation efforts.

Q. Does Kansas Gas' proposal to collect a substantial portion of Residential base rate revenue from fixed monthly charges comport with the economic theory of competitive markets or the actual practices of such competitive markets?

A. No. The most basic tenet of competition is that prices determined through a competitive market ensure the most efficient allocation of society's resources. Because public utilities are generally afforded monopoly status under the belief that resources are better utilized without duplicating the fixed facilities required to serve consumers, a fundamental goal of regulatory policy is that regulation should serve as a surrogate for competition to the greatest extent practical.[9] As such, the pricing policy for a regulated public utility should mirror those of competitive firms to the greatest extent practical.

Q. Please briefly discuss how prices are generally structured in competitive markets.

A. Under economic theory, efficient price signals result when prices are equal to marginal costs.[10] It is well known that costs are variable in the long run. Therefore, efficient pricing results from the incremental variability of costs even though a firm's short-run cost structure may include a high level of sunk or "fixed" costs or be reflective of excess capacity. Indeed, competitive market-based prices are generally structured based on usage; i.e. volume-based pricing. A colleague of mine often uses the following analogy:

[9] James C. Bonbright, et al., *Principles of Public Utility Rates*, p. 141 (Second Edition, 1988).
[10] Strictly speaking, efficiency is achieved only when there is no excess capacity such that short-run marginal costs equal long-run marginal costs. In practice, there is usually at least some excess capacity present such that pricing based on long-run marginal costs represents the most efficient utilization of resources.

an oil refinery costs well over a billion dollars to build such that its cost structure is largely comprised of sunk, or fixed, costs, but these costs are recovered one gallon at a time.

Q. Please briefly explain the economic principles of efficient price theory and how short-run fixed costs are recovered under such efficient pricing.

A. Perhaps the best known micro-economic principle is that in competitive markets (i.e., markets in which no monopoly power or excessive profits exist), prices are equal to marginal cost. Marginal cost is equal to the incremental change in cost resulting from an incremental change in output. A full discussion of the calculus involved in determining marginal costs is not appropriate here. However, it is readily apparent that because marginal costs measure the changes in costs with output, short-run "fixed" costs are irrelevant in efficient pricing. This is not to say that efficient pricing does not allow for the recovery of short-run fixed costs. Rather, they are reflected within a firm's production function such that no excess capacity exists and that an increase in output will require an increase in costs -- including those considered "fixed" from an accounting perspective. As such, under efficient pricing principles, marginal costs capture the variability of costs, and prices are variable because prices equal these costs.

Q. Please explain how efficient pricing principles are applied to the natural gas distribution industry.

A. Universally, utility marginal cost studies include three separate categories of marginal costs: demand, energy, and customer. Consistent with the general concept of marginal

costs, each of these costs varies with incremental changes. Marginal demand costs measure the incremental change in costs resulting from an incremental change in peak load (demand). Marginal energy (commodity) costs measure the incremental change in costs resulting from an incremental change in MCF (energy) consumption. Marginal customer costs measure the incremental change in costs resulting from an incremental change in number of customers.

Particularly relevant here is understanding what costs are included within, and the procedures used to determine, marginal customer costs. Since marginal customer costs reflect the measurement of how costs vary with the number of customers, they only include those costs that directly vary as a result of adding a new customer.

Q. Please explain how this theory of competitive pricing should be applied to regulated public utilities such as Kansas Gas.

A. Due to Kansas Gas' investment in system infrastructure, there is no debate that many of its short-run costs are fixed in nature. However, as discussed above, efficient competitive prices are established based on long-run costs, which are entirely variable in nature.

Marginal cost pricing only relates to efficiency. This pricing does not attempt to address fairness or equity. Fair and equitable pricing of a regulated monopoly's products and services should reflect the benefits received for the goods or services. In this regard, those that receive more benefits should pay more in total than those who receive fewer benefits. Regarding natural gas usage, the level of consumption is the best and most direct indicator of benefits received. Thus, volumetric pricing promotes the fairest pricing mechanism to customers and to the utility.

The above philosophy has consistently been the belief of economists, regulators, and policy makers for generations. For example, consider utility industry pricing in the 1800s, when the industry was in its infancy. Customers paid a fixed monthly fee and consumed as much of the utility commodity/service as they desired (usually water). It soon became apparent that this fixed monthly fee rate schedule was inefficient and unfair. Utilities soon began metering their commodity/service and charging only for the amount actually consumed. In this way, consumers receiving more benefits from the utility paid more, in total, for the utility service because they used more of the commodity.

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 called "sunk" costs, are primarily comprised of investments in plant and equipment. Indeed, virtually every capital-intensive industry is faced with a high percentage of so-called fixed costs in the short run. Prices for competitive products and services in these capital-intensive industries are invariably established on a volumetric basis, including those that were once regulated, e.g., motor transportation, airline travel, and rail service.

Accordingly, Kansas Gas' position that its fixed costs should be recovered through fixed monthly charges is incorrect. Pricing should reflect the Company's long-run costs, wherein all costs are variable or volumetric in nature, and users requiring more of Kansas Gas' products and services should pay more than customers who use less of these products and services. Stated more simply, those customers who conserve or are

otherwise more energy efficient, or those who use less of the commodity for any reason, should pay less than those who use more natural gas.

Q. How are high fixed customer charge rate structures contrary to effective conservation efforts?

A. High fixed charge rate structures actually promote additional consumption because a consumer's price of incremental consumption is less than what an efficient price structure would otherwise be. A clear example of this principle is exhibited in the natural gas transmission pipeline industry. As discussed in its well-known Order 636, the FERC's adoption of a "Straight Fixed Variable" ("SFV") pricing method[11] was a result of national policy (primarily that of Congress) to encourage increased use of domestic natural gas by promoting additional interruptible (and incremental firm) gas usage. The FERC's SFV pricing mechanism greatly reduced the price of incremental (additional) natural gas consumption. This resulted in significantly increasing the demand for, and use of, natural gas in the United States after Order 636 was issued in 1992.

FERC Order 636 had two primary goals. The first goal was to enhance gas competition at the wellhead by completely unbundling the merchant and transportation functions of pipelines.[12] The second goal was to encourage the increased consumption of natural gas in the United States. In Order 636's introductory statement, FERC stated:

> The Commission's intent is to further facilitate the unimpeded operation of market forces to stimulate the production of natural gas... [and thereby] contribute to reducing our Nation's dependence upon imported

[11] Under SFV pricing, customers pay a fixed charge that is designed to recover all of the utility's fixed costs.
[12] Federal Energy Regulatory Commission, Docket Nos. RM91-11-001 and RM87-34-065, Order No. 636 (Apr. 9, 1992), p. 7.

oil... .[13]

With specific regard to the SFV rate design adopted in Order 636, FERC stated:

> Moreover, the Commission's adoption of SFV should maximize pipeline throughput over time by allowing gas to compete with alternate fuels on a timely basis as the prices of alternate fuels change. The Commission believes it is beyond doubt that it is in the national interest to promote the use of clean and abundant gas over alternate fuels such as foreign oil. SFV is the best method for doing that.[14]

Recently, some public utilities have begun to advocate SFV residential pricing, claiming a need for enhanced fixed charge revenues. To support their claim, the companies argue that because retail rates have been historically volumetric-based, there has been a disincentive for utilities to promote conservation or encourage reduced consumption. However, the FERC's objective in adopting SFV pricing suggests the exact opposite. The price signal that results from SFV pricing is meant to promote additional consumption, not reduce consumption. Thus, a rate structure that is heavily based on a fixed monthly customer charge sends an even stronger price signal to consumers to use more energy.

Q. As a public policy matter, what is the most effective tool that regulators have to promote cost effective conservation and the efficient utilization of resources?

A. Unquestionably, one of the most important and effective tools that this, or any, regulatory Commission has to promote conservation is developing rates that send proper price signals to conserve and utilize resources efficiently. A pricing structure that is largely fixed, such that customers' effective prices do not properly vary with consumption,

[13] *Id.* p. 8 (alteration in original).
[14] *Id.* pp. 128-129.

promotes the inefficient utilization of resources. Pricing structures that are weighted heavily on fixed charges are much more inferior from a conservation and efficiency standpoint than pricing structures that require consumers to incur more cost with additional consumption.

Q. A customer's total natural gas bill is comprised of a base rate component and a purchased gas clause component. The purchased gas clause is volumetrically-priced and represents a significant portion of a customer's total bill. Does the volumetric pricing of these components eliminate the need for a proper pricing signal?

A. No, certainly not. The fact that significant revenue may be collected volumetrically does not lessen the need for a reasonable rate design.

Q. Notwithstanding the efficiency reasons as to why regulation should serve as a surrogate for competition, are there other relevant aspects to the pricing structures in competitive markets *vis a vis* those of regulated utilities?

A. Yes. In competitive markets, consumers, by definition, have the ability to choose various suppliers of goods and services. Consumers and the market have a clear preference for volumetric pricing. Utility customers are not so fortunate in that the local utility is a monopoly. The only reason utilities are able to seek pricing structures with high fixed monthly charges is due to their monopoly status. In my opinion, this is a critical consideration in establishing utility pricing structures. Competitive markets and consumers in the United States have demanded volumetric-based prices for generations. A regulated utility's pricing structure should not be allowed to counter the collective

wisdom of markets and consumers simply because of its market power.

Q. Please comment on Mr. Raab's opinion that lower fixed monthly customer charges result in the creation of intra-class subsidies between higher volume users within a particular customer class and lower volume users.

A. It is well known that Residential heating customers have a significantly lower load factor than non-heating customers.[15] This is because non-heating customers tend to not be nearly as weather sensitive as heating customers and so their usage is rather constant throughout the year. On the other hand, Residential heating customers demand more and more of the Company's facilities as cold weather and natural gas usage requirements increase. Because high load factor customers evenly spread their demands throughout the year, these customers are cheaper to serve (on a per unit of consumption basis) than low load factor customers. As such, it cannot be said that high usage customers subsidize low usage customers due to a predominant volumetric pricing schedule.

Q. Please comment on Mr. Raab's opinion that "these subsidies can influence a residential consumer to make uneconomic energy consumption decisions relative to alternative fuels."

A. I strongly disagree with Mr. Raab's opinion. The price advantage of natural gas over alternative energy fuels (electricity and oil) is substantial. Indeed, due to the abundance of natural gas in our Country, this price advantage is as high, or higher, than it has ever been. Therefore, as a matter of simple economics, a residential customer has a proper

[15] Load factor is defined as average daily usage divided by peak day usage wherein average daily usage is annual throughput divided by 365 days.

economic incentive to use natural gas and/or switch from alternative fuel sources to the extent it is practical and affordable. In fact, the study of economics is defined as the efficient allocation of society's scare resources. There is no doubt that the consumption of natural gas is more efficient from a pricing and societal perspective than is electricity or oil.[16]

Q. Please comment on Mr. Raab's opinion that lower customer charges may significantly impact a large user's decision to expand operations or locate its operations within the service territory.

A. While the absolute pricing of natural gas (delivery plus gas costs) may indeed impact some large industrial customers' decisions to locate, or relocate, its operations, this certainly cannot be said for residential customers and which my testimony addresses. Moreover, it must be remembered that Mr. Raab proposes to assign the Company's entire requested base rate revenue increase to the Residential fixed monthly customer charge.

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

A. Fixed monthly charges should only reflect the direct costs to connect and maintain a customer's account. As such, customer charges should only reflect the costs of service lines, meters, meter reading, customer records and billing. Customer charges should not include any overhead costs, as these are simply the cost of doing business, nor should they include any costs of mains.

Q. Have you conducted an analysis of the appropriate level of Residential customer

[16] Moreover, the consumption and burning of natural gas creates fewer carbon emissions and is more environmentally friendly than the use of electricity or heating oil.

charges for Kansas Gas?

A. Yes. I have conducted a direct customer cost analysis for Kansas Gas' Residential customers, which is provided in my Schedule GAW-3. In developing my Residential customer cost, I have utilized the CURB's recommended cost of capital. However, because customer charges reflect guaranteed revenue recovery to the Company, there is virtually no business risk associated with customer charges such that the true cost of capital for fixed charges is substantially less than the cost of equity recommended by Dr. Woolridge. Nonetheless, I have utilized Dr. Woolridge's recommended cost of equity of 8.50%, which tends to overstate the true direct customer cost. As indicated in my Schedule GAW-3, I have determined that the direct customer cost for Rate RS is $13.24 per month.

Q. What is your recommendation regarding fixed monthly customer charges for Kansas Gas' Residential customers?

A. Even though my calculated Residential customer charge of $13.24 per month is less than the current rate of $15.35 per month, I recommend that the existing Residential customer charge be maintained at its current level.

Q. Do you have any recommendations concerning billing determinants as it relates to this case?

A. Yes. It is my understanding that usage and revenue adjustments are often contentious in cases involving Kansas Gas. To the extent the Commission adopts additional revenues at current rates due to additional usage levels advocated by another party, these additional

billing determinants (usage) should be reflected in the ultimate design of rates approved by the Commission.

Q. Does this complete your testimony?

A. Yes.

VERIFICATION

COMMONWEALTH OF VIRGINIA)

COUNTY OF HENRICO) ss:

I, Glenn A. Watkins, of lawful age and being first duly sworn upon my oath, state that I am a consultant for the Citizens' Utility Ratepayer Board; that I have read and am familiar with the above and foregoing document and attest that the statements therein are true and correct to the best of my knowledge, information, and belief.

Glenn A. Watkins

SUBSCRIBED AND SWORN to before me this 7th day of September, 2016.

Notary Public

My Commission expires: 10/31/18.

SCHEDULES

GAW-1 THRU GAW-3

BACKGROUND & EXPERIENCE PROFILE

GLENN A. WATKINS

VICE 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

Mar. 1993-Present	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

KANSAS GAS SERVICE COMPANY
CURB Class Cost of Service Study
Summary of Results

	Total	Residential RS	GS - Small GSS	GS - Large GSL	Transport Eligible GSTE	Small Generator SGS	Irrigation Sales GIS	Kansas Gas Supply KGSSD	Sales for Resale SSRk	Small Transport STk	Small Transport STt
Operating Revenues	$287,931,413	$207,282,464	$21,879,986	$16,545,048	$2,618,965	$435,298	$361,829	$33,071	$90,791	$11,395,151	$4,413,276
Operating Expenses:											
Operating & Maintenance	$149,697,241	$116,626,129	$9,850,706	$8,111,448	$1,324,364	$105,849	$90,962	$10,577	$8,786	$3,900,607	$1,543,100
Depreciation & Amortization	$49,009,931	$35,889,357	$2,937,037	$3,122,347	$558,986	$26,661	$32,093	$3,939	$1,404	$1,712,484	$691,983
Taxes Other Than Income	$25,015,511	$18,484,350	$1,539,140	$1,588,866	$282,081	$13,890	$16,496	$2,422	$791	$810,244	$346,295
Total Operating Expenses	$223,722,683	$170,999,836	$14,326,883	$12,822,661	$2,165,430	$146,400	$139,551	$16,937	$10,981	$6,423,336	$2,581,378
Adjustments to Pre-Tax Income:											
Interest on Long-Term Debt	$18,707,717	$13,543,459	$1,159,335	$1,266,704	$228,638	$9,513	$14,142	$1,898	$514	$643,080	$277,541
Other	-$154,716	-$120,928	-$10,601	-$8,467	-$1,341	-$113	-$95	-$13	-$8	-$3,939	-$1,585
Income Taxes:											
Current State Income Taxes	$505,673	$253,193	$70,933	$27,292	$2,506	$3,096	$2,306	$158	$878	$47,988	$17,233
Current Federal Income Taxes	$2,351,377	$1,177,349	$329,840	$126,909	$11,652	$14,395	$10,724	$734	$4,084	$223,143	$80,135
Deferred Income Tax Expense	$17,246,330	$8,635,341	$2,419,233	$930,826	$85,461	$105,580	$78,659	$5,382	$29,957	$1,636,656	$587,753
Total Income Taxes	$20,103,380	$10,065,883	$2,820,007	$1,085,028	$99,618	$123,070	$91,690	$6,274	$34,920	$1,907,787	$685,121
Adjustments to After-Tax Income:											
Amortization of ITC	-$201,384	-$147,161	-$12,121	-$13,130	-$2,371	-$105	-$135	-$20	-$6	-$6,790	-$2,926
Total Adjustments to After-Tax Income	-$201,384	-$147,161	-$12,121	-$13,130	-$2,371	-$105	-$135	-$20	-$6	-$6,790	-$2,926
Net Operating Income	$44,306,734	$26,363,906	$4,745,218	$2,650,489	$356,288	$165,933	$130,723	$9,880	$44,897	$3,070,818	$1,149,703
Total Rate Base	$902,967,733	$653,806,211	$52,180,466	$59,412,432	$10,860,785	$465,418	$490,564	$107,641	$55,277	$32,246,083	$13,744,854
Rate of Return - Existing Rates	4.91%	4.03%	9.09%	4.46%	3.28%	35.65%	26.65%	9.18%	81.22%	9.52%	8.36%
Relative Rate of Return	100%	82%	185%	91%	67%	727%	543%	187%	1655%	194%	170%
CURB Proposed Rate Levels:											
Revenue Increase	$35,444,845	$28,755,159	$1,346,727	$2,036,716	$402,997	$0	$0	$2,036	$0	$701,398	$271,648
Revenue Conversion Factor	0.604531095										
Net Income Increase	$21,427,511	$17,383,388	$814,138	$1,231,258	$243,624	$0	$0	$1,231	$0	$424,017	$164,219
Rate of Return	7.28%	6.69%	10.65%	6.53%	5.52%	35.65%	26.65%	10.32%	81.22%	10.84%	9.56%
Relative Rate of Return	100%	92%	146%	90%	76%	490%	366%	142%	1116%	149%	131%

KANSAS GAS SERVICE COMPANY
CURB Class Cost of Service Study
Summary of Results

	Total	CNG Transport CNG	Irrigation Transport GIT	Large Vol Transport - T1 LVTk - T1	Large Vol Transport - T2 LVTk - T2	Large Vol Transport - T3 LVTk - T3	Large Vol Transport - T4 LVTk - T4	Large Vol Transport - T1 LVTt - T1	Large Vol Transport - T2 LVTt - T2	Large Vol Transport - T3 LVTt - T3	Large Vol Transport - T4 LVTt - T4	Wholesale Transport WTt
Operating Revenues	$287,931,413	$130,883	$1,741,932	$1,334,702	$1,913,786	$1,932,027	$6,355,395	$436,702	$956,622	$1,275,985	$5,406,407	$1,391,094
Operating Expenses:												
Operating & Maintenance	$149,697,241	$72,399	$352,978	$473,490	$812,035	$793,108	$2,437,704	$148,022	$379,852	$482,135	$1,943,316	$229,674
Depreciation & Amortization	$49,009,931	$35,192	$151,915	$222,719	$405,903	$402,911	$1,259,364	$70,729	$186,235	$238,545	$961,286	$98,842
Taxes Other Than Income	$25,015,511	$17,258	$76,637	$104,224	$188,121	$186,172	$579,916	$35,049	$92,348	$117,800	$474,788	$58,624
Total Operating Expenses	$223,722,683	$124,849	$581,529	$800,433	$1,406,059	$1,382,191	$4,276,984	$253,800	$658,436	$838,480	$3,379,390	$387,139
Adjustments to Pre-Tax Income:												
Interest on Long-Term Debt	$18,707,717	$14,180	$60,919	$83,130	$150,962	$149,845	$468,613	$28,403	$74,958	$96,131	$387,763	$47,989
Other	-$154,716	-$61	-$371	-$466	-$776	-$748	-$2,257	-$140	-$362	-$439	-$1,761	-$245
Income Taxes:												
Current State Income Taxes	$505,673	-$90	$12,182	$5,002	$3,960	$4,438	$17,855	$1,713	$2,476	$3,786	$18,176	$10,591
Current Federal Income Taxes	$2,351,377	-$416	$56,645	$23,259	$18,414	$20,639	$83,025	$7,964	$11,515	$17,604	$84,516	$49,247
Deferred Income Tax Expense	$17,246,330	-$3,054	$415,467	$170,592	$135,060	$151,378	$608,949	$58,415	$84,460	$129,119	$619,889	$361,206
Total Income Taxes	$20,103,380	-$3,560	$484,294	$198,853	$157,434	$176,455	$709,829	$68,092	$98,452	$150,509	$722,581	$421,044
Adjustments to After-Tax Income:												
Amortization of ITC	-$201,384	-$150	-$643	-$884	-$1,611	-$1,599	-$5,000	-$301	-$796	-$1,020	-$4,115	-$501
Total Adjustments to After-Tax Income	-$201,384	-$150	-$643	-$884	-$1,611	-$1,599	-$5,000	-$301	-$796	-$1,020	-$4,115	-$501
Net Operating Income	$44,306,734	$9,744	$676,751	$336,299	$351,904	$374,980	$1,373,582	$115,111	$200,530	$288,016	$1,308,551	$583,411
Total Rate Base	$902,967,733	$712,600	$2,905,901	$4,263,114	$7,755,356	$7,689,621	$24,028,204	$1,435,759	$3,773,936	$4,841,738	$19,510,117	$2,681,658
Rate of Return - Existing Rates	4.91%	1.37%	23.29%	7.89%	4.54%	4.88%	5.72%	8.02%	5.31%	5.95%	6.71%	21.76%
Relative Rate of Return	100%	28%	475%	161%	92%	99%	117%	163%	108%	121%	137%	443%
CURB Proposed Rate Levels:												
Revenue Increase	$35,444,845	$24,168	$0	$82,154	$235,596	$237,842	$586,784	$26,880	$117,765	$117,810	$499,166	$0
Revenue Conversion Factor	0.604531095											
Net Income Increase	$21,427,511	$14,611	$0	$49,665	$142,425	$143,783	$354,729	$16,250	$71,192	$71,220	$301,761	$0
Rate of Return	7.28%	3.42%	23.29%	9.05%	6.37%	6.75%	7.19%	9.15%	7.20%	7.42%	8.25%	21.76%
Relative Rate of Return	100%	47%	320%	124%	88%	93%	99%	126%	99%	102%	113%	299%

