Exhibit No. :	
Issue :	Cost of Service
	Rate Design
Witness :	Donna R. Campbell
Type of Exhibit:	Direct
Sponsoring Party:	Associated Natural Gas
Case No.:	GR-97-272

ASSOCIATED NATURAL GAS COMPANY
A DIVISION OF ARKANSAS WESTERN GAS COMPANY

CASE NO. GR-97-272

DIRECT TESTIMONY

OF

DONNA R. CAMPBELL

TABLE OF CONTENTS

		Page
I.	Education and Utility Experience	1
II.	Schedule Descriptions	2
III.	Revenue Adjustments	4
IV.	Jurisdictional Cost Allocation	11
V.	Cost of Service and Rate Design by Rate Schedule - SEMO	20
VI.	Cost of Service and Rate Design by Rate Schedule - Kirksville	32
VII.	Cost of Service and Rate Design by Rate Schedule - Butler	40
VIII.	Miscellaneous Fees - All Districts	46

ASSOCIATED NATURAL GAS
DIVISION OF ARKANSAS WESTERN GAS COMPANY
CASE NO. GR-97-272
PREPARED TESTIMONY OF DONNA CAMPBELL

Q. Please state your name and business address.

A. My name is Donna R. Campbell. My business address is Arkansas Western Gas Company (Company), 1083 Sain St., Fayetteville, Arkansas, 72703.

Q. In what capacity are you employed by the Company?

A. I am a rate analyst in the Rates and Regulation Department.

Q. Briefly describe your education, training, and experience.

A. I graduated from Memphis State University cum laude with a Bachelor of Business Administration degree. I have also completed twelve semester hours of graduate courses in economics and finance at Memphis State University. In addition, I have completed twenty-four semester hours in upper level accounting courses at the University of Arkansas at Little Rock. I was employed by the Arkansas Public Service Commission from 1978 to 1988. During that time I held the positions of rate analyst, manager of gas and water utilities, and manager of electric utilities. I was self-employed and did utility consulting until my return to the Commission in 1990 as an electric utility analyst for the Commissioners' Staff. In 1991 I accepted a position as senior gas analyst in the gas and water utilities section and remained in that position until August 1995 when I accepted a position at AWG as a rate analyst. While I was

employed by the Commission, I prepared and presented testimony in gas, water, electric, and telephone dockets primarily regarding cost of service and rate design.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to discuss the revenue adjustments, the jurisdictional and rate schedule cost of service study as filed in the G and H schedules, respectively, and the tariffs as filed.

Schedule Descriptions

Q. Please describe briefly the cost of service schedules contained in Section G.

A. Section G contains the jurisdictional allocations. Schedule G-1 summarizes the cost of service for each Missouri district of the Associated Natural Gas Division (ANG) of Arkansas Western Gas Company showing each district's total revenue requirement. Schedule G-2 shows the allocation of ANG's total net plant by account to the Arkansas, Southeast Missouri (SEMO), Kirksville, and Butler districts. Schedule G-2-1 shows the allocation of working capital assets and the acquisition adjustment to Arkansas and the Missouri districts as well as Arkansas Western Gas Division (AWG) and the resulting total rate base by jurisdiction and district. Schedule G-2-2 is the allocation of AWG plant accounts to ANG. Schedule G-3 shows adjusted rate

schedule revenues, other revenues, and expenses allocated by account to the Arkansas jurisdiction and the three Missouri districts as well as AWG. Schedule G-3-1 shows the allocation of AWG revenues and expenses to ANG. Schedule G-4 shows the allocation factors that have been applied to the accounts as noted in Schedules G-2, G-2-1, and G-3.