KANSAS GAS SERVICE COMPANY
CURB Class Cost of Service Study
Rate Base

	Alloc Factor	Total	Residential RS	GS - Small GSS	GS - Large GSL	Transport Eligible GSTE	Small Generator SGS	Irrigation Sales GIS	Kansas Gas Supply KGSSD	Sales for Resale SSRk	Small Transport STk	Small Transport STt
Intangible Plant:												
Organization		$0										
Franchises and Consents	115	$6,045	$4,417	$364	$394	$71	$3	$4	$1	$0	$204	$88
Miscellaneous Intangible Plant	115	$52,535	$38,390	$3,162	$3,425	$619	$27	$35	$5	$1	$1,771	$763
Total Intangible Plant		$58,580	$42,807	$3,526	$3,819	$690	$31	$39	$6	$2	$1,975	$851
Production Plant	139	$852,915	$667,949	$65,126	$97,038	$19,949	$149	$1,052	$559	$1,094	$0	$0
Storage Plant		$0										
Transmission												
Land and land rights	148	$826,609	$579,395	$56,836	$84,030	$17,131	$0	$826	$489	$0	$0	$20,261
Rights-of-way	148	$12,318,682	$8,634,532	$847,006	$1,252,268	$255,295	$0	$12,311	$7,289	$0	$0	$301,947
Structures and imp. - compressor stations	148	$4,627,325	$3,243,430	$318,165	$470,395	$95,898	$0	$4,625	$2,738	$0	$0	$113,422
Structures and imp. - meas. & reg. stations	148	$1,208,818	$847,297	$83,116	$122,884	$25,052	$0	$1,208	$715	$0	$0	$29,630
Mains	148	$206,084,926	$144,451,073	$14,169,950	$20,949,771	$4,270,943	$0	$205,963	$121,942	$0	$0	$5,051,407
Compressor station equipment	148	$17,858,542	$12,517,585	$1,227,914	$1,815,428	$370,104	$0	$17,848	$10,567	$0	$0	$437,736
Measuring and regulating station equip.	148	$20,212,351	$14,167,440	$1,389,757	$2,054,707	$418,885	$0	$20,200	$11,960	$0	$0	$495,431
Other Equipment	148	$37,350	$26,180	$2,568	$3,797	$774	$0	$37	$22	$0	$0	$916
Total Transmission Plant		$263,174,604	$184,466,932	$18,095,311	$26,753,280	$5,454,080	$0	$263,019	$155,722	$0	$0	$6,450,749
Distribution:												
Land and land rights	141	$154,887	$114,087	$9,060	$8,982	$1,550	$97	$93	$0	$5	$6,253	$1,948
Rights-of-way	141	$2,218,741	$1,634,280	$129,783	$128,670	$22,203	$1,387	$1,337	$5	$72	$89,570	$27,905
Structures and improvements	140	$855,549	$502,153	$49,183	$72,859	$14,885	$111	$735	$0	$0	$56,965	$17,622
Mains												
Customer	4	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Demand	140	$314,807,496	$184,771,999	$18,097,239	$26,809,197	$5,477,211	$40,964	$270,475	$0	$0	$20,960,878	$6,484,067
Mains - Metallic												
Customer	4	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Demand	140	$267,619,077	$157,075,396	$15,384,533	$22,790,603	$4,656,198	$34,824	$229,932	$0	$0	$17,818,924	$5,512,131
Mains - Cathodic Protection												
Customer	4	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Demand	140	$39,858,984	$23,394,691	$2,291,361	$3,394,415	$693,491	$5,187	$34,246	$0	$0	$2,653,937	$820,973
Meas. and reg. sta. equip. - general	19	$23,613,076	$14,682,827	$1,509,237	$2,100,717	$399,385	$3,137	$3,651	$0	$0	$1,471,514	$457,694
Meas. and reg. sta. equip. - city gate	140	$7,595,613	$4,458,142	$436,647	$646,847	$132,153	$988	$6,526	$0	$0	$505,740	$156,446
Services	34	$402,687,194	$365,818,743	$23,400,153	$7,886,782	$436,559	$409,319	$129,337	$1,391	$15,777	$2,687,400	$948,056
Services - Metallic	34	$31,989,526	$29,060,691	$1,858,911	$626,527	$34,680	$32,516	$10,275	$110	$1,253	$213,487	$75,314
Meters	36	$110,320,497	$88,300,560	$7,494,851	$7,254,660	$772,124	$154,249	$76,556	$618	$11,328	$3,817,441	$1,157,651
Meters - AMR	38	$20,289,237	$18,710,500	$1,181,010	$284,701	$4,014	$22,139	$5,826	$0	$129	$48,162	$16,313
Meter installations	42	$94,719,499	$76,651,491	$5,918,949	$5,479,908	$738,065	$127,753	$34,288	$807	$13,491	$3,619,851	$1,041,060
House regulators	40	$20,722,674	$19,925,311	$472,159	$86,082	$3,509	$3,531	$2,580	$13	$1,207	$50,075	$106,598
Other Property on Customer Premises	4	$224,125	$204,457	$13,000	$4,200	$200	$229	$79	$0	$0	$1,187	$394
Other Equipment		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Distribution Plant		$1,337,676,176	$985,305,330	$78,246,075	$77,575,151	$13,386,227	$836,433	$805,938	$2,943	$43,262	$54,001,385	$16,824,173
General Plant:												
Land and land rights	115	$1,471,358	$1,075,190	$88,561	$95,927	$17,325	$769	$983	$146	$41	$49,607	$21,381
Structures and improvements - owned	115	$35,391,223	$25,862,031	$2,130,197	$2,307,384	$416,736	$18,485	$23,643	$3,518	$980	$1,193,214	$514,282
Structures and improvements - leasehold	115	$2,694,235	$1,968,804	$162,166	$175,655	$31,725	$1,407	$1,800	$268	$75	$90,836	$39,151
Office furniture and equipment - computers	146	$5,014,496	$3,919,404	$343,587	$274,427	$43,468	$3,648	$3,081	$418	$262	$127,679	$51,379
Computers and other electronic equipment	146	$9,571,166	$7,480,964	$655,804	$523,799	$82,967	$6,962	$5,880	$797	$500	$243,701	$98,068
Transportation equipment	115	$26,849,935	$19,620,510	$1,616,097	$1,750,522	$316,161	$14,024	$17,937	$2,669	$744	$905,245	$390,166
Stores equipment	115	$113,367	$82,843	$6,824	$7,391	$1,335	$59	$76	$11	$3	$3,822	$1,647
Tool, shop and garage equipment	115	$8,463,128	$6,184,406	$509,396	$551,766	$99,654	$4,420	$5,654	$841	$234	$285,334	$122,981
Laboratory equipment	115	$72,377	$52,889	$4,356	$4,719	$852	$38	$48	$7	$2	$2,440	$1,052
Power operated equipment	115	$11,793,107	$8,617,778	$709,827	$768,869	$138,865	$6,160	$7,878	$1,172	$327	$397,604	$171,370
Communication equipment	115	$5,416,063	$3,957,772	$325,993	$353,108	$63,775	$2,829	$3,618	$538	$150	$182,602	$78,703
Miscellaneous equipment	115	$360,557	$263,476	$21,702	$23,507	$4,246	$188	$241	$36	$10	$12,156	$5,239
Total General Plant		$107,211,011	$79,086,066	$6,574,508	$6,837,075	$1,217,109	$58,988	$70,838	$10,422	$3,327	$3,494,241	$1,495,419
Corporate Allocated Plant	115	$61,525,376	$44,959,485	$3,703,211	$4,011,239	$724,469	$32,135	$41,102	$6,116	$1,704	$2,074,326	$894,047
TOTAL PLANT IN SERVICE		$1,770,498,662	$1,294,528,569	$106,687,757	$115,277,602	$20,802,524	$927,735	$1,181,988	$175,768	$49,389	$59,571,927	$25,665,238

KANSAS GAS SERVICE COMPANY
CURB Class Cost of Service Study
Rate Base

	Alloc Factor	Total	CNG Transport CNG	Irrigation Transport GIT	Large Vol Transport - T1 LVTk - T1	Large Vol Transport - T2 LVTk - T2	Large Vol Transport - T3 LVTk - T3	Large Vol Transport - T4 LVTk - T4	Large Vol Transport - T1 LVTt - T1	Large Vol Transport - T2 LVTt - T2	Large Vol Transport - T3 LVTt - T3	Large Vol Transport - T4 LVTt - T4	Wholesale Transport WTt
Intangible Plant:													
Organization		$0											
Franchises and Consents	115	$6,045	$5	$19	$27	$48	$48	$150	$9	$24	$31	$124	$15
Miscellaneous Intangible Plant	115	$52,535	$39	$168	$230	$420	$417	$1,304	$79	$208	$266	$1,073	$131
Total Intangible Plant		$58,580	$44	$187	$257	$469	$465	$1,454	$88	$231	$297	$1,197	$146
Production Plant	139	$852,915	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Storage Plant		$0											
Transmission													
Land and land rights	148	$826,609	$1,184	$4,489	$0	$0	$0	$0	$2,273	$6,267	$8,152	$33,137	$12,139
Rights-of-way	148	$12,318,682	$17,639	$66,900	$0	$0	$0	$0	$33,873	$93,397	$121,493	$493,826	$180,907
Structures and imp. - compressor stations	148	$4,627,325	$6,626	$25,130	$0	$0	$0	$0	$12,724	$35,083	$45,637	$185,498	$67,955
Structures and imp. - meas. & reg. stations	148	$1,208,818	$1,731	$6,565	$0	$0	$0	$0	$3,324	$9,165	$11,922	$48,459	$17,752
Mains	148	$206,084,926	$295,088	$1,119,206	$0	$0	$0	$0	$566,673	$1,562,480	$2,032,515	$8,261,444	$3,026,472
Compressor station equipment	148	$17,858,542	$25,571	$96,986	$0	$0	$0	$0	$49,106	$135,399	$176,130	$715,906	$262,263
Measuring and regulating station equip.	148	$20,212,351	$28,942	$109,769	$0	$0	$0	$0	$55,578	$153,245	$199,345	$810,264	$296,830
Other Equipment	148	$37,350	$53	$203	$0	$0	$0	$0	$103	$283	$368	$1,497	$549
Total Transmission Plant		$263,174,604	$376,833	$1,429,248	$0	$0	$0	$0	$723,653	$1,995,318	$2,595,563	$10,550,030	$3,864,866
Distribution:													
Land and land rights	141	$154,887	$95	$426	$814	$1,484	$1,473	$4,604	$194	$502	$639	$2,568	$14
Rights-of-way	141	$2,218,741	$1,359	$6,106	$11,655	$21,252	$21,098	$65,957	$2,773	$7,186	$9,157	$36,784	$201
Structures and Improvements	140	$855,549	$1,040	$4,006	$7,997	$16,139	$16,326	$51,966	$1,982	$5,454	$7,113	$29,012	$0
Mains													
Customer	4	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Demand	140	$314,807,496	$382,508	$1,474,080	$2,942,559	$5,938,507	$6,007,486	$19,121,379	$729,326	$2,007,012	$2,617,440	$10,675,165	$0
Mains - Metallic													
Customer	4	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Demand	140	$267,619,077	$325,172	$1,253,121	$2,501,481	$5,048,348	$5,106,987	$16,255,159	$620,003	$1,706,169	$2,225,098	$9,075,000	$0
Mains - Cathodic Protection													
Customer	4	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Demand	140	$39,858,984	$48,431	$186,639	$372,569	$751,897	$760,631	$2,421,031	$92,343	$254,116	$331,404	$1,351,624	$0
Meas. and reg. sta. equip. - general	19	$23,613,076	$17,556	$9,215	$190,332	$407,734	$382,212	$1,055,183	$46,580	$138,155	$163,307	$574,639	$0
Meas. and reg. sta. equip. - city gate	140	$7,595,613	$9,229	$35,566	$70,997	$143,283	$144,947	$461,357	$17,597	$48,425	$63,153	$257,568	$0
Services	34	$402,687,194	$5,276	$284,971	$235,018	$118,558	$68,844	$64,825	$46,452	$36,053	$23,108	$43,047	$27,525
Services - Metallic	34	$31,989,526	$419	$22,638	$18,670	$9,418	$5,469	$5,150	$3,690	$2,864	$1,836	$3,420	$2,187
Meters	36	$110,320,497	$13,956	$246,868	$340,911	$178,137	$102,885	$131,006	$54,626	$62,306	$38,885	$64,470	$46,410
Meters - AMR	38	$20,289,237	$0	$15,407	$1,036	$0	$0	$0	$0	$0	$0	$0	$0
Meter installations	42	$94,719,499	$14,254	$100,083	$324,739	$174,942	$100,005	$125,921	$52,471	$61,153	$37,444	$60,690	$42,132
House regulators	40	$20,722,674	$199	$42,156	$8,177	$2,951	$1,731	$1,816	$3,529	$3,064	$1,950	$3,157	$2,879
Other Property on Customer Premises	4	$224,125	$1	$184	$66	$39	$22	$22	$12	$13	$8	$10	$0
Other Equipment		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Distribution Plant		$1,337,676,176	$819,496	$3,681,468	$7,027,022	$12,812,688	$12,720,118	$39,765,377	$1,671,577	$4,332,472	$5,520,541	$22,177,154	$121,347
General Plant:													
Land and land rights	115	$1,471,358	$1,099	$4,695	$6,455	$11,770	$11,685	$36,529	$2,200	$5,813	$7,456	$30,064	$3,662
Structures and improvements - owned	115	$35,391,223	$26,434	$112,926	$155,269	$283,109	$281,064	$878,655	$52,925	$139,819	$179,333	$723,139	$88,079
Structures and improvements - leasehold	115	$2,694,235	$2,012	$8,597	$11,820	$21,552	$21,397	$66,890	$4,029	$10,644	$13,652	$55,051	$6,705
Office furniture and equipment - computers	146	$5,014,496	$1,965	$12,027	$15,104	$25,148	$24,229	$73,137	$4,553	$11,722	$14,228	$57,088	$7,944
Computers and other electronic equipment	146	$9,571,166	$3,751	$22,956	$28,828	$47,999	$46,247	$139,596	$8,691	$22,374	$27,156	$108,963	$15,163
Transportation equipment	115	$26,849,935	$20,054	$85,673	$117,796	$214,784	$213,232	$666,601	$40,152	$106,075	$136,053	$548,618	$66,822
Stores equipment	115	$113,367	$85	$362	$497	$907	$900	$2,815	$170	$448	$574	$2,316	$282
Tool, shop and garage equipment	115	$8,463,128	$6,321	$27,004	$37,130	$67,700	$67,211	$210,113	$12,656	$33,435	$42,884	$172,925	$21,062
Laboratory equipment	115	$72,377	$54	$231	$318	$579	$575	$1,797	$108	$286	$367	$1,479	$180
Power operated equipment	115	$11,793,107	$8,808	$37,629	$51,739	$94,338	$93,656	$292,787	$17,636	$46,591	$59,758	$240,965	$29,350
Communication equipment	115	$5,416,063	$4,045	$17,282	$23,761	$43,325	$43,012	$134,464	$8,099	$21,397	$27,444	$110,665	$13,479
Miscellaneous equipment	115	$360,557	$269	$1,150	$1,582	$2,884	$2,863	$8,952	$539	$1,424	$1,827	$7,367	$897
Total General Plant		$107,211,011	$74,899	$330,532	$450,299	$814,095	$806,071	$2,512,335	$151,759	$400,027	$510,732	$2,058,640	$253,627
Corporate Allocated Plant	115	$61,525,376	$45,954	$196,315	$269,925	$492,167	$488,611	$1,527,486	$92,007	$243,066	$311,760	$1,257,132	$153,120
TOTAL PLANT IN SERVICE		$1,770,498,662	$1,317,225	$5,637,750	$7,747,503	$14,119,418	$14,015,266	$43,806,652	$2,639,084	$6,971,114	$8,938,892	$36,044,153	$4,393,107

KANSAS GAS SERVICE COMPANY
CURB Class Cost of Service Study
Rate Base

	Alloc Factor	Total	Residential RS	GS - Small GSS	GS - Large GSL	Transport Eligible GSTE	Small Generator SGS	Irrigation Sales GIS	Kansas Gas Supply KGSSD	Sales for Resale SSRk	Small Transport STk	Small Transport STt
Accumulated Depreciation												
Intangible Plant:												
Organization		$0										
Miscellaneous Intangible Plant	115	$41,434	$30,278	$2,494	$2,701	$488	$22	$28	$4	$1	$1,397	$602
Leasehold Improvements	115	$2,752,808	$2,011,606	$165,691	$179,473	$32,415	$1,438	$1,839	$274	$76	$92,811	$40,002
Total Intangible Plant		$2,794,242	$2,041,884	$168,185	$182,175	$32,903	$1,459	$1,867	$278	$77	$94,208	$40,604
Production Plant	139	$628,534	$492,228	$47,993	$71,510	$14,701	$109	$775	$412	$806	$0	$0
Storage Plant	0	$0										
Transmission												
Rights-of-way	148	$3,292,730	$2,307,973	$226,401	$334,726	$68,239	$0	$3,291	$1,948	$0	$0	$80,709
Structures and imp. - compressor stations	148	$3,941,468	$2,762,692	$271,007	$400,674	$81,684	$0	$3,939	$2,332	$0	$0	$96,610
Structures and imp. - meas. & reg. stations	148	$996,712	$698,625	$68,532	$101,322	$20,656	$0	$996	$590	$0	$0	$24,431
Mains	148	$53,184,079	$37,278,308	$3,656,821	$5,406,481	$1,102,197	$0	$53,153	$31,469	$0	$0	$1,303,610
Compressor station equipment	148	$13,882,256	$9,730,488	$954,514	$1,411,215	$287,698	$0	$13,874	$8,214	$0	$0	$340,272
Measuring and regulating station equipment	148	$5,445,817	$3,817,136	$374,442	$553,600	$112,860	$0	$5,443	$3,222	$0	$0	$133,484
Other Equipment	148	$4,019	$2,817	$276	$409	$83	$0	$4	$2	$0	$0	$99
Total Transmission Plant		$30,747,081	$56,598,038	$5,551,993	$8,208,426	$1,673,418	$0	$80,699	$47,779	$0	$0	$1,979,215
Distribution:												
Rights-of-way	141	$478,914	$352,758	$28,014	$27,773	$4,793	$299	$289	$1	$15	$18,334	$6,023
Structures and Improvements	140	$389,816	$228,797	$22,409	$33,197	$6,782	$51	$335	$0	$0	$25,955	$8,029
Mains	142	$193,688,715	$60,858,700	$5,960,722	$8,830,196	$1,804,039	$13,492	$89,087	$0	$0	$6,903,924	$2,135,669
Mains - Metalic	142	$89,481,710	$52,520,091	$5,144,008	$7,620,318	$1,556,857	$11,644	$76,881	$0	$0	$5,957,976	$1,843,049
Mains - Cathodic Protection	142	$5,092,547	$2,989,002	$292,754	$433,684	$88,603	$663	$4,375	$0	$0	$339,078	$104,891
Meas. and reg. sta. equip. - general	19	$10,274,540	$6,388,803	$656,701	$914,066	$173,781	$1,365	$1,589	$0	$0	$640,286	$199,152
Meas. and reg. sta. equip. - city gate	140	$4,040,512	$2,371,565	$232,280	$344,098	$70,300	$526	$3,472	$0	$0	$269,035	$83,224
Services	34	$171,719,843	$155,997,852	$9,978,640	$3,363,198	$186,164	$174,548	$55,154	$593	$6,728	$1,146,001	$404,284
Services - Metalic	34	$12,910,704	$11,728,651	$750,241	$252,861	$13,997	$13,123	$4,147	$45	$506	$86,162	$30,396
Meters	36	$23,871,419	$19,106,747	$1,621,759	$1,569,786	$167,075	$33,377	$16,566	$134	$2,451	$826,030	$250,496
Meters - AMR	39	$3,912,736	$3,608,280	$227,755	$54,904	$774	$4,269	$1,124	$0	$25	$9,288	$3,146
Meter installations	42	$28,285,160	$22,889,687	$1,767,518	$1,636,412	$220,401	$38,150	$10,239	$241	$4,029	$1,080,961	$310,882
House regulators	40	$6,862,157	$6,598,116	$156,352	$28,505	$1,162	$1,169	$854	$4	$400	$16,582	$35,299
Other Property Customer Premise	4	$218,634	$199,494	$12,684	$4,098	$195	$223	$77	$0	$0	$1,158	$385
Other Equipment	14	-$2,614	-$1,577	-$162	-$226	-$43	$0	-$7	$0	$0	-$167	-$52
Total Distribution Plant		$451,225,023	$345,836,966	$26,851,673	$25,112,871	$4,294,880	$292,900	$264,180	$1,017	$14,154	$17,321,602	$5,414,873
General Plant:												
Land	115	-$14,378	-$10,507	-$865	-$937	-$169	-$8	-$10	-$1	$0	-$485	-$209
Structures and Improvements - owned	115	$11,687,351	$8,540,497	$703,461	$761,974	$137,620	$6,104	$7,808	$1,162	$324	$394,039	$169,833
Office furniture and equipment	146	$2,099,379	$1,640,905	$143,847	$114,892	$18,198	$1,527	$1,290	$175	$110	$53,454	$21,511
Computers and other electronic equipment	146	$7,451,704	$5,824,361	$510,581	$407,808	$64,594	$5,420	$4,578	$620	$389	$189,736	$76,351
Transportation equipment	115	$11,786,260	$8,612,774	$709,415	$768,423	$138,785	$6,156	$7,874	$1,172	$326	$397,373	$171,270
Stores equipment	115	-$93,230	-$68,128	-$5,612	-$6,078	-$1,098	-$49	-$62	-$9	-$3	-$3,143	-$1,355
Tools Shop and Garage Equipment	115	$932,211	$681,211	$56,110	$60,777	$10,977	$487	$623	$93	$26	$31,429	$13,546
Laboratory equipment	115	-$245,091	-$179,100	-$14,752	-$15,979	-$2,886	-$128	-$164	-$24	-$7	-$8,263	-$3,562
Power operated equipment	115	$6,180,446	$4,516,343	$372,001	$402,943	$72,776	$3,228	$4,129	$614	$171	$208,374	$89,810
Communication equipment	115	$2,170,605	$1,586,163	$130,649	$141,516	$25,559	$1,134	$1,450	$216	$60	$73,182	$31,542
Miscellaneous equipment	115	$95,697	$69,930	$5,760	$6,239	$1,127	$50	$64	$10	$3	$3,226	$1,391
Total General Plant		$42,050,954	$31,214,451	$2,610,594	$2,641,578	$465,483	$23,922	$27,579	$4,026	$1,399	$1,338,922	$570,129
Corporate Allocated Plant	115	$16,693,239	$12,198,535	$1,004,766	$1,088,341	$196,565	$8,719	$11,152	$1,659	$462	$562,812	$242,575
TOTAL ACCUMULATED DEPRECIATION		$404,139,074	$448,382,102	$36,235,204	$37,304,900	$6,677,949	$327,110	$386,252	$55,171	$16,898	$19,317,544	$8,247,397
Other Rate Base Items												
Working Capital:												
Prepayments - Misc.		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Prepayments	149	$5,053,080	$3,936,490	$332,157	$269,006	$43,350	$3,614	$2,908	$318	$211	$133,685	$52,886
Materials and Supplies	119	$9,054,838	$7,072,956	$595,103	$487,585	$79,417	$6,439	$5,409	$604	$491	$232,772	$92,252
Gas Storage Inventory & Line Pack	30	$30,729,589	$18,069,317	$1,732,865	$2,558,618	$511,267	$3,944	$5,513	$15,168	$30,144	$2,061,778	$641,214
Cash Working Capital		$0										
Other		$0										
Total Working Capital		$4,887,507	$29,078,762	$2,660,126	$3,315,209	$634,034	$13,996	$13,830	$16,090	$30,846	$2,428,234	$786,352
Rate Base Adjustments:												
Accumulated Deferred Income Taxes	111	$280,766,837	$203,684,782	$16,959,372	$18,769,626	$3,400,074	$144,583	$191,550	$29,030	$7,821	$9,690,054	$4,192,831
Investment Tax Credit Adjustment		$0										
Customer Deposits	44	$20,122,287	$12,290,590	$3,540,544	$2,677,263	$423,792	$0	$123,000	$0	$0	$448,131	$173,558
CIAC - Reimbursables		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Customer Advances for Construction	78	$7,390,439	$5,443,648	$432,297	$428,590	$73,957	$4,621	$4,453	$16	$239	$298,349	$92,951
Other		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Rate Base Adjustments		$308,279,363	$221,419,020	$20,932,213	$21,875,479	$3,897,823	$149,204	$319,002	$29,046	$8,060	$10,436,533	$4,459,340
TOTAL OTHER RB		-$713,391,856	-$192,340,257	-$18,272,087	-$18,560,269	-$3,263,789	-$135,208	-$305,172	-$12,957	$22,786	-$8,008,299	-$3,672,988
Total Rate Base		$992,967,733	$653,806,211	$52,180,466	$59,412,432	$10,860,785	$465,418	$490,564	$107,641	$55,277	$32,246,083	$13,744,854

KANSAS GAS SERVICE COMPANY
CURB Class Cost of Service Study
Rate Base

	Alloc Factor	Total	CNG Transport CNG	Irrigation Transport GIT	Large Vol Transport - T1 LVTk - T1	Large Vol Transport - T2 LVTk - T2	Large Vol Transport - T3 LVTk - T3	Large Vol Transport - T4 LVTk - T4	Large Vol Transport - T1 LVTt - T1	Large Vol Transport - T2 LVTt - T2	Large Vol Transport - T3 LVTt - T3	Large Vol Transport - T4 LVTt - T4	Wholesale Transport WTt
Accumulated Depreciation													
Intangible Plant:													
Organization		$0											
Miscellaneous Intangible Plant	115	$41,434	$31	$132	$182	$331	$329	$1,029	$62	$164	$210	$847	$103
Leasehold Improvements	115	$2,752,808	$2,056	$8,784	$12,077	$22,021	$21,862	$68,344	$4,117	$10,875	$13,949	$56,247	$6,851
Total Intangible Plant		$2,794,242	$2,087	$8,916	$12,259	$22,352	$22,191	$69,372	$4,179	$11,039	$14,159	$57,094	$6,954
Production Plant	139	$628,534	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Storage Plant	0	$0											
Transmission													
Rights-of-way	148	$3,292,730	$4,715	$17,882	$0	$0	$0	$0	$9,054	$24,965	$32,475	$131,998	$48,356
Structures and imp. - compressor stations	148	$3,941,468	$5,644	$21,405	$0	$0	$0	$0	$10,838	$29,883	$38,873	$158,004	$57,883
Structures and imp. - meas. & reg. stations	148	$996,712	$1,427	$5,413	$0	$0	$0	$0	$2,741	$7,557	$9,830	$39,956	$14,637
Mains	148	$53,184,079	$76,153	$288,832	$0	$0	$0	$0	$146,241	$403,227	$524,529	$2,132,020	$781,038
Compressor station equipment	148	$13,882,256	$19,878	$75,392	$0	$0	$0	$0	$38,172	$105,251	$136,914	$556,506	$203,869
Measuring and regulating station equipment	148	$5,445,817	$7,798	$29,575	$0	$0	$0	$0	$14,974	$41,289	$53,709	$218,310	$79,975
Other Equipment	148	$4,019	$6	$22	$0	$0	$0	$0	$11	$30	$40	$161	$59
Total Transmission Plant		$80,747,081	$115,620	$438,521	$0	$0	$0	$0	$222,031	$612,202	$796,369	$3,236,954	$1,185,816
Distribution:													
Rights-of-way	141	$478,914	$293	$1,318	$2,516	$4,587	$4,554	$14,237	$598	$1,551	$1,976	$7,940	$43
Structures and improvements	140	$389,816	$474	$1,825	$3,644	$7,353	$7,439	$23,677	$903	$2,485	$3,241	$13,219	$0
Mains	142	$103,688,735	$125,988	$485,521	$969,196	$1,955,977	$1,978,697	$6,298,045	$240,220	$661,053	$862,111	$3,516,099	$0
Mains - Metalic	142	$89,481,730	$108,725	$418,997	$836,401	$1,687,977	$1,707,584	$5,435,112	$207,306	$570,479	$743,988	$3,034,338	$0
Mains - Cathodic Protection	142	$5,092,547	$6,188	$23,846	$47,601	$96,065	$97,181	$309,321	$11,798	$32,467	$42,342	$172,689	$0
Meas. and reg. sta. equip. - general	19	$10,274,540	$7,639	$4,010	$82,817	$177,414	$166,308	$459,132	$20,268	$60,114	$71,058	$250,037	$0
Meas. and reg. sta. equip. - city gate	140	$4,040,582	$4,910	$18,920	$37,768	$76,221	$77,107	$245,425	$9,361	$25,760	$33,595	$137,017	$0
Services	34	$171,719,843	$2,250	$121,522	$100,220	$50,557	$29,358	$27,644	$19,809	$15,374	$9,854	$18,357	$11,738
Services - Metalic	34	$12,910,704	$169	$9,137	$7,535	$3,801	$2,207	$2,078	$1,489	$1,156	$741	$1,380	$882
Meters	36	$23,871,489	$3,020	$53,418	$73,767	$38,546	$22,262	$28,348	$11,820	$13,482	$8,414	$13,950	$10,042
Meters - AMR	39	$3,912,736	$0	$2,971	$200	$0	$0	$0	$0	$0	$0	$0	$0
Meter installations	42	$28,285,160	$4,257	$29,887	$96,974	$52,241	$29,864	$37,603	$15,669	$18,262	$11,182	$18,123	$12,581
House regulators	40	$6,862,157	$66	$13,960	$2,708	$977	$573	$601	$1,168	$1,015	$646	$1,045	$953
Other Property Customer Premise	4	$218,684	$1	$179	$65	$38	$22	$21	$12	$13	$8	$10	$0
Other Equipment	14	-$2,614	-$2	-$41	-$24	-$45	-$41	-$120	-$6	-$15	-$19	-$67	$0
Total Distribution Plant		$461,225,023	$263,976	$1,185,468	$2,261,387	$4,151,711	$4,123,115	$12,881,123	$540,415	$1,403,196	$1,789,138	$7,184,138	$36,240
General Plant:													
Land	115	-$14,378	-$11	-$46	-$63	-$115	-$114	-$357	-$22	-$57	-$73	-$294	-$36
Structures and improvements - owned	115	$11,687,351	$8,729	$37,292	$51,275	$93,492	$92,816	$290,161	$17,478	$46,173	$59,222	$238,805	$29,087
Office furniture and equipment	146	$2,099,379	$823	$5,035	$6,323	$10,528	$10,144	$30,619	$1,906	$4,908	$5,957	$23,901	$3,326
Computers and other electronic equipment	146	$7,451,704	$2,920	$17,873	$22,444	$37,370	$36,006	$108,683	$6,766	$17,419	$21,143	$84,834	$11,805
Transportation equipment	115	$11,786,260	$8,803	$37,608	$51,709	$94,283	$93,602	$292,617	$17,625	$46,564	$59,723	$240,826	$29,333
Stores equipment	115	-$93,230	-$70	-$297	-$409	-$746	-$740	-$2,315	-$139	-$368	-$472	-$1,905	-$232
Tools Shop and Garage Equipment	115	$932,211	$696	$2,975	$4,090	$7,457	$7,403	$23,144	$1,394	$3,683	$4,724	$19,048	$2,320
Laboratory equipment	115	-$245,091	-$183	-$782	-$1,075	-$1,961	-$1,946	-$6,085	-$367	-$968	-$1,242	-$5,008	-$610
Power operated equipment	115	$6,180,446	$4,616	$19,721	$27,115	$49,440	$49,083	$153,441	$9,242	$24,417	$31,317	$126,283	$15,381
Communication equipment	115	$2,170,605	$1,621	$6,926	$9,523	$17,364	$17,238	$53,889	$3,246	$8,575	$10,999	$44,351	$5,402
Miscellaneous equipment	115	$95,697	$71	$305	$420	$766	$760	$2,376	$143	$378	$485	$1,955	$238
Total General Plant		$42,050,954	$28,018	$126,608	$171,352	$307,878	$304,251	$946,175	$57,274	$150,723	$191,781	$772,796	$96,015
Corporate Allocated Plant	115	$16,693,239	$12,468	$53,265	$73,237	$133,536	$132,571	$414,442	$24,964	$65,949	$84,587	$341,088	$41,545
TOTAL ACCUMULATED DEPRECIATION		$604,139,074	$422,169	$1,812,779	$2,518,234	$4,615,478	$4,582,129	$14,311,112	$848,862	$2,243,109	$2,876,035	$11,592,070	$1,366,571
Other Rate Base Items													
Working Capital:													
Prepayments - Misc.		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Prepayments	149	$5,053,080	$2,481	$12,098	$16,228	$27,831	$27,182	$83,547	$5,073	$13,019	$16,524	$66,603	$7,872
Materials and Supplies	119	$9,054,838	$4,347	$20,690	$28,146	$48,235	$46,991	$143,827	$8,864	$22,735	$28,886	$116,079	$13,008
Gas Storage Inventory & Line Pack	30	$30,779,589	$33,385	$25,083	$312,942	$571,004	$561,764	$1,748,284	$80,239	$190,773	$248,142	$988,727	$390,410
Cash Working Capital		$0											
Other		$0											
Total Working Capital		$44,887,507	$40,223	$57,871	$357,316	$647,070	$631,936	$1,975,657	$94,176	$226,527	$293,552	$1,171,409	$411,289
Rate Base Adjustments:													
Accumulated Deferred Income Taxes	111	$280,766,637	$215,458	$920,749	$1,258,792	$2,287,793	$2,270,749	$7,100,180	$430,943	$1,138,128	$1,459,454	$5,886,117	$728,549
Investment Tax Credit Adjustment		$0											
Customer Deposits	44	$20,122,287	$2,684	$35,854	$25,856	$37,074	$37,427	$123,116	$8,460	$18,532	$24,718	$104,732	$26,948
CIAC - Reimbursables		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Customer Advances for Construction	78	$7,390,439	$4,528	$20,339	$38,823	$70,788	$70,277	$219,697	$9,235	$23,936	$30,500	$122,525	$670
Other		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Rate Base Adjustments		$308,279,363	$222,680	$976,942	$1,323,471	$2,395,655	$2,378,453	$7,442,994	$448,638	$1,180,596	$1,514,672	$6,113,374	$756,168
TOTAL OTHER RB		-$263,391,856	-$182,457	-$919,071	-$966,155	-$1,748,585	-$1,743,516	-$5,467,336	-$354,462	-$954,069	-$1,221,120	-$4,941,965	-$344,878
Total Rate Base		$902,967,733	$712,600	$2,905,901	$4,263,114	$7,755,356	$7,689,621	$24,028,204	$1,435,759	$3,773,936	$4,841,738	$19,510,117	$2,681,658

KANSAS GAS SERVICE COMPANY
CURB Class Cost of Service Study
Expenses

	Alloc Factor	Total	Residential RS	GS - Small GSS	GS - Large GSL	Transport Eligible GSTE	Small Generator SGS	Irrigation Sales GIS	Kansas Gas Supply KGSSD	Sales for Resale SSRk	Small Transport STk	Small Transport STt
Production & Gathering:												
Operation												
Op., Sup., & Eng.		$0										
Production Maps & Records		$0										
Field Lines Expenses		$0										
Field Compressor Station Expense		$0										
Field Compressor Sta. Fuel & Pwr.		$0										
Field Meas. & Regul. Station Exp		$0										
Purification Expense		$0										
Other Expenses		$0										
Maintenance												
Maint. Sup., & Eng.		$0										
Structures and Improvements		$0										
Field Line Maintenance		$0										
Compressor Station Equip. Maint.		$0										
Meas. & Regul. Station Equip Maint		$0										
Purification Equipment Maintenance		$0										
Other Equipment Maintenance		$0										
Gas Processed By Others		$0										
Total Production & Gathering		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Gas Supply Expenses:												
Operation												
Gas processed by others	21	$181,122	$141,727	$12,752	$21,034	$4,770	$33	$491	$105	$210	$0	$0
Purchased Gas Expenses	21	$1,260,012	$985,947	$88,712	$146,329	$33,185	$232	$3,413	$731	$1,462	$0	$0
Gas Delivery Processing Credit		$0										
Gas Used for Compressor Sta. Fuel	21	-$248,553	-$194,490	-$17,500	-$28,865	-$6,546	-$46	-$673	-$144	-$288	$0	$0
Gas Used for Production Ext	21	-$181,122	-$141,727	-$12,752	-$21,034	-$4,770	-$33	-$491	-$105	-$210	$0	$0
Gas Used for Other Utility Ops	21	-$10,195	-$7,977	-$718	-$1,184	-$269	-$2	-$28	-$6	-$12	$0	$0
Other Gas Supply Expenses	21	$1,258,778	$984,982	$88,626	$146,186	$33,153	$231	$3,410	$730	$1,460	$0	$0
Maintenance												
Maint. Of Purch. Gas Meas. Sta.		$0										
Total Other Gas Supply Expenses		$2,260,043	$1,768,462	$159,121	$262,466	$59,524	$416	$6,122	$1,311	$2,622	$0	$0
Underground Storage:												
Operation												
Op., Sup., & Eng.		$0										
Maps & Records		$0										
Wells Expense		$0										
Lines Expense		$0										
Compressor Station Expense		$0										
Compressor Station Fuel & Power	16	$85,509	$67,004	$6,887	$9,586	$1,823	$14	$17	$61	$117	$0	$0
Meas. & Regul. Station Expenses		$0										
Purification Expenses		$0										
Exploration & Development		$0										
Gas Losses		$0										
Other Expenses	16	$253	$198	$20	$28	$5	$0	$0	$0	$0	$0	$0
Storage Well Royalties		$0										
Rents		$0										
Maintenance												
Maint. Sup., & Eng.		$0										
Structures and Improvements		$0										
Reservoirs & Wells Maintenance		$0										
Line Maintenance		$0										
Compressor Station Equip Maint		$0										
Meas. & Regul. Station Equip Maint		$0										
Purification Equipment Maintenance		$0										
Other Equipment Maintenance		$0										
Total Underground Storage Expense		$85,762	$67,202	$6,908	$9,615	$1,828	$14	$17	$61	$117	$0	$0

KANSAS GAS SERVICE COMPANY
CURB Class Cost of Service Study
Expenses

	Alloc Factor	Total	CNG Transport CNG	Irrigation Transport GIT	Large Vol Transport - T1 LVTk - T1	Large Vol Transport - T2 LVTk - T2	Large Vol Transport - T3 LVTk - T3	Large Vol Transport - T4 LVTk - T4	Large Vol Transport - T1 LVTt - T1	Large Vol Transport - T2 LVTt - T2	Large Vol Transport - T3 LVTt - T3	Large Vol Transport - T4 LVTt - T4	Wholesale Transport WTt
Production & Gathering:													
Operation													
Op., Sup., & Eng.		$0											
Production Maps & Records		$0											
Field Lines Expenses		$0											
Field Compressor Station Expense		$0											
Field Compressor Sta. Fuel & Pwr.		$0											
Field Meas. & Regul. Station Exp		$0											
Purification Expense		$0											
Other Expenses		$0											
Maintenance													
Maint. Sup., & Eng.		$0											
Structures and Improvements		$0											
Field Line Maintenance		$0											
Compressor Station Equip. Maint.		$0											
Meas. & Regul. Station Equip Maint		$0											
Purification Equipment Maintenance		$0											
Other Equipment Maintenance		$0											
Gas Processed By Others		$0											
Total Production & Gathering		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Gas Supply Expenses:													
Operation													
Gas processed by others	21	$181,122	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Purchased Gas Expenses	21	$1,260,012	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Gas Delivery Processing Credit		$0											
Gas Used for Compressor Sta. Fuel	21	-$248,553	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Gas Used for Production Ext	21	-$181,122	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Gas Used for Other Utility Ops	21	-$10,195	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Gas Supply Expenses	21	$1,258,778	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Maintenance													
Maint. Of Purch. Gas Meas. Sta.		$0											
Total Other Gas Supply Expenses		$2,260,043	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Underground Storage:													
Operation													
Op., Sup., & Eng.		$0											
Maps & Records		$0											
Wells Expense		$0											
Lines Expense		$0											
Compressor Station Expense		$0											
Compressor Station Fuel & Power	16	$85,509	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Meas. & Regul. Station Expenses		$0											
Purification Expenses		$0											
Exploration & Development		$0											
Gas Losses		$0											
Other Expenses	16	$253	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Storage Well Royalties		$0											
Rents		$0											
Maintenance													
Maint. Sup., & Eng.		$0											
Structures and Improvements		$0											
Reservoirs & Wells Maintenance		$0											
Line Maintenance		$0											
Compressor Station Equip Maint		$0											
Meas. & Regul. Station Equip Maint		$0											
Purification Equipment Maintenance		$0											
Other Equipment Maintenance		$0											
Total Underground Storage Expense		$85,762	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

KANSAS GAS SERVICE COMPANY
CURB Class Cost of Service Study
Expenses

	Alloc Factor	Total	Residential RS	GS - Small GSS	GS - Large GSL	Transport Eligible GSTE	Small Generator SGS	Irrigation Sales GIS	Kansas Gas Supply KGSSD	Sales for Resale SSRk	Small Transport STk
Transmission:											
Operation											
Operation supervision and engineering	123	$277,983	$192,583	$18,488	$28,098	$5,897	$0	$376	$157	$0	$0
System control and load dispatching	25	$1,777,052	$1,191,283	$107,188	$176,804	$40,097	$0	$4,124	$883	$0	$0
Communication system expense		$0									
Compressor station labor and expense	148	$744,030	$521,513	$51,158	$75,635	$15,419	$0	$744	$440	$0	$0
Gas for compressor station fuel	25	$163,044	$109,300	$9,834	$16,222	$3,679	$0	$378	$81	$0	$0
Other fuel and power for compressor station	25	$11,549	$7,742	$697	$1,149	$261	$0	$27	$6	$0	$0
Mains expenses	148	$3,724,261	$2,610,445	$256,072	$378,593	$77,182	$0	$3,722	$2,204	$0	$0
Measuring and regulating station expenses	148	$770,613	$540,146	$52,986	$78,337	$15,970	$0	$770	$456	$0	$0
Transmission and compression of gas by others		$0									
Other expenses	148	$131,113	$91,901	$9,015	$13,328	$2,717	$0	$131	$78	$0	$0
Rents	148	$2,078	$1,457	$143	$211	$43	$0	$2	$1	$0	$0
Maintenance											
Maint. Sup., & Eng.	127	$131,957	$92,492	$9,073	$13,414	$2,735	$0	$132	$78	$0	$0
Structures and Improvements	148	$11,674	$8,183	$803	$1,187	$242	$0	$12	$7	$0	$0
Mains	148	$587,936	$412,102	$40,425	$59,767	$12,184	$0	$588	$348	$0	$0
Compressor Station Equip Maint	148	$396,577	$277,973	$27,268	$40,314	$8,219	$0	$396	$235	$0	$0
Meas. & Regul. Station Equip Maint	148	$511,387	$358,446	$35,162	$51,986	$10,598	$0	$511	$303	$0	$0
Communication Equipment Maintenance		$0									
Other Equipment Maintenance		$0									
Total Transmission Expense		$9,241,255	$6,415,566	$618,311	$935,047	$195,244	$0	$11,912	$5,276	$0	$0
Distribution:											
Operation											
Supervision & Eng.	131	$1,563,035	$2,024,637	$182,901	$130,746	$18,308	$2,304	$1,046	$8	$127	$76,800
Load Dispatching	24	$79,035	$42,472	$3,822	$6,304	$1,430	$10	$147	$0	$0	$5,741
Mains & Services Expense	144	$11,495,225	$9,775,108	$779,391	$771,062	$140,706	$6,868	$8,492	$20	$226	$553,032
Meas. & Reg Station Expense - Gen	19	$1,198,522	$1,367,061	$140,519	$195,590	$37,185	$292	$340	$0	$0	$137,007
Meas. & Reg Station Expense - Gen GSS		$0									
Meas. & Reg Station Expense - Ind	54	$546,270	$0	$408,145	$131,855	$6,271	$0	$0	$0	$0	$0
Meas. & Reg Station Expense - City Gate	140	$499,895	$293,407	$28,737	$42,571	$8,697	$65	$429	$0	$0	$33,285
Meter & House Regulator Expense	42	$10,656,581	$8,623,809	$665,922	$616,527	$83,037	$14,373	$3,858	$91	$1,518	$407,258
Customer Installations Expense	4	$1,255,210	$7,530,794	$478,830	$154,690	$7,357	$8,436	$2,922	$0	$0	$43,720
Other Expenses	143	$4,687,971	$3,453,065	$274,218	$271,867	$46,913	$2,931	$2,824	$10	$152	$189,251
Rents	143	$617,379	$454,749	$36,113	$35,803	$6,178	$386	$372	$1	$20	$24,923
Maintenance											
Supervision & Eng.	135	$497,498	$327,432	$34,252	$36,855	$6,733	$211	$331	$1	$12	$26,126
Structure & Improv.	140	$352,780	$207,060	$20,280	$30,043	$6,138	$46	$303	$0	$0	$23,489
Mains	142	$11,618,985	$6,819,606	$667,937	$989,480	$202,154	$1,512	$9,983	$0	$0	$773,629
Meas. & Reg Station Expense - Gen	19	$902,790	$561,363	$57,702	$80,316	$15,270	$120	$140	$0	$0	$56,260
Meas. & Reg Station Expense - Ind	54	$282,529	$0	$211,091	$68,195	$3,243	$0	$0	$0	$0	$0
Meas. & Reg Station Expense - City Gate	140	$377,563	$221,606	$21,705	$32,154	$6,569	$49	$324	$0	$0	$25,139
Services	34	$2,881,602	$2,617,773	$167,450	$56,437	$3,124	$2,929	$926	$10	$113	$19,231
Meters & House Regulators	42	$2,497,172	$2,020,829	$156,046	$144,472	$19,458	$3,368	$904	$21	$356	$95,433
Maintenance of Other Equipment	140	$3,092	$1,815	$178	$263	$54	$0	$3	$0	$0	$206
Total Distribution		$68,013,135	$46,342,586	$4,335,239	$3,795,229	$618,824	$43,901	$33,343	$162	$2,523	$2,490,530
Customer Accounts:											
Operation											
Supervision	3	$627,931	$572,796	$36,420	$11,766	$560	$642	$222	$1	$7	$3,325
Meter Reading Expenses	3	$1,402,610	$4,928,244	$313,352	$101,231	$4,814	$5,520	$1,912	$9	$60	$28,611
Customer Records and Collection Exp.	3	$11,982,562	$14,579,244	$926,992	$299,473	$14,242	$16,331	$5,656	$25	$176	$84,640
Uncollectible Accounts	3	$1,505,165	$3,197,401	$203,300	$65,678	$3,123	$3,582	$1,240	$6	$39	$18,562
Miscellaneous Customer Accounts Exp.	3	$1,302,953	$1,188,549	$75,572	$24,414	$1,161	$1,331	$461	$2	$14	$6,900
Total Customer Accounts		$28,821,221	$24,466,236	$1,555,636	$502,562	$23,900	$27,406	$9,492	$42	$296	$142,038

KANSAS GAS SERVICE COMPANY
CURB Class Cost of Service Study
Expenses

	Alloc Factor	Total	CNG Transport CNG	Irrigation Transport GIT	Large Vol Transport - T1 LVTk - T1	Large Vol Transport - T2 LVTk - T2	Large Vol Transport - T3 LVTk - T3	Large Vol Transport - T4 LVTk - T4	Large Vol Transport - T1 LVTt - T1	Large Vol Transport - T2 LVTt - T2	Large Vol Transport - T3 LVTt - T3	Large Vol Transport - T4 LVTt - T4	Wholesale Transport WTt
Transmission:													
Operation													
Operation supervision and engineering	123	$277,983	$466	$2,104	$0	$0	$0	$0	$820	$2,204	$2,963	$12,565	$4,201
System control and load dispatching	25	$1,777,052	$4,179	$23,900	$0	$0	$0	$0	$6,220	$15,785	$22,836	$105,331	$28,940
Communication system expense		$0											
Compressor station labor and expense	148	$744,030	$1,065	$4,041	$0	$0	$0	$0	$2,046	$5,641	$7,338	$29,826	$10,926
Gas for compressor station fuel	25	$163,044	$383	$2,193	$0	$0	$0	$0	$571	$1,448	$2,095	$9,664	$2,655
Other fuel and power for compressor station	25	$11,549	$27	$155	$0	$0	$0	$0	$40	$103	$148	$685	$188
Mains expenses	148	$3,724,261	$5,333	$20,226	$0	$0	$0	$0	$10,241	$28,236	$36,731	$149,297	$54,693
Measuring and regulating station expenses	148	$770,613	$1,103	$4,185	$0	$0	$0	$0	$2,119	$5,843	$7,600	$30,892	$11,317
Transmission and compression of gas by others		$0											
Other expenses	148	$131,113	$188	$712	$0	$0	$0	$0	$361	$994	$1,293	$5,256	$1,925
Rents	148	$2,078	$3	$11	$0	$0	$0	$0	$6	$16	$20	$83	$31
Maintenance													
Maint Sup., & Eng.	127	$131,957	$189	$717	$0	$0	$0	$0	$363	$1,000	$1,301	$5,290	$1,938
Structures and Improvements	148	$11,674	$17	$63	$0	$0	$0	$0	$32	$89	$115	$468	$171
Mains	148	$587,936	$842	$3,193	$0	$0	$0	$0	$1,617	$4,458	$5,799	$23,569	$8,634
Compressor Station Equip Maint	148	$396,577	$568	$2,154	$0	$0	$0	$0	$1,090	$3,007	$3,911	$15,898	$5,824
Meas. & Regul. Station Equip Maint	148	$511,387	$732	$2,777	$0	$0	$0	$0	$1,406	$3,877	$5,044	$20,500	$7,510
Communication Equipment Maintenance		$0											
Other Equipment Maintenance		$0											
Total Transmission Expense		$9,241,255	$15,095	$66,431	$0	$0	$0	$0	$26,931	$72,700	$97,195	$409,323	$138,954
Distribution:													
Operation													
Supervision & Eng.	131	$2,563,035	$765	$3,658	$8,583	$12,785	$11,900	$34,484	$1,855	$4,338	$5,093	$19,038	$383
Load Dispatching	24	$79,035	$149	$852	$883	$1,670	$1,334	$6,603	$222	$563	$814	$3,755	$0
Mains & Services Expense	144	$13,495,225	$9,465	$40,267	$75,599	$147,475	$148,456	$470,315	$18,569	$49,784	$64,583	$262,668	$394
Meas & Reg Station Expense - Gen	19	$2,198,522	$1,635	$858	$17,721	$37,963	$35,586	$98,244	$4,337	$12,863	$15,205	$53,502	$0
Meas & Reg Station Expense - Gen GSS		$0											
Meas & Reg Station Expense - Ind	54	$546,270	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Meas & Reg Station Expense - City Gate	140	$499,895	$607	$2,341	$4,673	$9,430	$8,540	$30,364	$1,158	$3,187	$4,156	$16,952	$0
Meter & House Regulator Expense	42	$10,656,581	$1,604	$11,260	$36,535	$19,682	$11,251	$14,167	$5,903	$6,880	$4,213	$6,828	$4,740
Customer Installations Expense	4	$8,255,210	$45	$6,773	$2,449	$1,436	$1,825	$794	$440	$480	$308	$381	$0
Other Expenses	143	$4,687,971	$2,872	$12,902	$24,627	$44,903	$44,578	$139,360	$5,858	$15,183	$19,347	$77,721	$425
Rents	143	$617,379	$378	$1,699	$3,243	$5,913	$5,871	$18,353	$771	$2,000	$2,548	$10,235	$56
Maintenance													
Supervision & Eng.	135	$497,498	$423	$1,653	$3,497	$6,682	$6,666	$20,893	$845	$2,259	$2,896	$11,644	$34
Structure & Improv.	140	$352,780	$429	$1,652	$3,297	$6,655	$6,732	$21,428	$817	$2,249	$2,933	$11,963	$0
Mains	142	$11,618,985	$14,118	$54,406	$108,605	$219,180	$221,726	$705,736	$26,918	$74,075	$96,605	$394,001	$0
Meas.& Reg Station Expense - Gen	19	$902,790	$671	$352	$7,277	$15,589	$14,613	$40,342	$1,781	$5,282	$6,244	$21,970	$0
Meas.& Reg Station Expense - Ind	54	$282,529	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Meas.& Reg Station Expense - City Gate	140	$377,563	$459	$1,768	$3,529	$7,122	$7,205	$22,933	$875	$2,407	$3,139	$12,803	$0
Services	34	$2,881,602	$38	$2,039	$1,682	$848	$493	$464	$332	$258	$165	$308	$197
Meters & House Regulators	42	$2,497,172	$376	$2,639	$8,561	$4,612	$2,637	$3,320	$1,383	$1,612	$987	$1,600	$1,111
Maintenance of Other Equipment	140	$3,092	$4	$14	$29	$58	$59	$188	$7	$20	$26	$105	$0
Total Distribution		$63,013,135	$34,038	$145,133	$310,791	$542,004	$529,971	$1,627,989	$72,072	$183,440	$229,262	$905,475	$7,341
Customer Accounts:													
Operation													
Supervision	3	$627,931	$3	$515	$186	$109	$63	$60	$33	$36	$23	$29	$27
Meter Reading Expenses	3	$5,402,610	$30	$4,432	$1,603	$940	$540	$520	$288	$314	$202	$249	$231
Customer Records and Collection Exp.	3	$15,982,562	$88	$13,112	$4,742	$2,781	$1,597	$1,538	$852	$929	$596	$737	$684
Uncollectible Accounts	3	$3,505,165	$19	$2,876	$1,040	$610	$350	$337	$187	$204	$131	$162	$150
Miscellaneous Customer Accounts Exp.	3	$1,302,953	$7	$1,069	$387	$227	$130	$125	$69	$76	$49	$60	$56
Total Customer Accounts		$26,821,221	$147	$22,003	$7,957	$4,667	$2,680	$2,581	$1,430	$1,558	$1,001	$1,236	$1,147

KANSAS GAS SERVICE COMPANY
CURB Class Cost of Service Study
Expenses

	Alloc Factor	Total	Residential RS	GS - Small GSS	GS - Large GSL	Transport Eligible GSTE	Small Generator SGS	Irrigation Sales GIS	Kansas Gas Supply KGSSD	Sales for Resale SSR	Small Transport STk	Small Transport STt
Customer Service and Information:												
Operation												
Supervision	4	$284	$259	$16	$5	$0	$0	$0	$0	$0	$2	$0
Customer Assistance Expenses	4	$264,017	$240,849	$15,314	$4,947	$235	$270	$93	$0	$0	$1,398	$465
Information and Instructional Expenses		$0										
Misc. Customer Service and Information		$0										
Total Customer Service and Information		$264,301	$241,108	$15,330	$4,953	$236	$270	$94	$0	$0	$1,400	$465
Sales:												
Operation												
Supervision		$0										
Demonstration & Selling Expenses	3	$976,934	$891,156	$56,662	$18,305	$871	$998	$346	$2	$11	$5,174	$1,719
Advertising Expenses		$0										
Miscellaneous Sales Expenses		$0										
Total Sales		$976,934	$891,156	$56,662	$18,305	$871	$998	$346	$2	$11	$5,174	$1,719
Administrative & General:												
Operation												
Salaries	147	$17,058,890	$13,333,479	$1,168,852	$933,578	$147,873	$12,409	$10,480	$1,420	$892	$434,354	$174,788
Office Supplies and Expenses	147	$4,010,180	$3,134,416	$274,772	$219,464	$34,762	$2,917	$2,464	$334	$210	$102,107	$41,089
Administrative Expense Transfer	147	-$2,162,213	-$1,690,018	-$148,152	-$118,331	-$18,743	-$1,573	-$1,328	-$180	-$113	-$55,054	-$22,154
Outside Services Employed	147	$792,982	$619,806	$54,334	$43,397	$6,874	$577	$487	$66	$41	$20,191	$8,125
Property Insurance	107	$646,379	$472,610	$38,950	$42,086	$7,595	$339	$432	$64	$18	$21,749	$9,370
Injuries and Damages	147	$35,120	$27,451	$2,406	$1,922	$304	$26	$22	$3	$2	$894	$360
Pensions & Benefits	147	$22,400,375	$17,508,931	$1,534,885	$1,225,934	$194,181	$16,294	$13,762	$1,865	$1,171	$570,375	$229,524
Franchise Requirements	107	$5,429	$3,970	$327	$354	$64	$3	$4	$1	$0	$183	$79
Regulatory Expense	119	$754,080	$589,030	$49,560	$40,606	$6,614	$536	$450	$50	$41	$19,385	$7,683
Duplicate Charges - Credit	147	-$28,953,698	-$22,630,635	-$1,983,869	-$1,584,543	-$250,982	-$21,061	-$17,787	-$2,411	-$1,513	-$737,220	-$296,665
General Advertising Expenses	119	$58,202	$45,463	$3,825	$3,134	$510	$41	$35	$4	$3	$1,496	$593
Miscellaneous General Expenses	119	$30,685,684	$23,969,341	$2,016,728	$1,652,362	$269,135	$21,821	$18,330	$2,048	$1,665	$788,835	$312,630
Rents	23	$991,040	$525,089	$47,246	$77,931	$17,674	$123	$1,818	$389	$778	$70,981	$21,811
Maintenance												
Maintenance of General Plant	85	$711,541	$524,880	$43,634	$45,376	$8,078	$391	$470	$69	$22	$23,191	$9,925
Total A&G		$47,034,592	$36,433,813	$3,103,499	$2,583,271	$423,939	$32,844	$29,637	$3,723	$3,216	$1,261,466	$497,158
Other Utility Plant Related O&M		$0										
TOTAL O&M EXPENSE		$149,697,241	$116,626,129	$9,850,706	$8,111,448	$1,324,364	$105,849	$90,962	$10,577	$8,786	$3,900,607	$1,543,100
Depreciation												
Intangible Plant	115	$1,592	$1,163	$96	$104	$19	$1	$1	$0	$0	$54	$23
Production Plant	139	$11,060	$8,661	$844	$1,258	$259	$2	$14	$7	$14	$0	$0
Storage Plant		$0										
Transmission:												
Land and land rights		$0										
Rights-of-way		$0										
Structures and imp. - compressor stations		$0										
Structures and imp. - meas. & reg. stations		$0										
Mains		$0										
Compressor station equipment		$0										
Measuring and regulating station equip.	148	$5,245,101	$3,676,448	$360,642	$533,196	$108,700	$0	$5,242	$3,104	$0	$0	$128,564
Total Transmission Plant		$5,245,101	$3,676,448	$360,642	$533,196	$108,700	$0	$5,242	$3,104	$0	$0	$128,564

KANSAS GAS SERVICE COMPANY
CURB Class Cost of Service Study
Expenses

	Alloc Factor	Total	CNG Transport CNG	Irrigation Transport GIT	Large Vol Transport - T1 LVTk - T1	Large Vol Transport - T2 LVTk - T2	Large Vol Transport - T3 LVTk - T3	Large Vol Transport - T4 LVTk - T4	Large Vol Transport - T1 LVTt - T1	Large Vol Transport - T2 LVTt - T2	Large Vol Transport - T3 LVTt - T3	Large Vol Transport - T4 LVTt - T4	Wholesale Transport WTt
Customer Service and Information:													
Operation													
Supervision	4	$284	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Customer Assistance Expenses	4	$264,017	$1	$217	$78	$46	$26	$25	$14	$15	$10	$12	$0
Information and Instructional Expenses		$0											
Misc. Customer Service and Information		$0											
Total Customer Serviceand Information		$264,301	$1	$217	$78	$46	$26	$25	$14	$15	$10	$12	$0
Sales:													
Operation													
Supervision		$0											
Demonstration & Selling Expenses	3	$976,934	$5	$801	$290	$170	$98	$94	$52	$57	$36	$45	$42
Advertising Expenses		$0											
Miscellaneous Sales Expenses		$0											
Total Sales		$976,934	$5	$801	$290	$170	$98	$94	$52	$57	$36	$45	$42
Administrative & General:													
Operation													
Salaries	147	$17,058,890	$6,685	$40,915	$51,381	$85,550	$82,427	$248,804	$15,490	$39,877	$48,401	$194,208	$27,026
Office Supplies and Expenses	147	$4,010,180	$1,572	$9,618	$12,079	$20,111	$19,377	$58,489	$3,641	$9,374	$11,378	$45,654	$6,353
Administrative Expense Transfer	147	-$2,162,213	-$847	-$5,186	-$6,513	-$10,843	-$10,448	-$31,536	-$1,963	-$5,054	-$6,135	-$24,616	-$3,426
Outside Services Employed	147	$792,982	$311	$1,902	$2,388	$3,977	$3,832	$11,566	$720	$1,854	$2,250	$9,028	$1,256
Property Insurance	107	$646,379	$481	$2,058	$2,828	$5,155	$5,117	$15,993	$963	$2,545	$3,263	$13,159	$1,604
Injuries and Damages	147	$35,120	$14	$84	$106	$176	$170	$512	$32	$82	$100	$400	$56
Pensions & Benefits	147	$22,400,975	$8,779	$53,728	$67,471	$112,341	$108,239	$326,719	$20,341	$52,365	$63,558	$255,025	$35,489
Franchise Requirements	107	$5,429	$4	$17	$24	$43	$43	$134	$8	$21	$27	$111	$13
Regulatory Expense	119	$754,080	$362	$1,723	$2,344	$4,017	$3,913	$11,978	$738	$1,893	$2,406	$9,667	$1,083
Duplicate Charges - Credit	147	-$28,953,698	-$11,347	-$69,444	-$87,208	-$145,202	-$139,601	-$422,290	-$26,291	-$67,682	-$82,150	-$329,625	-$45,870
General Advertising Expenses	119	$58,202	$28	$133	$181	$310	$302	$924	$57	$146	$186	$746	$84
Miscellaneous General Expenses	119	$30,685,684	$14,732	$70,117	$95,383	$163,463	$159,245	$487,410	$30,039	$77,047	$97,891	$393,377	$44,083
Rents	23	$991,040	$1,842	$10,535	$10,920	$20,649	$22,668	$81,638	$2,741	$6,958	$10,066	$46,427	$12,756
Maintenance													
Maintenance of General Plant	85	$711,541	$497	$2,194	$2,989	$5,403	$5,350	$16,674	$1,007	$2,655	$3,390	$13,663	$1,683
Total A&G		$47,034,592	$23,112	$118,394	$154,373	$265,149	$260,333	$807,015	$47,524	$122,081	$154,630	$627,224	$82,190
Other Utility Plant Related O&M		$0											
TOTAL O&M EXPENSE		$149,697,241	$72,399	$352,978	$473,490	$812,035	$793,108	$2,437,704	$148,022	$379,852	$482,135	$1,943,316	$229,674
Depreciation													
Intangible Plant	115	$1,592	$1	$5	$7	$13	$13	$40	$2	$6	$8	$33	$4
Production Plant	139	$11,060	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Storage Plant		$0											
Transmission:													
Land and land rights		$0											
Rights-of-way		$0											
Structures and imp. - compressor stations		$0											
Structures and imp. - meas. & reg. stations		$0											
Mains		$0											
Compressor station equipment		$0											
Measuring and regulating station equip.	148	$5,245,101	$7,510	$28,485	$0	$0	$0	$0	$14,422	$39,767	$51,730	$210,263	$77,027
Total Transmission Plant		$5,245,101	$7,510	$28,485	$0	$0	$0	$0	$14,422	$39,767	$51,730	$210,263	$77,027

KANSAS GAS SERVICE COMPANY
CURB Class Cost of Service Study
Expenses

	Alloc Factor	Total	Residential RS	GS - Small GSS	GS - Large GSL	Transport Eligible GSTE	Small Generator SGS	Irrigation Sales GIS	Kansas Gas Supply KGSSD	Sales for Resale SSRk	Small Transport STk	Small Transport STt
Distribution:												
Land & Land rights		$0										
Rights of way		$0										
Structures		$0										
Mains		$0										
Mains - Metallic		$0										
M&R station equipment - general		$0										
M&R station equipment - city gate		$0										
Services		$0										
Services-Metallic		$0										
Meters		$0										
Meter installations		$0										
House regulators		$0										
Other Property on Customer Premises		$0										
Other equipment	143	$36,160,806	$26,635,322	$2,115,191	$2,097,055	$361,864	$22,611	$21,787	$80	$1,169	$1,459,795	$454,800
Total Distribution Plant		$36,160,806	$26,635,322	$2,115,191	$2,097,055	$361,864	$22,611	$21,787	$80	$1,169	$1,459,795	$454,800
General Plant:												
Land & Land rights		$0										
Structures		$0										
Leasehold Improvements (1)		$0										
Office furniture and equipment		$0										
Computers and other electronic equipment		$0										
Transportation equipment		$0										
Stores equipment		$0										
Tools, shop and garage equipment		$0										
Laboratory equipment		$0										
Power operated equipment		$0										
Communications equipment		$0										
Miscellaneous equipment	85	$2,946,470	$2,173,515	$180,687	$187,903	$33,450	$1,621	$1,947	$286	$91	$96,032	$41,098
Total General Plant		$2,946,470	$2,173,515	$180,687	$187,903	$33,450	$1,621	$1,947	$286	$91	$96,032	$41,098
TOTAL DEPRECIATION EXPENSE		$44,365,028	$32,495,108	$2,657,460	$2,819,515	$504,291	$24,235	$28,990	$3,477	$1,275	$1,555,881	$624,486
Amortization Expense:												
Intangible Plant	115	$23,498	$17,171	$1,414	$1,532	$277	$12	$16	$2	$1	$792	$341
Distribution Plant		$0										
General Plant		$0										
Acquisition Premium		$0										
Regulatory Debit	115	-$267,949	-$195,803	-$16,128	-$17,469	-$3,155	-$140	-$179	-$27	-$7	-$9,034	-$3,894
Corporate Allocated	115	$4,889,353	$3,572,880	$294,290	$318,769	$57,573	$2,554	$3,266	$486	$135	$164,844	$71,049
Total Amortization Expense		$4,644,902	$3,394,248	$279,577	$302,831	$54,694	$2,426	$3,103	$462	$129	$156,603	$67,497
TOTAL DEP. AND AMORT. EXPENSE		$49,009,931	$35,889,357	$2,937,037	$3,122,347	$558,986	$26,661	$32,093	$3,939	$1,404	$1,712,484	$691,983
Taxes Other Than Income:												
Payroll	146	$3,842,656	$3,003,477	$263,294	$210,296	$33,310	$2,795	$2,361	$320	$201	$97,842	$39,373
Real Estate and Personal Property	107	$20,954,008	$15,320,860	$1,262,659	$1,364,321	$246,200	$10,980	$13,989	$2,080	$585	$705,039	$303,750
Other	107	$218,847	$160,014	$13,187	$14,249	$2,571	$115	$148	$22	$6	$7,364	$3,172
Total Taxes, Other		$25,015,511	$18,484,350	$1,539,140	$1,588,866	$282,081	$13,890	$16,496	$2,422	$791	$810,244	$346,295
Adjustments to Pre-Tax Income:												
Interest on Long-Term Debt	101	$18,707,717	$13,543,459	$1,159,335	$1,266,704	$228,638	$9,513	$14,142	$1,898	$514	$643,080	$277,541
Other	146	-$154,716	-$120,928	-$10,801	-$8,467	-$1,341	-$113	-$95	-$13	-$8	-$3,939	-$1,585
Total Adjustments to Pre-Tax Income		$18,553,001	$13,422,531	$1,148,734	$1,258,237	$227,296	$9,400	$14,047	$1,886	$506	$639,141	$275,955
State Income Taxes (Current):												
Taxable Income		$45,655,729	$22,860,097	$6,404,369	$2,464,150	$226,238	$279,498	$208,232	$14,248	$79,304	$4,332,675	$1,555,943
State Income Taxes		$505,673	$253,193	$70,933	$27,292	$2,506	$3,096	$2,306	$158	$878	$47,988	$17,233
Federal Income Taxes (Current):												
Taxable Income		$45,150,056	$22,606,904	$6,333,436	$2,436,858	$223,732	$276,402	$205,925	$14,090	$78,426	$4,284,687	$1,538,709
Federal Income Taxes		$2,351,377	$1,177,349	$329,840	$126,909	$11,652	$14,395	$10,724	$734	$4,084	$223,143	$80,135
Total Current Income Taxes		$2,857,050	$1,430,542	$400,773	$154,202	$14,158	$17,490	$13,031	$892	$4,963	$271,131	$97,368
Adjustments to After-Tax Income:												
Amortization of ITC	115	-$201,384	-$147,161	-$12,121	-$13,130	-$2,371	-$105	-$135	-$20	-$6	-$6,790	-$2,926
Deferred Income Taxes (State + Federal)		$17,246,330	$8,635,341	$2,419,233	$930,826	$85,461	$105,580	$78,659	$5,382	$29,957	$1,636,656	$587,753
Total Adjustments to After-Tax Income		$17,044,946	$8,488,180	$2,407,112	$917,697	$83,090	$105,474	$78,524	$5,362	$29,951	$1,629,867	$584,827

KANSAS GAS SERVICE COMPANY
CURB Class Cost of Service Study
Expenses

	Alloc Factor	Total	CNG Transport CNG	Irrigation Transport GIT	Large Vol Transport - T1 LVTk - T1	Large Vol Transport - T2 LVTk - T2	Large Vol Transport – T3 LVTk - T3	Large Vol Transport - T4 LVTk - T4	Large Vol Transport - T1 LVTt - T1	Large Vol Transport - T2 LVTt - T2	Large Vol Transport - T3 LVTt - T3	Large Vol Transport - T4 LVTt - T4	Wholesale Transport WTt
Distribution:													
Land & Land rights		$0											
Rights of way		$0											
Structures		$0											
Mains		$0											
Mains - Metallic		$0											
M&R station equipment - general		$0											
M&R station equipment - city gate		$0											
Services		$0											
Services-Metallic		$0											
Meters		$0											
Meter installations		$0											
House regulators		$0											
Other Property on Customer Premises		$0											
Other equipment	143	$36,160,806	$22,153	$99,519	$189,958	$346,360	$343,857	$1,074,960	$45,187	$117,118	$149,234	$599,505	$3,280
Total Distribution Plant		$36,160,806	$22,153	$99,519	$189,958	$346,360	$343,857	$1,074,960	$45,187	$117,118	$149,234	$599,505	$3,280
General Plant:													
Land & Land rights		$0											
Structures		$0											
Leasehold Improvements (1)		$0											
Office furniture and equipment		$0											
Computers and other electronic equipment		$0											
Transportation equipment		$0											
Stores equipment		$0											
Tools, shop and garage equipment		$0											
Laboratory equipment		$0											
Power operated equipment		$0											
Communications equipment		$0											
Miscellaneous equipment	85	$2,946,470	$2,058	$9,084	$12,376	$22,374	$22,153	$69,046	$4,171	$10,994	$14,036	$56,577	$6,970
Total General Plant		$2,946,470	$2,058	$9,084	$12,376	$22,374	$22,153	$69,046	$4,171	$10,994	$14,036	$56,577	$6,970
TOTAL DEPRECIATION EXPENSE		$44,365,028	$31,723	$137,094	$202,341	$368,746	$366,023	$1,144,046	$63,783	$167,885	$215,009	$866,378	$87,282
Amortization Expense:													
Intangible Plant	115	$23,498	$16	$75	$103	$188	$187	$583	$35	$93	$119	$480	$58
Distribution Plant		$0											
General Plant		$0											
Acquisition Premium		$0											
Regulatory Debit	115	-$267,949	-$200	-$855	-$1,178	-$2,143	-$2,128	-$8,652	-$401	-$1,059	-$1,358	-$5,475	-$667
Corporate Allocated	115	$4,889,353	$3,652	$15,601	$21,451	$39,112	$38,829	$121,388	$7,312	$19,316	$24,775	$99,903	$12,168
Total Amortization Expense		$4,644,902	$3,469	$14,821	$20,378	$37,156	$36,888	$115,319	$6,946	$18,350	$23,537	$94,908	$11,560
TOTAL DEP. AND AMORT. EXPENSE		$49,009,931	$35,192	$151,915	$222,719	$405,903	$402,911	$1,259,364	$70,729	$186,235	$238,545	$961,286	$98,842
Taxes Other Than Income:													
Payroll	146	$3,842,656	$1,506	$9,216	$11,574	$19,271	$18,567	$56,045	$3,489	$8,983	$10,903	$43,747	$6,088
Real Estate and Personal Property	107	$20,954,008	$15,589	$66,723	$91,692	$167,105	$165,872	$518,456	$31,234	$82,504	$105,793	$426,586	$51,993
Other	107	$218,847	$163	$697	$958	$1,745	$1,732	$5,415	$326	$862	$1,105	$4,455	$543
Total Taxes, Other		$25,015,511	$17,258	$76,637	$104,224	$188,121	$186,172	$579,916	$35,049	$92,348	$117,800	$474,788	$58,624
Adjustments to Pre-Tax Income:													
Interest on Long-Term Debt	101	$18,707,717	$14,180	$60,919	$83,130	$150,962	$149,845	$468,613	$28,403	$74,958	$96,131	$387,763	$47,989
Other	146	-$154,716	-$61	-$371	-$466	-$776	-$748	-$2,257	-$140	-$362	-$439	-$1,781	-$245
Total Adjustments to Pre-Tax Income		$18,553,001	$14,119	$60,547	$82,664	$150,186	$149,098	$466,357	$28,262	$74,597	$95,692	$386,001	$47,743
State Income Taxes (Current):													
Taxable Income		$45,655,729	-$8,086	$1,099,856	$451,605	$357,541	$400,738	$1,612,054	$154,639	$223,590	$341,813	$1,641,015	$956,211
State Income Taxes		$505,673	-$90	$12,182	$5,002	$3,960	$4,438	$17,855	$1,713	$2,476	$3,786	$18,176	$10,591
Federal Income Taxes (Current):													
Taxable Income		$45,150,056	-$7,996	$1,087,674	$446,603	$353,581	$396,300	$1,594,200	$152,927	$221,113	$338,027	$1,622,840	$945,620
Federal Income Taxes		$2,351,377	-$416	$56,645	$23,259	$18,414	$20,639	$83,025	$7,964	$11,515	$17,604	$84,516	$49,247
Total Current Income Taxes		$2,857,050	-$506	$68,827	$28,261	$22,374	$25,077	$100,879	$9,677	$13,992	$21,390	$102,692	$59,838
Adjustments to After-Tax Income:													
Amortization of ITC	115	-$201,384	-$150	-$643	-$884	-$1,611	-$1,599	-$5,000	-$301	-$796	-$1,020	-$4,115	-$501
Deferred Income Taxes (State + Federal)		$17,246,330	-$3,054	$415,467	$170,592	$135,060	$151,378	$608,949	$58,415	$84,460	$129,119	$619,889	$361,206
Total Adjustments to After-Tax Income		$17,044,946	-$3,205	$414,825	$169,709	$133,449	$149,779	$603,949	$58,113	$83,665	$128,098	$615,774	$360,705

KANSAS GAS SERVICE COMPANY
CURB Class Cost of Service Study
Labor

	Alloc Factor	Total	Residential RS	GS - Small GSS	GS - Large GSL	Transport Eligible GSTE	Small Generator SGS	Irrigation Sales GIS	Kansas Gas Supply KGSSD	Sales for Resale SSRk	Small Transport STk	Small Transport STt
Production & Gathering:												
Operation												
Op., Sup., & Eng.		$0										
Production Maps & Records		$0										
Field Lines Expenses		$0										
Field Compressor Station Expense		$0										
Field Compressor Sta. Fuel & Pwr.		$0										
Field Meas. & Regul. Station Exp		$0										
Purification Expense		$0										
Other Expenses		$0										
Maintenance												
Maint. Sup., & Eng.		$0										
Structures and Improvements		$0										
Field Line Maintenance		$0										
Compressor Station Equip. Maint.		$0										
Meas. & Regul. Station Equip Maint		$0										
Purification Equipment Maintenance		$0										
Other Equipment Maintenance		$0										
Gas Processed By Others		$0										
Total Production & Gathering		$0										
Other Gas Supply Expenses:												
Wellhead Purchases		$0										
Field Line Purchases		$0										
Transmission Line Purchases		$0										
City Gate Purchases		$0										
Other Gas Purchases		$0										
Exchange Gas		$0										
Purchased Gas Expenses		$0										
Storage Gas Withdrawal		$0										
Company Used Gas		$0										
Other Gas Supply Expenses	21	$789,408	$617,705	$55,579	$91,677	$20,791	$145	$2,138	$458	$916	$0	$0
Total Other Gas Supply Expenses		$789,408	$617,705	$55,579	$91,677	$20,791	$145	$2,138	$458	$916	$0	$0
Underground Storage:												
Operation												
Op., Sup., & Eng.		$0										
Maps & Records		$0										
Wells Expense		$0										
Lines Expense		$0										
Compressor Station Expense		$0										
Compressor Station Fuel & Power		$0										
Meas. & Regul. Station Expenses		$0										
Purification Expenses		$0										
Exploration & Development		$0										
Gas Losses		$0										
Other Expenses	16	$158	$124	$13	$18	$3	$0	$0	$0	$0	$0	$0
Storage Well Royalties		$0										
Rents		$0										
Maintenance												
Maint. Sup., & Eng.		$0										
Structures and Improvements		$0										
Reservoirs & Wells Maintenance		$0										
Line Maintenance		$0										
Compressor Station Equip Maint		$0										
Meas. & Regul. Station Equip Maint		$0										
Purification Equipment Maintenance		$0										
Other Equipment Maintenance		$0										
Total Underground Storage Expense		$158	$124	$13	$18	$3	$0	$0	$0	$0	$0	$0

KANSAS GAS SERVICE COMPANY
CURB Class Cost of Service Study
Labor

	Alloc Factor	Total	CNG Transport CNG	Irrigation Transport GIT	Large Vol Transport - T1 LVTk - T1	Large Vol Transport - T2 LVTk - T2	Large Vol Transport - T3 LVTk - T3	Large Vol Transport - T4 LVTk - T4	Large Vol Transport - T1 LVTt - T1	Large Vol Transport - T2 LVTt - T2	Large Vol Transport - T3 LVTt - T3	Large Vol Transport - T4 LVTt - T4	Wholesale Transport WTt
Production & Gathering:													
Operation													
Op., Sup., & Eng.		$0											
Production Maps & Records		$0											
Field Lines Expenses		$0											
Field Compressor Station Expense		$0											
Field Compressor Sta. Fuel & Pwr.		$0											
Field Meas. & Regul. Station Exp		$0											
Purification Expense		$0											
Other Expenses		$0											
Maintenance													
Maint. Sup., & Eng.		$0											
Structures and Improvements		$0											
Field Line Maintenance		$0											
Compressor Station Equip. Maint.		$0											
Meas. & Regul. Station Equip Maint		$0											
Purification Equipment Maintenance		$0											
Other Equipment Maintenance		$0											
Gas Processed By Others		$0											
Total Production & Gathering		$0											
Other Gas Supply Expenses:													
Wellhead Purchases		$0											
Field Line Purchases		$0											
Transmission Line Purchases		$0											
City Gate Purchases		$0											
Other Gas Purchases		$0											
Exchange Gas		$0											
Purchased Gas Expenses		$0											
Storage Gas Withdrawal		$0											
Company Used Gas		$0											
Other Gas Supply Expenses	21	$789,408	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Other Gas Supply Expenses		$789,408	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Underground Storage:													
Operation													
Op., Sup., & Eng.		$0											
Maps & Records		$0											
Wells Expense		$0											
Lines Expense		$0											
Compressor Station Expense		$0											
Compressor Station Fuel & Power		$0											
Meas. & Regul. Station Expenses		$0											
Purification Expenses		$0											
Exploration & Development		$0											
Gas Losses		$0											
Other Expenses	16	$158	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Storage Well Royalties		$0											
Rents		$0											
Maintenance													
Maint. Sup., & Eng.		$0											
Structures and Improvements		$0											
Reservoirs & Wells Maintenance		$0											
Line Maintenance		$0											
Compressor Station Equip Maint		$0											
Meas. & Regul. Station Equip Maint		$0											
Purification Equipment Maintenance		$0											
Other Equipment Maintenance		$0											
Total Underground Storage Expense		$158	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

KANSAS GAS SERVICE COMPANY
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Labor

	Alloc Factor	Total	Residential RS	GS - Small GSS	GS - Large GSL	Transport Eligible GSTE	Small Generator SGS	Irrigation Sales GIS	Kansas Gas Supply KGSSD	Sales for Resale SSRk	Small Transport STk	Small Transport STt
Transmission:												
Operation												
Op., Sup., & Eng.	10	$160,481	$112,615	$13,695	$16,033	$3,041	$0	$328	$122	$0	$0	$3,837
System Control & Load Dispatching	10	$1,076,174	$755,189	$91,838	$107,517	$20,390	$0	$2,203	$819	$0	$0	$25,731
Communication Systems Expense		$0										
Compressor Station Labor Expense	10	$371,[illegible]	$260,811	$31,717	$37,132	$7,042	$0	$761	$283	$0	$0	$8,887
Compressor Station Fuel Gas		$0										
Mains Expense	148	$1,412,[illegible]	$989,827	$97,097	$143,555	$29,266	$0	$1,411	$836	$0	$0	$34,614
Meas. & Regul. Station Expenses	10	$395,296	$277,393	$33,734	$39,493	$7,490	$0	$809	$301	$0	$0	$9,452
Meas. & Regul. Station Expenses - GSS		$0										
Trans. and Comp. of Gas by Others		$0										
Other Expenses	10	$49,[illegible]44	$34,486	$4,194	$4,910	$931	$0	$101	$37	$0	$0	$1,175
Rents		$0										
Maintenance												
Maint. Sup., & Eng.	10	$84,109	$59,022	$7,178	$8,403	$1,594	$0	$172	$64	$0	$0	$2,011
Structures and Improvements	10	$4,397	$3,085	$375	$439	$83	$0	$9	$3	$0	$0	$105
Mains	148	$253,528	$177,705	$17,432	$25,773	$5,254	$0	$253	$150	$0	$0	$6,214
Compressor Station Equip Maint	10	$182,508	$128,072	$15,575	$18,234	$3,458	$0	$374	$139	$0	$0	$4,364
Meas. & Regul. Station Equip Maint	10	$255,[illegible]	$179,098	$21,780	$25,498	$4,836	$0	$522	$194	$0	$0	$6,102
Communication Equipment Maintenance		$0										
Other Equipment Maintenance		$0										
Total Transmission Expense		$4,244,686	$2,977,304	$334,615	$426,986	$83,384	$0	$6,943	$2,949	$0	$0	$102,492
Distribution:												
Operation												
Supervision & Eng.	131	$1,605,080	$1,267,912	$114,540	$81,878	$11,465	$1,443	$655	$5	$80	$48,095	$14,576
Load Dispatching	19	$28,990	$18,027	$1,853	$2,579	$490	$4	$4	$0	$0	$1,807	$562
Mains & Services Expense	144	$4,105,032	$2,973,432	$237,078	$234,545	$42,800	$2,089	$2,583	$6	$69	$168,223	$52,547
Meas. & Reg Station Expense - Gen	19	$1,131,[illegible]15	$703,276	$72,289	$100,620	$19,130	$150	$175	$0	$0	$70,482	$21,923
Meas. & Reg Station Expense - Gen GSS		$0										
Meas. & Reg Station Expense - Ind	54	$283,651	$0	$211,929	$68,466	$3,256	$0	$0	$0	$0	$0	$0
Meas. & Reg Station Expense - City Gate	140	$247,[illegible]20	$145,161	$14,218	$21,062	$4,303	$32	$212	$0	$0	$16,467	$5,094
Meter & House Regulator Expense	42	$5,437,[illegible]29	$4,400,548	$339,806	$314,601	$42,372	$7,334	$1,968	$46	$775	$207,815	$59,767
Customer Installations Expense	4	$4,749,799	$4,332,992	$275,504	$89,004	$4,233	$4,854	$1,681	$0	$0	$25,155	$8,360
Other Expenses		$1,008,[illegible]35	$849,040	$59,876	$35,912	$4,789	$814	$312	$0	$0	$19,202	$6,058
Rents		$0										
Maintenance												
Supervision & Eng.	135	$313,[illegible]94	$206,526	$21,604	$23,246	$4,247	$133	$209	$1	$8	$16,479	$5,079
Structure & Improv.	19	$42,[illegible]81	$26,664	$2,741	$3,815	$725	$6	$7	$0	$0	$2,672	$831
Mains	142	$5,156,632	$3,026,616	$296,438	$439,142	$89,718	$671	$4,430	$0	$0	$343,345	$106,211
Meas. & Reg Station Expense - Gen	19	$429,149	$266,849	$27,429	$38,179	$7,259	$57	$66	$0	$0	$26,744	$8,318
Meas. & Reg Station Expense - Ind	54	$123,918	$0	$92,585	$29,910	$1,422	$0	$0	$0	$0	$0	$0
Meas. & Reg Station Expense - City Gate	140	$194,092	$113,920	$11,158	$16,529	$3,377	$25	$167	$0	$0	$12,923	$3,998
Services	34	$1,505,771	$1,367,908	$87,500	$29,491	$1,632	$1,531	$484	$5	$59	$10,049	$3,545
Meters & House Regulators	42	$1,322,347	$1,070,105	$82,632	$76,503	$10,304	$1,784	$479	$11	$188	$50,536	$14,534
Maintenance of Other Equipment		$0										
Total Distribution		$27,685,[illegible]93	$20,768,974	$1,949,181	$1,605,482	$251,523	$20,927	$13,433	$74	$1,178	$1,019,994	$311,402
Customer Accounts:												
Operation												
Supervision	3	$386,618	$352,672	$22,424	$7,244	$345	$395	$137	$1	$4	$2,047	$680
Meter Reading Expenses	3	$1,356,331	$1,237,241	$78,667	$25,414	$1,209	$1,386	$480	$2	$15	$7,183	$2,387
Meter Reading Expenses - GSS		$0										
Customer Records and Collection Exp.	3	$6,311,[illegible]93	$5,757,325	$366,068	$118,262	$5,624	$6,449	$2,234	$10	$70	$33,424	$11,108
Uncollectible Accounts		$0										
Miscellaneous Customer Accounts Exp.	3	$561,[illegible]27	$512,497	$32,586	$10,527	$501	$574	$199	$1	$6	$2,975	$989
Total Customer Accounts		$8,616,[illegible]69	$7,859,734	$499,745	$161,447	$7,678	$8,804	$3,049	$14	$95	$45,630	$15,164

KANSAS GAS SERVICE COMPANY
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	Alloc Factor	Total	CNG Transport CNG	Irrigation Transport GT	Large Vol Transport - T1 LVTk - T1	Large Vol Transport - T2 LVTk - T2	Large Vol Transport - T3 LVTk - T3	Large Vol Transport - T4 LVTk - T4	Large Vol Transport - T1 LVTt - T1	Large Vol Transport - T2 LVTt - T2	Large Vol Transport - T3 LVTt - T3	Large Vol Transport - T4 LVTt - T4	Wholesale Transport WTt
Transmission:													
Operation													
Op., Sup., & Eng.	10	$160,481	$70	$1,790	$0	$0	$0	$0	$300	$885	$947	$4,442	$2,376
System Control & Load Dispatching	10	$1,076,174	$471	$12,006	$0	$0	$0	$0	$2,015	$5,932	$6,347	$29,786	$15,930
Communication Systems Expense		$0											
Compressor Station Labor Expense	10	$371,665	$163	$4,146	$0	$0	$0	$0	$696	$2,049	$2,192	$10,287	$5,502
Compressor Station Fuel Gas		$0											
Mains Expense	148	$1,412,163	$2,022	$7,669	$0	$0	$0	$0	$3,883	$10,707	$13,927	$56,610	$20,738
Meas. & Regul. Station Expenses	10	$395,296	$173	$4,410	$0	$0	$0	$0	$740	$2,179	$2,331	$10,941	$5,851
Meas. & Regul. Station Expenses - GSS		$0											
Trans. and Comp. of Gas by Others		$0											
Other Expenses	10	$49,144	$21	$548	$0	$0	$0	$0	$92	$271	$290	$1,360	$727
Rents		$0											
Maintenance													
Maint. Sup., & Eng.	10	$84,109	$37	$938	$0	$0	$0	$0	$157	$464	$496	$2,328	$1,245
Structures and Improvements	10	$4,397	$2	$49	$0	$0	$0	$0	$8	$24	$26	$122	$65
Mains	148	$253,528	$363	$1,377	$0	$0	$0	$0	$697	$1,922	$2,500	$10,163	$3,723
Compressor Station Equip Maint	10	$182,508	$80	$2,036	$0	$0	$0	$0	$342	$1,006	$1,076	$5,051	$2,702
Meas. & Regul. Station Equip Maint	10	$255,222	$112	$2,847	$0	$0	$0	$0	$478	$1,407	$1,505	$7,064	$3,778
Communication Equipment Maintenance		$0											
Other Equipment Maintenance		$0											
Total Transmission Expense		$4,244,686	$3,513	$37,817	$0	$0	$0	$0	$9,408	$26,844	$31,639	$138,154	$62,637
Distribution:													
Operation													
Supervision & Eng.	131	$1,605,080	$479	$2,291	$5,375	$8,006	$7,452	$21,596	$1,162	$2,717	$3,190	$11,922	$240
LoadDispatching	19	$28,990	$22	$11	$234	$501	$469	$1,295	$57	$170	$200	$706	$0
Mains & Services Expense	144	$4,105,032	$2,879	$12,249	$22,996	$44,859	$45,158	$143,062	$5,648	$15,143	$19,645	$79,899	$120
Meas. & Reg. Station Expense - Gen	19	$1,131,015	$841	$441	$9,116	$19,530	$18,307	$50,541	$2,231	$6,617	$7,822	$27,524	$0
Meas. & Reg. Station Expense - Gen GSS		$0											
Meas. & Reg. Station Expense - Ind	54	$283,651	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Meas. & Reg. Station Expense - City Gate	140	$247,319	$301	$1,158	$2,312	$4,665	$4,720	$15,022	$573	$1,577	$2,056	$8,387	$0
Meter & House Regulator Expense	42	$5,437,829	$818	$5,746	$18,643	$10,043	$5,741	$7,229	$3,012	$3,511	$2,150	$3,484	$2,419
Customer Installations Expense	4	$4,749,799	$26	$3,897	$1,409	$826	$475	$457	$253	$276	$177	$219	$0
Other Expenses		$1,008,193	$187	$747	$2,191	$4,333	[illegible]	$11,010	$521	$1,467	$1,715	$5,996	$0
Rents		$0											
Maintenance													
Supervision & Eng.	135	$313,794	$267	$1,043	$2,206	$4,215	$4,205	$13,178	$533	$1,425	$1,826	$7,344	$22
Strucure & Improv.	19	$42,881	$32	$17	$346	$740	$694	$1,916	$85	$251	$297	$1,044	$0
Mains	142	$5,156,632	$6,266	$24,146	$48,200	$97,274	$98,404	$313,213	$11,947	$32,875	$42,874	$174,862	$0
Meas. & Reg. Station Expense - Gen	19	$429,149	$319	$167	$3,459	$7,410	$6,946	$19,177	$847	$2,511	$2,968	$10,444	$0
Meas. & Reg. Station Expense - Ind	54	$123,918	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Meas. & Reg. Station Expense - City Gate	140	$194,092	$236	$909	$1,814	$3,661	$3,704	$11,789	$450	$1,237	$1,614	$6,582	$0
Services	34	$1,505,771	$20	$1,066	$879	$443	$257	$242	$174	$135	$86	$161	$103
Meters & House Regulators	42	$1,322,347	$199	$1,397	$4,534	$2,442	$1,396	$1,758	$733	$854	$523	$847	$588
Maintenance of Other Equipment		$0											
Total Distribution		$27,685,493	$12,891	$55,284	$123,714	$208,951	$201,950	$611,487	$28,224	$70,766	$87,144	$339,421	$3,491
Customer Accounts:													
Operation													
Supervision	3	$386,618	$2	$317	$115	$67	$[illegible]	$37	$21	$22	$14	$18	$17
Meter Reading Expenses	3	$1,356,331	$7	$1,113	$402	$236	$136	$131	$72	$79	$51	$63	$58
Meter Reading Expenses - GSS		$0											
Customer Records and Collection Exp.	3	$6,311,493	$35	$5,178	$1,873	$1,098	$631	$607	$336	$367	$236	$291	$270
Uncollectible Accounts		$0											
Miscellaneous Customer Accounts Exp.	3	$561,827	$3	$461	$167	$98	$[illegible]	$54	$30	$33	$21	$26	$24
Total Customer Accounts		$8,616,269	$47	$7,068	$2,556	$1,499	$86[illegible]	$829	$459	$501	$321	$397	$369

KANSAS GAS SERVICE COMPANY
CURB Class Cost of Service Study
Labor

	Alloc Factor	Total	Residential RS	GS - Small GSS	GS - Large GSL	Transport Eligible GSTE	Small Generator SGS	Irrigation Sales GIS	Kansas Gas Supply KGSSD	Sales for Resale SSRk	Small Transport STk	Small Transport STt
Customer Service and Information:												
Operation												
Supervision		$0										
Customer Assistance Expenses	4	$146,887	$133,997	$8,520	$2,752	$131	$150	$52	$0	$0	$778	$259
Information and Instructional Expenses		$0										
Misc. Customer Service and Information		$0										
Total Customer Service and Information		$146,887	$133,997	$8,520	$2,752	$131	$150	$52	$0	$0	$778	$259
Sales:												
Operation												
Supervision		$0										
Demonstration & Selling Expenses	3	$503,932	$459,685.66	$29,228	$9,442	$449	$515	$178	$1	$6	$2,669	$887
Advertising Expenses		$0										
Miscellaneous Sales Expenses		$0										
Total Sales		$503,932	$459,686	$29,228	$9,442	$449	$515	$178	$1	$6	$2,669	$887
Administrative & General:												
Operation												
Salaries	147	$9,448,845	$7,385,356	$647,422	$517,105	$81,906	$6,873	$5,805	$787	$494	$240,587	$96,815
Office Supplies and Expenses		$0										
Administrative Expense Transfer		$0										
Outside Services Employed		$0										
Property Insurance		$0										
Injuries and Damages		$0										
Pensions & Benefits		$0										
Franchise Requirements		$0										
Regulatory Expense		$0										
Duplicate Charges - Credit		$0										
General Advertising Expenses		$0										
Miscellaneous General Expenses		$0										
Rents		$0										
Maintenance												
Maintenance of General Plant		$0										
Total A&G		$9,448,845	$7,385,356	$647,422	$517,105	$81,906	$6,873	$5,805	$787	$494	$240,587	$96,815
Other Utility Plant Related Payroll		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL O&M EXPENSES - PAYROLL		$51,435,678	$40,202,879	$3,524,304	$2,814,910	$445,865	$37,414	$31,599	$4,283	$2,688	$1,309,657	$527,019

KANSAS GAS SERVICE COMPANY
CURB Class Cost of Service Study
Labor

	Alloc Factor	Total	CNG Transport CNG	Irrigation Transport GIT	Large Vol Transport - T1 LVTt - T1	Large Vol Transport - T2 LVTk - T2	Large Vol Transport - T3 LVTk - T3	Large Vol Transport - T4 LVTk - T4	Large Vol Transport - T1 LVTt - T1	Large Vol Transport - T2 LVTt - T2	Large Vol Transport - T3 LVTt - T3	Large Vol Transport - T4 LVTt - T4	Wholesale Transport WTt
Customer Service and Information:													
Operation													
Supervision		$0											
Customer Assistance Expenses	4	$146,887	$1	$121	$44	$26	$15	$14	$8	$9	$5	$7	$0
Information and Instructional Expenses		$0											
Misc. Customer Service and Information		$0											
Total Customer Service and Information		$146,887	$1	$121	$44	$26	$15	$14	$8	$9	$5	$7	$0
Sales:													
Operation													
Supervision		$0											
Demonstration & Selling Expenses	3	$503,932	$3	$413	$150	$88	$50	$48	$27	$29	$19	$23	$22
Advertising Expenses		$0											
Miscellaneous Sales Expenses		$0											
Total Sales		$503,932	$3	$413	$150	$88	$50	$48	$27	$29	$19	$23	$22
Administrative & General:													
Operation													
Salaries	147	$9,448,845	$3,703	$22,663	$28,460	$47,386	$45,656	$137,812	$8,580	$22,088	$26,809	$107,571	$14,969
Office Supplies and Expenses		$0											
Administrative Expense Transfer		$0											
Outside Services Employed		$0											
Property Insurance		$0											
Injuries and Damages		$0											
Pensions & Benefits		$0											
Franchise Requirements		$0											
Regulatory Expense		$0											
Duplicate Charges - Credit		$0											
General Advertising Expenses		$0											
Miscellaneous General Expenses		$0											
Rents		$0											
Maintenance													
Maintenance of General Plant		$0											
Total A&G		$9,448,845	$3,703	$22,663	$28,460	$47,386	$45,656	$137,812	$8,580	$22,088	$26,809	$107,571	$14,969
Other Utility Plant Related Payroll		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL O&M EXPENSES - PAYROLL		$51,435,678	$20,158	$123,366	$154,923	$257,949	$248,532	$750,190	$46,706	$120,236	$145,937	$585,572	$81,488

KANSAS GAS SERVICE COMPANY
CURB Class Cost of Service Study
Revenues

	Alloc Factor	Total	Residential RS	GS - Small GSS	GS - Large GSL	Transport Eligible GSTE	Small Generator SGS	Irrigation Sales GIS	Kansas Gas Supply KGSSD	Sales for Resale SRk	Small Transport STk	Small Transport STt
Rate Schedule Revenue:												
Sales Service Revenues		$236,497,118	$196,678,862	$20,760,708	$15,698,681	$2,484,991	$413,030	$343,320	$31,379	$86,147	$0	$0
Gas Purchased		$0										
Transport Service Revenues		$36,685,721	$0	$0	$0	$0	$0	$0	$0	$0	$10,806,529	$4,185,306
Adjustments:												
Sales NTB	45	-$5	-$4	$0	$0	$0	$0	$0	$0	$0	$0	$0
Transport NTB	46	$20,391	$0	$0	$0	$0	$0	$0	$0	$0	$6,007	$2,326
Weather Normalization		$0										
Customer Annualization		$0										
Miscellaneous Rate Schedule Revenues		$0										
Total Rate Schedule Revenue		$273,203,224	$196,678,858	$20,760,708	$15,698,681	$2,484,991	$413,030	$343,320	$31,379	$86,147	$10,812,536	$4,187,632
Other Revenue:												
Other Utility Revenue	47	$3,270,504	$2,354,610	$248,544	$187,942	$29,750	$4,945	$4,110	$376	$1,031	$129,374	$50,106
Competitive Transport Revenue	47	$11,457,684	$8,248,996	$870,734	$658,425	$104,224	$17,323	$14,399	$1,316	$3,613	$453,241	$175,538
Sales Adjustments (R-3, 4, 9, 12, 15)		$0										
Other Operating Revenue		$0										
Total Non-Rate Revenue		$14,728,188	$10,603,606	$1,119,278	$846,368	$133,974	$22,268	$18,509	$1,692	$4,644	$582,616	$225,644
TOTAL REVENUE		$287,931,412	$207,282,464	$21,879,986	$16,545,048	$2,618,965	$435,298	$361,829	$33,071	$90,791	$11,395,151	$4,413,276

KANSAS GAS SERVICE COMPANY
CURB Class Cost of Service Study
Revenues

	Alloc Factor	Total	CNG Transport CNG	Irrigation Transport GIT	Large Vol Transport - T1 LVTk - T1	Large Vol Transport - T2 LVTk - T2	Large Vol Transport - T3 LVTk - T3	Large Vol Transport - T4 LVTk - T4	Large Vol Transport - T1 LVTt - T1	Large Vol Transport - T2 LVTt - T2	Large Vol Transport - T3 LVTt - T3	Large Vol Transport - T4 LVTt - T4	Wholesale Transport WTt
Rate Schedule Revenue:													
Sales Service Revenues		$236,497,118	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Gas Purchased		$0											
Transport Service Revenues		$36,685,721	$124,122	$1,651,952	$1,265,757	$1,814,928	$1,832,227	$6,027,104	$414,144	$907,207	$1,210,073	$5,127,136	$1,319,236
Adjustments:													
Sales NTB	45	-$5	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Transport NTB	46	$20,391	$69	$918	$704	$1,009	$1,018	$3,350	$230	$504	$673	$2,850	$733
Weather Normalization		$0											
Customer Annualization		$0											
Miscellaneous Rate Schedule Revenues		$0											
Total Rate Schedule Revenue		$273,203,224	$124,191	$1,652,870	$1,266,461	$1,815,937	$1,833,245	$6,030,454	$414,374	$907,711	$1,210,746	$5,129,986	$1,319,969
Other Revenue:													
Other Utility Revenue	47	$3,270,504	$1,486	$19,777	$15,153	$21,728	$21,935	$72,156	$4,958	$10,861	$14,487	$61,381	$15,794
Competitive Transport Revenue	47	$11,457,684	$5,206	$69,285	$53,088	$76,121	$76,846	$252,785	$17,370	$38,050	$50,752	$215,040	$55,331
Sales Adjustments (R-3, 4, 9, 12, 15)		$0											
Other Operating Revenue		$0											
Total Non-Rate Revenue		$14,728,188	$6,692	$89,062	$68,241	$97,849	$98,781	$324,941	$22,328	$48,911	$65,239	$276,421	$71,124
TOTAL REVENUE		$287,931,412	$130,883	$1,741,932	$1,334,702	$1,913,786	$1,932,027	$6,355,395	$436,702	$956,622	$1,275,985	$5,406,407	$1,391,094

KANSAS GAS SERVICE COMPANY
CURB Class Cost of Service Study
Allocation Amounts

	TAI Alloc Factor	Total	Residential RS	GS - Small GSS	GS - Large GSL	Transport Eligible GSTE	Small Generator SGS	Irrigation Sales GIS	Kansas Gas Supply KGSSD	Sales for Resale SSRk	Small Transport STk	Small Transport STt
Sales Customers	1	629,742	579,541	36,849	11,904	566	649	225	1	7	0	0
Transport Customers	2	5,582	0	0	0	0	0	0	0	0	3,365	1,118
Total Customers	3	635,324	579,541	36,849	11,904	566	649	225	1	7	3,365	1,118
Retail Customers	4	635,289	579,541	36,849	11,904	566	649	225	0	0	3,365	1,118
Customers for Transmission Allocation	5	630,880	579,541	36,849	11,904	566	0	225	1	0	0	1,118
CP Demand - Sales Customers	6	666,655	514,206	62,533	73,208	13,884	7	1,500	558	760	0	0
CP Demand - Transport Customers	7	197,433	0	0	0	0	0	0	0	0	58,804	17,520
CP Demand - Total Customers	8	864,089	514,206	62,533	73,208	13,884	7	1,500	558	760	58,804	17,520
CP Demand - Retail Customers	9	851,924	514,206	62,533	73,208	13,884	7	1,500	0	0	58,804	17,520
CP Demand for Transmission Allocation	10	732,764	514,206	62,533	73,208	13,884	0	1,500	558	0	0	17,520
Monthly NCP Demand - Sales Customers	11	12,650,568	9,878,131	1,015,366	1,413,295	268,694	2,110	45,971	8,928	18,074	0	0
Monthly NCP Demand - Transport Customers	12	3,943,587	0	0	0	0	0	0	0	0	1,043,967	325,817
Monthly NCP Demand - Total Customers	13	16,594,155	9,878,131	1,015,366	1,413,295	268,694	2,110	45,971	8,928	18,074	1,043,967	325,817
Monthly NCP Demand - Retail Customers	14	16,372,786	9,878,131	1,015,366	1,413,295	268,694	2,110	45,971	0	0	1,043,967	325,817
Monthly NCP Demand for Transmission Allocation	15	14,085,759	9,878,131	1,015,366	1,413,295	268,694	0	45,971	8,928	0	0	325,817
Monthly CP Demand - Sales Customers	16	12,606,228	9,878,131	1,015,366	1,413,295	268,694	2,110	2,456	8,928	17,249	0	0
Monthly CP Demand - Transport Customers	17	3,493,937	0	0	0	0	0	0	0	0	989,987	307,922
Monthly CP Demand - Total Customers	18	16,100,165	9,878,131	1,015,366	1,413,295	268,694	2,110	2,456	8,928	17,249	989,987	307,922
Monthly CP Demand - Retail Customers	19	15,886,114	9,878,131	1,015,366	1,413,295	268,694	2,110	2,456	0	0	989,987	307,922
Monthly CP Demand for Transmission Allocation	20	13,721,427	9,878,131	1,015,366	1,413,295	268,694	0	2,456	8,928	0	0	307,922
MCF - Sales Customers	21	54,037,922	42,284,167	3,804,594	6,275,606	1,423,217	9,936	146,375	31,337	62,689	0	0
MCF - Transport Customers	22	25,768,212	0	0	0	0	0	0	0	0	5,715,973	1,756,377
MCF - Total	23	79,806,133	42,284,167	3,804,594	6,275,606	1,423,217	9,936	146,375	31,337	62,689	5,715,973	1,756,377
MCF - Retail Customers	24	78,684,885	42,284,167	3,804,594	6,275,606	1,423,217	9,936	146,375	0	0	5,715,973	1,756,377
MCF for Transmission Allocation	25	63,075,849	42,284,167	3,804,594	6,275,606	1,423,217	0	146,375	31,337	0	0	1,756,377
MCF Sales for Transmission Allocation	26	53,965,296	42,284,167	3,804,594	6,275,606	1,423,217	0	146,375	31,337	0	0	0
MCF Less Flex	27	79,806,133	42,284,167	3,804,594	6,275,606	1,423,217	9,936	146,375	31,337	62,689	5,715,973	1,756,377
Winter Volumes - Sales Customers	28	41,878,287	33,005,516	3,165,262	4,673,586	933,882	7,203	10,071	27,706	55,061	0	0
Winter Volumes - Transport Customers	29	14,343,884	0	0	0	0	0	0	0	0	3,766,055	1,171,245
Winter Volumes - Total	30	56,222,171	33,005,516	3,165,262	4,673,586	933,882	7,203	10,071	27,706	55,061	3,766,055	1,171,245
Winter Volumes - Retail Customers	31	55,426,279	33,005,516	3,165,262	4,673,586	933,882	7,203	10,071	0	0	3,766,055	1,171,245
Winter Volumes for Transmission Allocation	32	46,561,511	33,005,516	3,165,262	4,673,586	933,882	0	10,071	27,706	0	0	1,171,245
Net Sales Revenues	33	$236,497,113	$196,678,858	$20,760,708	$15,698,681	$2,484,991	$413,030	$343,320	$31,379	$86,147	$0	$0
Services Cost	34	$278,506,485	$253,007,531	$16,184,012	$5,454,655	$301,933	$283,093	$89,452	$962	$10,911	$1,858,660	$655,694
Number of Services	35	642,590	586,525	37,266	11,878	538	649	203	1	13	3,304	1,148
Meters Cost	36	281,675,554	225,453,200	19,136,210	18,522,943	1,971,423	393,836	195,467	1,577	28,923	9,746,872	2,955,770
Number of Meters	37	642,590	586,525	37,266	11,878	538	649	203	1	13	3,304	1,148
AMR Cost	38	$12,588,675	$11,609,131	$732,770	$176,646	$2,490	$13,736	$3,615	$0	$80	$29,883	$10,122
Number of AMR Installations	39	156,712	144,518	9,122	2,199	31	171	45	0	1	372	126
Regulators Cost	40	$1,005,714,767	$967,017,065	$22,914,844	$4,177,737	$170,296	$171,388	$125,219	$617	$58,584	$2,430,250	$5,173,439
Number of Regulators	41	642,590	586,525	37,266	11,878	538	649	203	1	13	3,304	1,148
Meter & Regulator Installation Cost	42	$161,659,368	$130,822,394	$10,101,970	$9,352,652	$1,259,668	$218,039	$58,520	$1,377	$23,025	$6,178,061	$1,776,795
Number of Meter Set Installations	43	642,590	586,525	37,266	11,878	538	649	203	1	13	3,304	1,148

KANSAS GAS SERVICE COMPANY
CURB Class Cost of Service Study
Allocation Amounts

	TAI Alloc Factor	Total	Residential RS	GS - Small GSS	GS - Large GSL	Transport Eligible GSTE	Small Generator SGS	Irrigation Sales GIS	Kansas Gas Supply KGSSD	Sales for Resale SSRk	Small Transport STk	Small Transport STt
Customer Deposits	44	$19,980,078	$12,203,729	$3,515,522	$2,658,342	$420,797	$0	$122,130	$0	$0	$444,964	$172,332
Sales Revenues	45	$236,497,118	$196,678,862	$20,760,708	$15,698,681	$2,484,991	$413,030	$343,320	$31,379	$86,147	$0	$0
Transportation Revenues	46	$36,685,721	$0	$0	$0	$0	$0	$0	$0	$0	$10,806,529	$4,185,306
Rate Schedule Revenues	47	$273,182,838	$196,678,862	$20,760,708	$15,698,681	$2,484,991	$413,030	$343,320	$31,379	$86,147	$10,806,529	$4,185,306
Total Revenues	48	$287,931,412	$207,282,464	$21,879,986	$16,545,049	$2,618,965	$435,298	$361,829	$33,070	$90,791	$11,395,151	$4,413,276
Direct to GSS Customers	54	$49,319	$0	$36,849	$11,904	$566	$0	$0	$0	$0	$0	$0
Distribution Plant	78	$1,337,676,176	$985,305,330	$78,246,075	$77,575,151	$13,386,227	$836,433	$805,938	$2,943	$43,262	$54,001,385	$16,824,173
General Plant	85	$107,211,011	$79,086,066	$6,574,508	$6,837,075	$1,217,109	$58,988	$70,838	$10,422	$3,327	$3,494,241	$1,495,419
Rate Base Less Working Capital	101	$1,474,638,952	$1,067,565,487	$91,384,766	$99,848,130	$18,022,398	$749,830	$1,114,738	$149,644	$40,550	$50,690,916	$21,877,182
Gross Plant	107	$1,770,498,662	$1,294,528,569	$106,687,757	$115,277,602	$20,802,524	$927,735	$1,181,988	$175,768	$49,389	$59,571,927	$25,665,238
Net Plant	111	$1,166,359,589	$846,146,468	$70,452,553	$77,972,702	$14,124,575	$600,625	$795,736	$120,597	$32,490	$40,254,383	$17,417,842
PST&D Plant	115	$1,601,703,695	$1,170,440,211	$96,406,512	$104,425,469	$18,860,256	$836,581	$1,070,009	$159,224	$44,356	$54,001,385	$23,274,921
O&M less A&G	119	$102,662,649	$80,192,315	$6,747,207	$5,528,178	$900,425	$73,005	$61,326	$6,853	$5,569	$2,639,141	$1,045,942
Transmission Operations	123	$7,323,740	$5,073,786	$487,092	$740,281	$155,368	$0	$9,898	$4,148	$0	$0	$186,021
Transmission Maintenance	127	$1,507,574	$1,056,704	$103,658	$153,254	$31,243	$0	$1,507	$892	$0	$0	$36,953
Distribution Operations	131	$16,991,827	$13,422,474	$1,212,553	$866,788	$121,373	$15,277	$6,936	$52	$843	$509,152	$154,311
Distribution Maintenance	135	$18,916,513	$12,450,052	$1,302,389	$1,401,359	$256,010	$8,024	$12,582	$31	$469	$993,387	$306,151
Peak & Average - Production Plant	139	100.0000%	78.3137%	7.6357%	11.3772%	2.3389%	0.0174%	0.1233%	0.0655%	0.1282%	0.0000%	0.0000%
Peak & Average - Distribution Plant	140	100.0000%	58.6936%	5.7487%	8.5161%	1.7399%	0.0130%	0.0859%	0.0000%	0.0000%	6.6583%	2.0597%
Dist Plt Excluding Land & Rights of Way	141	$1,335,302,548	$983,556,964	$78,107,232	$77,437,498	$13,362,474	$834,948	$804,508	$2,938	$43,185	$53,905,562	$16,794,319
Total Dist. Mains Pant	142	$622,285,557	$365,242,086	$35,773,133	$52,994,215	$10,826,899	$80,975	$534,653	$0	$0	$41,433,739	$12,817,170
Total Distribution Plant	143	$1,337,676,176	$985,305,330	$78,246,075	$77,575,151	$13,386,227	$836,433	$805,938	$2,943	$43,262	$54,001,385	$16,824,173
Mains & Services Distribution Plt.	144	$1,017,103,293	$736,726,830	$58,740,837	$58,113,109	$10,604,648	$517,624	$640,019	$1,501	$17,030	$41,680,690	$13,019,567
Dist. Operations Labor	145	$16,991,827	$13,422,474	$1,212,553	$866,738	$121,373	$15,277	$6,936	$52	$843	$509,152	$154,311
Total Labor	146	$51,435,676	$40,202,879	$3,524,304	$2,814,910	$445,865	$37,414	$31,599	$4,283	$2,688	$1,309,657	$527,019
Labor - A&G	147	$41,986,830	$32,817,523	$2,876,882	$2,297,805	$363,959	$30,541	$25,794	$3,496	$2,195	$1,069,071	$430,204
Peak & Average - Transmission Plant	148	100.000%	70.0930%	6.8758%	10.1656%	2.0724%	0.0000%	0.0999%	0.0592%	0.0000%	0.0000%	2.4511%
Total O&M Less Other Gas Supply	149	$147,437,198	$114,857,667	$9,691,586	$7,848,982	$1,264,840	$105,434	$84,840	$9,266	$6,164	$3,900,607	$1,543,100

KANSAS GAS SERVICE COMPANY
CURB Class Cost of Service Study
Allocation Amounts

	TAI Alloc Factor	Total	CNG Transport CNG	Irrigation Transport GIT	Large Vol Transport - T1 LVTk - T1	Large Vol Transport - T2 LVTk - T2	Large Vol Transport - T3 LVTk - T3	Large Vol Transport - T4 LVTk - T4	Large Vol Transport - T1 LVTt - T1	Large Vol Transport - T2 LVTt - T2	Large Vol Transport - T3 LVTt - T3	Large Vol Transport - T4 LVTt - T4	Wholesale Transport WTt
Sales Customers	1	629,742	0	0	0	0	0	0	0	0	0	0	0
Transport Customers	2	5,582	3	521	188	111	63	61	34	37	24	29	27
Total Customers	3	635,324	3	521	188	111	63	61	34	37	24	29	27
Retail Customers	4	635,289	3	521	188	111	63	61	34	37	24	29	0
Customers for Transmission Allocation	5	630,880	3	521	0	0	0	0	34	37	24	29	27
CP Demand - Sales Customers	6	666,655	0	0	0	0	0	0	0	0	0	0	0
CP Demand - Transport Customers	7	197,433	320	8,175	14,504	14,530	12,216	30,504	1,372	4,039	4,322	20,281	10,847
CP Demand - Total Customers	8	864,089	320	8,175	14,504	14,530	12,216	30,504	1,372	4,039	4,322	20,281	10,847
CP Demand - Retail Customers	9	851,924	320	8,175	14,504	14,530	12,216	30,504	1,372	4,039	4,322	20,281	0
CP Demand for Transmission Allocation	10	732,764	320	8,175	0	0	0	0	1,372	4,039	4,322	20,281	10,847
Monthly NCP Demand - Sales Customers	11	12,650,568	0	0	0	0	0	0	0	0	0	0	0
Monthly NCP Demand - Transport Customers	12	3,943,587	14,318	256,085	152,045	281,392	257,140	753,668	36,346	92,946	117,756	417,739	194,367
Monthly NCP Demand - Total Customers	13	16,594,155	14,318	256,085	152,045	281,392	257,140	753,668	36,346	92,946	117,756	417,739	194,367
Monthly NCP Demand - Retail Customers	14	16,372,786	14,318	256,085	152,045	281,392	257,140	753,668	36,346	92,946	117,756	417,739	0
Monthly NCP Demand for Transmission Allocation	15	14,085,759	14,318	256,085	0	0	0	0	36,346	92,946	117,756	417,739	194,367
Monthly CP Demand - Sales Customers	16	12,606,228	0	0	0	0	0	0	0	0	0	0	0
Monthly CP Demand - Transport Customers	17	3,493,937	11,811	6,200	128,049	274,310	257,140	709,893	31,338	92,946	109,868	386,598	187,875
Monthly CP Demand - Total Customers	18	16,100,165	11,811	6,200	128,049	274,310	257,140	709,893	31,338	92,946	109,868	386,598	187,875
Monthly CP Demand - Retail Customers	19	15,886,114	11,811	6,200	128,049	274,310	257,140	709,893	31,338	92,946	109,868	386,598	0
Monthly CP Demand for Transmission Allocation	20	13,721,427	11,811	6,200	0	0	0	0	31,338	92,946	109,868	386,598	187,875
MCF - Sales Customers	21	54,037,922	0	0	0	0	0	0	0	0	0	0	0
MCF - Transport Customers	22	25,768,212	148,327	848,324	879,339	1,662,813	1,825,393	6,574,140	220,764	560,297	810,571	3,738,673	1,027,222
MCF - Total	23	79,806,133	148,327	848,324	879,339	1,662,813	1,825,393	6,574,140	220,764	560,297	810,571	3,738,673	1,027,222
MCF - Retail Customers	24	78,684,885	148,327	848,324	879,339	1,662,813	1,825,393	6,574,140	220,764	560,297	810,571	3,738,673	0
MCF for Transmission Allocation	25	63,075,849	148,327	848,324	0	0	0	0	220,764	560,297	810,571	3,738,673	1,027,222
MCF Sales for Transmission Allocation	26	53,965,296	0	0	0	0	0	0	0	0	0	0	0
MCF Less Flex	27	79,806,133	148,327	848,324	879,339	1,662,813	1,825,393	6,574,140	220,764	560,297	810,571	3,738,673	1,027,222
Winter Volumes - Sales Customers	28	41,878,287	0	0	0	0	0	0	0	0	0	0	0
Winter Volumes - Transport Customers	29	14,343,884	60,999	45,817	571,622	1,042,999	1,024,294	3,193,425	146,565	348,466	453,258	1,806,015	713,125
Winter Volumes - Total	30	56,222,171	60,999	45,817	571,622	1,042,999	1,024,294	3,193,425	146,565	348,466	453,258	1,806,015	713,125
Winter Volumes - Retail Customers	31	55,426,279	60,999	45,817	571,622	1,042,999	1,024,294	3,193,425	146,565	348,466	453,258	1,806,015	0
Winter Volumes for Transmission Allocation	32	46,561,511	60,999	45,817	0	0	0	0	146,565	348,466	453,258	1,806,015	713,125
Net Sales Revenues	33	$236,497,113	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Services Cost	34	$278,506,485	$3,649	$197,092	$162,543	$81,997	$47,614	$44,834	$32,127	$24,935	$15,982	$29,772	$19,037
Number of Services	35	642,590	7	454	218	104	61	64	38	33	21	34	31
Meters Cost	36	281,675,554	35,634	630,315	870,431	454,827	262,690	334,492	139,474	159,083	99,284	164,608	118,496
Number of Meters	37	642,590	7	454	218	104	61	64	38	33	21	34	31
AMR Cost	38	$12,588,675	$0	$9,559	$643	$0	$0	$0	$0	$0	$0	$0	$0
Number of AMR Installations	39	156,712	0	119	8	0	0	0	0	0	0	0	0
Regulators Cost	40	$1,005,714,767	$9,641	$2,045,942	$396,832	$143,237	$84,014	$88,146	$171,246	$148,714	$94,636	$153,220	$139,701
Number of Regulators	41	642,590	7	454	218	104	61	64	38	33	21	34	31
Meter & Regulator Installation Cost	42	$161,659,368	$24,328	$170,814	$554,237	$298,576	$170,681	$214,912	$89,553	$104,372	$63,906	$103,581	$71,907
Number of Meter Set Installations	43	642,590	7	454	218	104	61	64	38	33	21	34	31
Customer Deposits	44	$19,980,078	$2,675	$35,600	$25,673	$36,812	$37,163	$122,246	$8,400	$18,401	$24,544	$103,992	$26,758

KANSAS GAS SERVICE COMPANY
CURB Class Cost of Service Study
Allocation Amounts

	TAI Alloc Factor	Total	CNG Transport CNG	Irrigation Transport GIT	Large Vol Transport - T1 LVTk - T1	Large Vol Transport - T2 LVTk - T2	Large Vol Transport - T3 LVTk - T3	Large Vol Transport - T4 LVTk - T4	Large Vol Transport - T1 LVTt - T1	Large Vol Transport - T2 LVTt - T2	Large Vol Transport - T3 LVTt - T3	Large Vol Transport - T4 LVTt - T4	Wholesale Transport WTt
Sales Revenues	45	$236,497,118	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Transportation Revenues	46	$36,685,721	$124,122	$1,651,952	$1,265,757	$1,814,928	$1,832,227	$6,027,104	$414,144	$907,207	$1,210,073	$5,127,136	$1,319,235
Rate Schedule Revenues	47	$273,182,838	$124,122	$1,651,952	$1,265,757	$1,814,928	$1,832,227	$6,027,104	$414,144	$907,207	$1,210,073	$5,127,136	$1,319,235
Total Revenues	48	$287,931,412	$130,883	$1,741,933	$1,334,702	$1,913,786	$1,932,027	$6,355,395	$436,702	$956,622	$1,275,985	$5,406,407	$1,391,092
Direct to GSS Customers	54	$49,319	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Distribution Plant	78	$1,337,676,176	$819,496	$3,681,468	$7,027,022	$12,812,688	$12,720,118	$39,765,377	$1,671,577	$4,332,472	$5,520,541	$22,177,154	$121,347
General Plant	85	$107,211,011	$74,899	$330,532	$450,299	$814,095	$806,071	$2,512,335	$151,759	$400,027	$510,732	$2,058,640	$253,627
Rate Base Less Working Capital	101	$1,474,638,952	$1,117,736	$4,801,914	$6,552,740	$11,899,596	$11,811,590	$36,938,534	$2,238,859	$5,908,601	$7,577,530	$30,565,457	$3,782,704
Gross Plant	107	$1,770,498,662	$1,317,225	$5,637,750	$7,747,503	$14,119,418	$14,015,266	$43,806,652	$2,639,084	$6,971,114	$8,938,892	$36,044,153	$4,393,107
Net Plant	111	$1,166,359,589	$895,056	$3,824,972	$5,229,269	$9,503,941	$9,433,137	$29,495,540	$1,790,221	$4,728,005	$6,062,858	$24,452,082	$3,026,536
PST&D Plant	115	$1,601,703,695	$1,196,329	$5,110,716	$7,027,022	$12,812,688	$12,720,118	$39,765,377	$2,395,230	$6,327,790	$8,116,104	$32,727,184	$3,986,214
O&M less A&G	119	$102,662,649	$49,287	$234,585	$319,117	$546,886	$532,775	$1,630,689	$100,498	$257,771	$327,505	$1,316,091	$147,484
Transmission Operations	123	$7,323,740	$12,282	$55,423	$0	$0	$0	$0	$21,602	$58,066	$78,062	$331,033	$110,676
Transmission Maintenance	127	$1,507,574	$2,159	$8,187	$0	$0	$0	$0	$4,145	$11,430	$14,868	$60,435	$22,140
Distribution Operations	131	$16,991,827	$5,074	$24,249	$56,901	$84,758	$78,891	$228,617	$12,296	$28,761	$33,766	$126,215	$2,539
Distribution Maintenance	135	$18,916,513	$16,094	$62,870	$132,980	$254,064	$253,464	$794,411	$32,114	$85,903	$110,099	$442,750	$1,308
Peak & Average - Production Plant	139	100.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%
Peak & Average - Distribution Plant	140	100.0000%	0.1215%	0.4682%	0.9347%	1.8864%	1.9083%	6.0740%	0.2317%	0.6375%	0.8314%	3.3910%	0.0000%
Dist Plt Excluding Land & Rights of Way	141	$1,335,302,548	$818,042	$3,674,936	$7,014,553	$12,789,952	$12,697,547	$39,694,815	$1,668,611	$4,324,784	$5,510,745	$22,137,802	$121,132
Total Dist. Mains Plant	142	$622,285,557	$756,111	$2,913,841	$5,816,609	$11,738,752	$11,875,105	$37,797,569	$1,441,672	$3,967,297	$5,173,941	$21,101,788	$0
Total Distribution Plant	143	$1,337,676,176	$819,496	$3,681,468	$7,027,022	$12,812,688	$12,720,118	$39,765,377	$1,671,577	$4,332,472	$5,520,541	$22,177,154	$121,347
Mains & Services Distribution Plt.	144	$1,017,103,293	$713,375	$3,034,811	$5,697,728	$11,114,830	$11,188,787	$35,446,513	$1,399,472	$3,752,098	$4,867,480	$19,796,632	$29,711
Dist. Operations Labor	145	$16,991,827	$5,074	$24,249	$56,901	$84,758	$78,891	$228,617	$12,296	$28,761	$33,766	$126,215	$2,539
Total Labor	146	$51,435,676	$20,158	$123,366	$154,923	$257,949	$248,532	$750,190	$46,706	$120,236	$145,937	$585,572	$81,488
Labor - A&G	147	$41,986,830	$16,455	$100,703	$126,463	$210,563	$202,876	$612,379	$38,126	$98,149	$119,128	$478,002	$66,518
Peak & Average - Transmission Plant	148	100.000%	0.1432%	0.5431%	0.0000%	0.0000%	0.0000%	0.0000%	0.2750%	0.7582%	0.9863%	4.0088%	1.4686%
Total O&M Less Other Gas Supply	149	$147,437,198	$72,399	$352,978	$473,490	$812,035	$793,108	$2,437,704	$148,022	$379,852	$482,135	$1,943,316	$229,674

KANSAS GAS SERVICE COMPANY
CURB Class Cost of Service Study
Allocation Percentages

	TAI Alloc Factor	Total	Residential RS	GS - Small GSS	GS - Large GSL	Transport Eligible GSTE	Small Generator SGS	Irrigation Sales GIS	Kansas Gas Supply KGSSD	Sales for Resale SRk	Small Transport STk	Small Transport STt
Sales Customers	1	100.0000%	92.0283%	5.8514%	1.8904%	0.0899%	0.1031%	0.0357%	0.0002%	0.0011%	0.0000%	0.0000%
Transport Customers	2	100.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	60.2749%	20.0317%
Total Customers	3	100.0000%	91.2197%	5.8000%	1.8737%	0.0891%	0.1022%	0.0354%	0.0002%	0.0011%	0.5296%	0.1760%
Retail Customers	4	100.0000%	91.2247%	5.8003%	1.8739%	0.0891%	0.1022%	0.0354%	0.0000%	0.0000%	0.5296%	0.1760%
Customers for Transmission Allocation	5	100.0000%	91.4623%	5.8409%	1.8869%	0.0897%	0.0000%	0.0356%	0.0002%	0.0000%	0.0000%	0.1772%
CP Demand - Sales Customers	6	100.0000%	77.1323%	9.3800%	10.9814%	2.0826%	0.0010%	0.2250%	0.0837%	0.1140%	0.0000%	0.0000%
CP Demand - Transport Customers	7	100.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	29.7842%	8.8741%
CP Demand - Total Customers	8	100.0000%	59.5085%	7.2368%	8.4723%	1.6067%	0.0008%	0.1736%	0.0646%	0.0880%	6.8053%	2.0276%
CP Demand - Retail Customers	9	100.0000%	60.3583%	7.3402%	8.5933%	1.6297%	0.0008%	0.1760%	0.0000%	0.0000%	6.9025%	2.0566%
CP Demand for Transmission Allocation	10	100.0000%	70.1735%	8.5338%	9.9907%	1.8947%	0.0000%	0.2047%	0.0761%	0.0000%	0.0000%	2.3910%
Monthly NCP Demand - Sales Customers	11	100.0000%	78.0845%	8.0262%	11.1718%	2.1240%	0.0167%	0.3634%	0.0706%	0.1429%	0.0000%	0.0000%
Monthly NCP Demand - Transport Customers	12	100.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	26.4725%	8.2620%
Monthly NCP Demand - Total Customers	13	100.0000%	59.5278%	6.1188%	8.5168%	1.6192%	0.0127%	0.2770%	0.0538%	0.1089%	6.2912%	1.9634%
Monthly NCP Demand - Retail Customers	14	100.0000%	60.3326%	6.2015%	8.6320%	1.6411%	0.0129%	0.2808%	0.0000%	0.0000%	6.3762%	1.9900%
Monthly NCP Demand for Transmission Alloc.	15	100.0000%	70.1285%	7.2085%	10.0335%	1.9076%	0.0000%	0.3264%	0.0634%	0.0000%	0.0000%	2.3131%
Monthly CP Demand - Sales Customers	16	100.0000%	78.3591%	8.0545%	11.2111%	2.1314%	0.0167%	0.0195%	0.0708%	0.1368%	0.0000%	0.0000%
Monthly CP Demand - Transport Customers	17	100.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	28.3344%	8.8130%
Monthly CP Demand - Total Customers	18	100.0000%	61.3542%	6.3066%	8.7781%	1.6689%	0.0131%	0.0153%	0.0554%	0.1071%	6.1489%	1.9125%
Monthly CP Demand - Retail Customers	19	100.0000%	62.1809%	6.3915%	8.8964%	1.6914%	0.0133%	0.0155%	0.0000%	0.0000%	6.2318%	1.9383%
Monthly CP Demand for Transmission Allocat	20	100.0000%	71.3906%	7.3999%	10.2999%	1.9582%	0.0000%	0.0179%	0.0651%	0.0000%	0.0000%	2.2441%
MCF - Sales Customers	21	100.0000%	78.2491%	7.0406%	11.6133%	2.6337%	0.0184%	0.2709%	0.0580%	0.1160%	0.0000%	0.0000%
MCF - Transport Customers	22	100.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	22.1823%	6.8161%
MCF - Total	23	100.0000%	52.9836%	4.7673%	7.8636%	1.7833%	0.0125%	0.1834%	0.0393%	0.0786%	7.1623%	2.2008%
MCF - Retail Customers	24	100.0000%	53.7386%	4.8352%	7.9756%	1.8088%	0.0126%	0.1860%	0.0000%	0.0000%	7.2644%	2.2322%
MCF for Transmission Allocation	25	100.0000%	67.0370%	6.0318%	9.9493%	2.2564%	0.0000%	0.2321%	0.0497%	0.0000%	0.0000%	2.7845%
MCF Sales for Transmission Allocation	26	100.0000%	78.3544%	7.0501%	11.6290%	2.6373%	0.0000%	0.2712%	0.0581%	0.0000%	0.0000%	0.0000%
MCF Less Flex	27	100.0000%	52.9836%	4.7673%	7.8636%	1.7833%	0.0125%	0.1834%	0.0393%	0.0786%	7.1623%	2.2008%
Winter Volumes - Sales Customers	28	100.0000%	78.8130%	7.5582%	11.1599%	2.2300%	0.0172%	0.0240%	0.0662%	0.1315%	0.0000%	0.0000%
Winter Volumes - Transport Customers	29	100.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	26.2555%	8.1655%
Winter Volumes - Total	30	100.0000%	58.7055%	5.6299%	8.3127%	1.6611%	0.0128%	0.0179%	0.0493%	0.0979%	6.6985%	2.0832%
Winter Volumes - Retail Customers	31	100.0000%	59.5485%	5.7108%	8.4321%	1.6849%	0.0130%	0.0182%	0.0000%	0.0000%	6.7947%	2.1132%
Winter Volumes for Transmission Allocation	32	100.0000%	70.8858%	6.7980%	10.0374%	2.0057%	0.0000%	0.0216%	0.0595%	0.0000%	0.0000%	2.5155%
Net Sales Revenues	33	100.0000%	83.1633%	8.7784%	6.6380%	1.0507%	0.1746%	0.1452%	0.0133%	0.0364%	0.0000%	0.0000%
Services Cost	34	100.0000%	90.8444%	5.8110%	1.9585%	0.1084%	0.1016%	0.0321%	0.0003%	0.0039%	0.6674%	0.2354%
Number of Services	35	100.0000%	91.7052%	5.7993%	1.8485%	0.0837%	0.1010%	0.0316%	0.0002%	0.0020%	0.5142%	0.1787%
Meters Cost	36	100.0000%	80.0100%	6.7937%	6.5760%	0.6999%	0.1398%	0.0694%	0.0006%	0.0103%	3.4603%	1.0494%
Number of Meters	37	100.0000%	91.7052%	5.7993%	1.8485%	0.0837%	0.1010%	0.0316%	0.0002%	0.0020%	0.5142%	0.1787%
AMR Cost	38	100.0000%	92.2188%	5.8209%	1.4032%	0.0198%	0.1091%	0.0287%	0.0000%	0.0006%	0.2374%	0.0804%
Number of AMR Installations	39	100.0000%	92.2188%	5.8209%	1.4032%	0.0198%	0.1091%	0.0287%	0.0000%	0.0006%	0.2374%	0.0804%
Regulators Cost	40	100.0000%	96.1522%	2.2785%	0.4154%	0.0169%	0.0170%	0.0125%	0.0001%	0.0058%	0.2416%	0.5144%
Number of Regulators	41	100.0000%	91.2752%	5.7993%	1.8485%	0.0837%	0.1010%	0.0316%	0.0002%	0.0020%	0.5142%	0.1787%
Meter & Regulator Installation Cost	42	100.0000%	80.3247%	6.2489%	5.7854%	0.7792%	0.1349%	0.0362%	0.0009%	0.0142%	3.8217%	1.0991%
Number of Meter Set Installations	43	100.0000%	91.2752%	5.7993%	1.8485%	0.0837%	0.1010%	0.0316%	0.0002%	0.0020%	0.5142%	0.1787%
Customer Deposits	44	100.0000%	61.0795%	17.5951%	13.3050%	2.1061%	0.0000%	0.6113%	0.0000%	0.0000%	2.2270%	0.8625%

KANSAS GAS SERVICE COMPANY
CJRB Class Cost of Service Study
Allocation Percentages

	TAI Alloc Factor	Total	Residential RS	GS - Small GSS	GS - Large GSL	Transport Eligible GSTE	Small Generator SGS	Irrigation Sales GIS	Kansas Gas Supply KGSSD	Sales for Resale SSRk	Small Transport STk	Small Transport STk
Sales Revenues	45	100.0000%	83.1633%	8.7784%	6.6380%	1.0507%	0.1746%	0.1452%	0.0133%	0.0364%	0.0000%	0.0000%
Transportation Revenues	46	100.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	29.4570%	11.4085%
Rate Schedule Revenues	47	100.0000%	71.9953%	7.5996%	5.7466%	0.9096%	0.1512%	0.1257%	0.0115%	0.0315%	3.9558%	1.5321%
Total Revenues	48	100.0000%	71.9902%	7.5990%	5.7462%	0.9096%	0.1512%	0.1257%	0.0115%	0.0315%	3.9576%	1.5328%
Direct to GSS Customers	54	100.0000%	0.0000%	74.7148%	24.1373%	1.1479%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%
Distribution Plant	78	100.0000%	73.6580%	5.8494%	5.7992%	1.0007%	0.0625%	0.0602%	0.0002%	0.0032%	4.0370%	1.2577%
General Plant	85	100.0000%	73.7667%	6.1323%	6.3772%	1.2352%	0.0550%	0.0661%	0.0097%	0.0031%	3.2592%	1.3948%
Rate Base Less Working Capital	101	100.0000%	72.3950%	6.1971%	6.7710%	1.2222%	0.0508%	0.0756%	0.0101%	0.0027%	3.4375%	1.4836%
Gross Plant	107	100.0000%	73.1166%	6.0259%	6.5110%	1.1750%	0.0524%	0.0668%	0.0099%	0.0028%	3.3647%	1.4496%
Net Plant	111	100.0000%	72.5459%	6.0404%	6.6851%	1.2110%	0.0515%	0.0682%	0.0103%	0.0028%	3.4513%	1.4934%
PST&D Plant	115	100.0000%	73.0747%	6.0190%	6.5196%	1.1775%	0.0522%	0.0668%	0.0099%	0.0028%	3.3715%	1.4531%
O&M less A&G	119	100.0000%	78.1125%	6.5722%	5.3848%	0.3771%	0.0711%	0.0597%	0.0067%	0.0054%	2.5707%	1.0188%
Transmission Operations	123	100.0000%	69.2786%	6.6509%	10.1080%	2.1214%	0.0000%	0.1351%	0.0566%	0.0000%	0.0000%	2.5400%
Transmission Maintenance	127	100.0000%	70.0930%	6.8758%	10.1656%	2.0724%	0.0000%	0.0999%	0.0592%	0.0000%	0.0000%	2.4511%
Distribution Operatons	131	100.0000%	78.9937%	7.1361%	5.1012%	0.7143%	0.0899%	0.0408%	0.0003%	0.0050%	2.9965%	0.9081%
Distribution Maintenance	135	100.0000%	65.8158%	6.8849%	7.4081%	1.3534%	0.0424%	0.0665%	0.0002%	0.0025%	5.2514%	1.6184%
Peak & Average - Production Plant	139	100.0000%	78.3137%	7.6357%	11.3772%	2.3389%	0.0174%	0.1233%	0.0655%	0.1282%	0.0000%	0.0000%
Peak & Average - Distribution Plant	140	100.0000%	58.6936%	5.7487%	8.5161%	1.7399%	0.0130%	0.0859%	0.0000%	0.0000%	6.6583%	2.0597%
Dist Plt Excluding Land & Rights of Way	141	100.0000%	73.6580%	5.8494%	5.7992%	1.0007%	0.0625%	0.0602%	0.0002%	0.0032%	4.0370%	1.2577%
Total Dist. Mains Plant	142	100.0000%	58.6936%	5.7487%	8.5161%	1.7399%	0.0130%	0.0859%	0.0000%	0.0000%	6.6583%	2.0597%
Total Distribution Plant	143	100.0000%	73.6580%	5.8494%	5.7992%	1.0007%	0.0625%	0.0602%	0.0002%	0.0032%	4.0370%	1.2577%
Mains & Services Distribution Plt.	144	100.0000%	72.4338%	5.7753%	5.7136%	1.0426%	0.0509%	0.0629%	0.0001%	0.0017%	4.0980%	1.2801%
Dist. Operations Labor	145	100.0000%	78.9937%	7.1361%	5.1012%	0.7143%	0.0899%	0.0408%	0.0003%	0.0050%	2.9965%	0.9081%
Total Labor	146	100.0000%	78.1615%	6.8519%	5.4727%	0.8668%	0.0727%	0.0614%	0.0083%	0.0052%	2.5462%	1.0246%
Labor - A&G	147	100.0000%	78.1615%	6.8519%	5.4727%	0.8668%	0.0727%	0.0614%	0.0083%	0.0052%	2.5462%	1.0246%
Peak & Average - Transmission Plant	148	100.0000%	70.0930%	6.8758%	10.1656%	2.0724%	0.0000%	0.0999%	0.0592%	0.0000%	0.0000%	2.4511%
Total O&M Less Other Gas Supply	149	100.0000%	77.9028%	6.5734%	5.3236%	0.8579%	0.0715%	0.0575%	0.0063%	0.0042%	2.6456%	1.0466%

KANSAS GAS SERVICE COMPANY
CURB Class Cost of Service Study
Allocation Percentaqges

	TAI Alloc Factor	Total	CNG Transport CNG	Irrigation Transport GIT	Large Vol Transport - T1 LVTk - T1	Large Vol Transport - T2 LVTk - T2	Large Vol Transport - T3 LVTk - T3	Large Vol Transport - T4 LVTk - T4	Large Vol Transport - T1 LVTt - T1	Large Vol Transport - T2 LVTt - T2	Large Vol Transport - T3 LVTt - T3	Large Vol Transport - T4 LVTt - T4	Wholesale Transport WTt
Sales Customers	1	100.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%
Transport Customers	2	100.0000%	0.0624%	9.3372%	3.3768%	1.9803%	1.1372%	1.0953%	0.6067%	0.6612%	0.4247%	0.5247%	0.4868%
Total Customers	3	100.0000%	0.0005%	0.0820%	0.0297%	0.0174%	0.0100%	0.0096%	0.0053%	0.0058%	0.0037%	0.0046%	0.0043%
Retail Customers	4	100.0000%	0.0005%	0.0820%	0.0297%	0.0174%	0.0100%	0.0096%	0.0053%	0.0058%	0.0037%	0.0046%	0.0000%
Customers for Transmission Allocation	5	100.0000%	0.0006%	0.0826%	0.0000%	0.0000%	0.0000%	0.0000%	0.0054%	0.0059%	0.0038%	0.0046%	0.0043%
CP Demand - Sales Customers	6	100.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%
CP Demand - Transport Customers	7	100.0000%	0.1623%	4.1404%	7.3464%	7.3593%	6.1874%	15.4500%	0.6948%	2.0458%	2.1890%	10.2724%	5.4938%
CP Demand - Total Customers	8	100.0000%	0.0371%	0.9460%	1.6786%	1.6815%	1.4137%	3.5301%	0.1588%	0.4674%	0.5002%	2.3471%	1.2553%
CP Demand - Retail Customers	9	100.0000%	0.0376%	0.9595%	1.7025%	1.7055%	1.4339%	3.5806%	0.1610%	0.4741%	0.5073%	2.3806%	0.0000%
CP Demand for Transmission Allocation	10	100.0000%	0.0437%	1.1156%	0.0000%	0.0000%	0.0000%	0.0000%	0.1872%	0.5512%	0.5898%	2.7677%	1.4802%
Monthly NCP Demand - Sales Customers	11	100.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%
Monthly NCP Demand - Transport Customers	12	100.0000%	0.3631%	6.4937%	3.8555%	7.1354%	6.5205%	19.1112%	0.9217%	2.3569%	2.9860%	10.5929%	4.9287%
Monthly NCP Demand - Total Customers	13	100.0000%	0.0863%	1.5432%	0.9163%	1.6957%	1.5496%	4.5418%	0.2190%	0.5601%	0.7096%	2.5174%	1.1713%
Monthly NCP Demand - Retail Customers	14	100.0000%	0.0875%	1.5641%	0.9286%	1.7187%	1.5705%	4.6032%	0.2220%	0.5677%	0.7192%	2.5514%	0.0000%
Monthly NCP Demand for Transmission Alloc	15	100.0000%	0.1017%	1.8180%	0.0000%	0.0000%	0.0000%	0.0000%	0.2580%	0.6599%	0.8360%	2.9657%	1.3799%
Monthly CP Demand - Sales Customers	16	100.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%
Monthly CP Demand - Transport Customers	17	100.0000%	0.3381%	0.1774%	3.6649%	7.8510%	7.3596%	20.3179%	0.8969%	2.6602%	3.1445%	11.0648%	5.3772%
Monthly CP Demand - Total Customers	18	100.0000%	0.0734%	0.0385%	0.7953%	1.7038%	1.5971%	4.4092%	0.1946%	0.5773%	0.6824%	2.4012%	1.1669%
Monthly CP Demand - Retail Customers	19	100.0000%	0.0744%	0.0390%	0.8060%	1.7267%	1.6186%	4.4686%	0.1973%	0.5851%	0.6916%	2.4336%	0.0000%
Monthly CP Demand for Transmission Allocat	20	100.0000%	0.0861%	0.0452%	0.0000%	0.0000%	0.0000%	0.0000%	0.2284%	0.6774%	0.8007%	2.8175%	1.3692%
MCF - Sales Customers	21	100.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%
MCF - Transport Customers	22	100.0000%	0.5756%	3.2921%	3.4125%	6.4530%	7.0839%	25.5126%	0.8567%	2.1744%	3.1456%	14.5089%	3.9864%
MCF - Total	23	100.0000%	0.1859%	1.0630%	1.1018%	2.0836%	2.2873%	8.2376%	0.2766%	0.7021%	1.0157%	4.6847%	1.2871%
MCF - Retail Customers	24	100.0000%	0.1885%	1.0781%	1.1175%	2.1133%	2.3199%	8.3550%	0.2806%	0.7121%	1.0301%	4.7514%	0.0000%
MCF for Transmission Allocation	25	100.0000%	0.2352%	1.3449%	0.0000%	0.0000%	0.0000%	0.0000%	0.3500%	0.8883%	1.2851%	5.9273%	1.6286%
MCF Sales for Transmission Allocation	26	100.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%
MCF Less Flex	27	100.0000%	0.1859%	1.0630%	1.1018%	2.0836%	2.2873%	8.2376%	0.2766%	0.7021%	1.0157%	4.6847%	1.2871%
Winter Volumes - Sales Customers	28	100.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%
Winter Volumes - Transport Customers	29	100.0000%	0.4253%	0.3194%	3.9851%	7.2714%	7.1410%	22.2633%	1.0218%	2.4294%	3.1599%	12.5908%	4.9716%
Winter Volumes - Total	30	100.0000%	0.1085%	0.0815%	1.0167%	1.8551%	1.8219%	5.6800%	0.2607%	0.6198%	0.8062%	3.2123%	1.2684%
Winter Volumes - Retail Customers	31	100.0000%	0.1101%	0.0827%	1.0313%	1.8818%	1.8480%	5.7616%	0.2644%	0.6287%	0.8178%	3.2584%	0.0000%
Winter Volumes for Transmission Allocation	32	100.0000%	0.1310%	0.0984%	0.0000%	0.0000%	0.0000%	0.0000%	0.3148%	0.7484%	0.9735%	3.8788%	1.5316%
Net Sales Revenues	33	100.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%
Services Cost	34	100.0000%	0.0013%	0.0708%	0.0584%	0.0294%	0.0171%	0.0161%	0.0115%	0.0090%	0.0057%	0.0107%	0.0068%
Number of Services	35	100.0000%	0.0011%	0.0707%	0.0339%	0.0162%	0.0095%	0.0100%	0.0059%	0.0051%	0.0033%	0.0053%	0.0048%
Meters Cost	36	100.0000%	0.0127%	0.2238%	0.3090%	0.1615%	0.0933%	0.1188%	0.0495%	0.0565%	0.0352%	0.0584%	0.0421%
Number of Meters	37	100.0000%	0.0011%	0.0707%	0.0339%	0.0162%	0.0095%	0.0100%	0.0059%	0.0051%	0.0033%	0.0053%	0.0048%
AMR Cost	38	100.0000%	0.0000%	0.0759%	0.0051%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%
Number of AMR Installations	39	100.0000%	0.0000%	0.0759%	0.0051%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%
Regulators Cost	40	100.0000%	0.0010%	0.2034%	0.0395%	0.0142%	0.0084%	0.0088%	0.0170%	0.0148%	0.0094%	0.0152%	0.0139%
Number of Regulators	41	100.0000%	0.0011%	0.0707%	0.0339%	0.0162%	0.0095%	0.0100%	0.0059%	0.0051%	0.0033%	0.0053%	0.0048%
Meter & Regulator Installation Cost	42	100.0000%	0.0150%	0.1057%	0.3428%	0.1847%	0.1056%	0.1329%	0.0554%	0.0646%	0.0395%	0.0641%	0.0445%
Number of Meter Set Installations	43	100.0000%	0.0011%	0.0707%	0.0339%	0.0162%	0.0095%	0.0100%	0.0059%	0.0051%	0.0033%	0.0053%	0.0048%
Customer Deposits	44	100.0000%	0.0134%	0.1782%	0.1285%	0.1842%	0.1860%	0.6118%	0.0420%	0.0921%	0.1228%	0.5205%	0.1339%

KANSAS GAS SERVICE COMPANY
CURB Class Cost of Service Study
Allocation Percentages

	TAI Alloc Factor	Total	CNG Transport CNG	Irrigation Transport GIT	Large Vol Transport - T1 LVTk - T1	Large Vol Transport - T2 LVTk - T2	Large Vol Transport - T3 LVTk - T3	Large Vol Transport - T4 LVTk - T4	Large Vol Transport - T1 LVTt - T1	Large Vol Transport - T2 LVTt - T2	Large Vol Transport - T3 LVTt - T3	Large Vol Transport - T4 LVTt - T4	Wholesale Transport WTt
Sales Revenues	45	100.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%
Transportation Revenues	46	100.0000%	0.3383%	4.5030%	3.4503%	4.9472%	4.9944%	16.4290%	1.1289%	2.4729%	3.2985%	13.9758%	3.5960%
Rate Schedule Revenues	47	100.0000%	0.0454%	0.6047%	0.4633%	0.6644%	0.6707%	2.2063%	0.1516%	0.3321%	0.4430%	1.8768%	0.4829%
Total Revenues	48	100.0000%	0.0455%	0.6050%	0.4635%	0.6647%	0.6710%	2.2073%	0.1517%	0.3322%	0.4432%	1.8777%	0.4831%
Direct to GSS Customers	54	100.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%
Distribution Plant	78	100.0000%	0.0613%	0.2752%	0.5253%	0.9578%	0.9509%	2.9727%	0.1250%	0.3239%	0.4127%	1.6579%	0.0091%
General Plant	85	100.0000%	0.0699%	0.3083%	0.4200%	0.7593%	0.7519%	2.3434%	0.1416%	0.3731%	0.4764%	1.9202%	0.2366%
Rate Base Less Working Capital	101	100.0000%	0.0758%	0.3256%	0.4444%	0.8069%	0.8010%	2.5049%	0.1518%	0.4007%	0.5139%	2.0727%	0.2565%
Gross Plant	107	100.0000%	0.0744%	0.3184%	0.4376%	0.7975%	0.7916%	2.4743%	0.1491%	0.3937%	0.5049%	2.0358%	0.2481%
Net Plant	111	100.0000%	0.0767%	0.3279%	0.4483%	0.8148%	0.8088%	2.5289%	0.1535%	0.4054%	0.5198%	2.0964%	0.2595%
PST&D Plant	115	100.0000%	0.0747%	0.3191%	0.4387%	0.7999%	0.7942%	2.4827%	0.1495%	0.3951%	0.5067%	2.0433%	0.2489%
O&M less A&G	119	100.0000%	0.0480%	0.2285%	0.3108%	0.5327%	0.5190%	1.5884%	0.0979%	0.2511%	0.3190%	1.2820%	0.1437%
Transmission Operations	123	100.0000%	0.1677%	0.7568%	0.0000%	0.0000%	0.0000%	0.0000%	0.2950%	0.7928%	1.0659%	4.5200%	1.5112%
Transmission Maintenance	127	100.0000%	0.1432%	0.5431%	0.0000%	0.0000%	0.0000%	0.0000%	0.2750%	0.7582%	0.9863%	4.0088%	1.4686%
Distribution Operations	131	100.0000%	0.0299%	0.1427%	0.3349%	0.4988%	0.4643%	1.3455%	0.0724%	0.1693%	0.1987%	0.7428%	0.0149%
Distribution Maintenance	135	100.0000%	0.0851%	0.3324%	0.7030%	1.3431%	1.3399%	4.1996%	0.1698%	0.4541%	0.5820%	2.3405%	0.0069%
Peak & Average - Production Plant	139	100.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%
Peak & Average - Distribution Plant	140	100.0000%	0.1215%	0.4682%	0.9347%	1.8864%	1.9083%	6.0740%	0.2317%	0.6375%	0.8314%	3.3910%	0.0000%
Dist Plt Excluding Land & Rights of Way	141	100.0000%	0.0613%	0.2752%	0.5253%	0.9578%	0.9509%	2.9727%	0.1250%	0.3239%	0.4127%	1.6579%	0.0091%
Total Dist. Mains Plant	142	100.0000%	0.1215%	0.4682%	0.9347%	1.8864%	1.9083%	6.0740%	0.2317%	0.6375%	0.8314%	3.3910%	0.0000%
Total Distribution Plant	143	100.0000%	0.0613%	0.2752%	0.5253%	0.9578%	0.9509%	2.9727%	0.1250%	0.3239%	0.4127%	1.6579%	0.0091%
Mains & Services Distribution Plt.	144	100.0000%	0.0701%	0.2984%	0.5602%	1.0928%	1.1001%	3.4850%	0.1376%	0.3689%	0.4786%	1.9464%	0.0029%
Dist. Operations Labor	145	100.0000%	0.0299%	0.1427%	0.3349%	0.4988%	0.4643%	1.3455%	0.0724%	0.1693%	0.1987%	0.7428%	0.0149%
Total Labor	146	100.0000%	0.0392%	0.2398%	0.3012%	0.5015%	0.4832%	1.4585%	0.0908%	0.2338%	0.2837%	1.1385%	0.1584%
Labor - A&G	147	100.0000%	0.0392%	0.2398%	0.3012%	0.5015%	0.4832%	1.4585%	0.0908%	0.2338%	0.2837%	1.1385%	0.1584%
Peak & Average - Transmission Plant	148	100.0000%	0.1432%	0.5431%	0.0000%	0.0000%	0.0000%	0.0000%	0.2750%	0.7582%	0.9863%	4.0088%	1.4686%
Total O&M Less Other Gas Supply	149	100.0000%	0.0491%	0.2394%	0.3211%	0.5508%	0.5379%	1.6534%	0.1004%	0.2576%	0.3270%	1.3181%	0.1558%

Schedule GAW-3

KANSAS GAS SERVICE
Residential Customer Cost Analysis

	RESIDENTIAL
Gross Plant	
Services	$394,879,434
Meters	$107,011,060
Meter Installations	$76,651,491
Regulators	$19,925,311
Installation on Customer Premises	$204,457
Total Gross Plant	**$598,671,753**
Accum. Depreciation Reserve	
Services	$167,726,503
Meters	$22,715,027
Meter Installations	$22,889,687
Regulators	$6,598,116
Installation on Customer Premises	$199,494
Total Depr. Reserve	**$220,128,827**
Total Rate Base	**$378,542,926**
Operation & Maintenance Expenses	
Oper Meter & House Reg.	$8,623,809
Oper Customer Install Exp	$7,530,794
Services Maintenance	$2,617,773
Maint Meter & House Reg	$2,020,829
Meter Reading	$4,928,244
903 Records & Collections	$14,579,244
Total O&M Expenses	**$40,300,693**
Depreciation Expense 1/	
Services	$10,674,600.61
Meters	$2,892,782.53
Meter Installations	$2,072,085.76
Regulators	$538,632.10
Installation on Customer Premises	$5,527.00
Total Depreciation Expense	**$16,183,628**
Revenue Requirement	
Interest	$7,476,223
Equity Return	$16,088,074
Income Tax	$10,525,779
Total	**$34,090,076**
Revenue For Return	$34,090,076
O&M Expenses	$40,300,693
Depreciation Expense	$16,183,628
Subtotal Customer Revenue Requirement	$90,574,397
Plus: Uncollectible @ 1.6257% 2/	$1,472,468
Total Customer Revenue Requirement	$92,046,865
Number of Bills	6,954,492
Monthly Cost	**$13.24**

1/ Based on distribution plant composite depreciation rate as Mr. Raab does not show depreciation expense by account.

2/ Calculated per CCOSS of $3,197,401 (Residential uncollectible) divided by $196,678,858 (Residential rate revenue).

CERTIFICATE OF SERVICE

16-KGSG-491-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 7th day of September, 2016, to the following:

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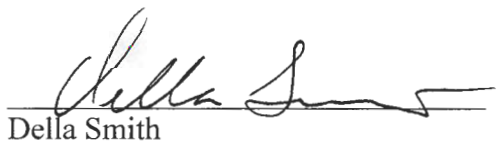

Della Smith
Administrative Specialist