Q. Please describe briefly the schedules contained in Section H.

A. Section H contains the rate schedule cost of service studies by district. Schedule H-1 summarizes the cost of service by rate schedule for the SEMO district. Schedule H-1-a shows the allocation of rate base by account to the SEMO rate schedules. Schedule H-1-b is the allocation of revenues and expenses to the SEMO rate schedules. Schedule H-1-c shows the SEMO allocation factors by rate schedule that are used in Schedules H-1-a and H-1-b. Schedule H-2 summarizes by rate schedule the cost of service for the Kirksville district. Schedule H-2-a shows the allocation of rate base, and Schedule H-2-b presents the allocation of revenue and expenses to the Kirksville rate schedules. Schedule H-2-c shows the allocation factors referenced in Schedules H-2-a and H-2-b. Schedule H-3 summarizes the cost of service by rate schedule for the Butler district. Schedule H-3-a presents the allocation of rate base, and Schedule H-3-b is the allocation of revenues and expenses by rate schedule. Schedule H-3-c

shows the Butler allocation factors by rate schedule that are used in Schedules H-3-a and H-3-b.

Revenue Adjustments

Q. What is the basis for your customer growth adjustment by district?

A. First, each district's monthly customer bills by rate schedule were analyzed from August 1991 to the test year ending July 1996. Although earlier years are available and were analyzed, the use of more recent data is more indicative of recent growth and economic trends. The compound annual growth rate in the number of customers by each district's rate schedule for the period from August 1991 to July 1996 is calculated. The test year number of customers by rate schedule is adjusted for each district by their indicated growth rates with some exceptions. The exceptions are primarily found in rate schedules with few customers. For example, SEMO's industrial firm rate schedule has only four (4) customers. Using the monthly growth rate times the monthly number of customers results in a total annual bill count of 51 rather than 48. Local area managers do not expect a change in the number of customers for this rate schedule. Therefore, the actual test year number of customer bills is used for the pro forma year. SEMO's industrial small interruptible rate schedule's growth rate is negative for the same period. Local managers do not expect

the loss of any customers from this schedule and instead expect the addition of a customer in the pro forma year ending July 1997. As a result, one customer is added to this rate schedule's test year number of customers. There is only one industrial large interruptible customer and no growth is indicated from the analysis or the local managers. Therefore, the test year number is unchanged.

Q. Please discuss the customer growth analysis for the Kirksville district rate schedules.

A. For the period of August 1991 to July 1996 the residential rate schedule's growth rate is 2.01% compared to a negative growth rate of .44% for the commercial firm rate schedule. Both schedules' number of customers for the pro forma year ending July 1997 are adjusted to reflect these growth rates. No adjustment is made in the number of customers for the industrial firm, the commercial interruptible, or the industrial interruptible rate schedules. There are only three (3) customers per schedule served from the industrial firm and commercial interruptible rate schedules and five (5) customers from the industrial interruptible rate schedule. The growth analysis shows a growth of 7.46% for the industrial firm rate schedule, no growth for the commercial interruptible rate schedule, and a negative growth rate of 8.53% for the industrial interruptible rate schedule. No change is expected in the number of customers for these rate schedules by local managers. Therefore, the test year end level number of

customers is the recommended number for the pro forma year.

Q. Please discuss the customer growth analysis for the Butler rate schedules.

A. The residential and commercial firm rate schedules' growth rates from August 1991 to July 1996 are 2.22% and 1.72%, respectively. The number of customers for both schedules are adjusted to reflect these growth rates. The actual number of customers is used for the commercial interruptible, the industrial firm, and industrial interruptible rate schedules. The growth analysis indicates a negative growth rate of 4.62% for the commercial interruptible rate schedule and no growth for the industrial firm rate schedule. There are presently only two (2) commercial interruptible customers and one industrial firm customer. During the sixty (60) months analyzed, the number of industrial interruptible rate schedule customers has varied from two to four. For nineteen out of the most recent twenty months, there have only been three industrial interruptible customers for the majority of the time. Also, local managers do not expect any change in the number of customers for these schedules.

Q. Please explain your weather adjustment.

A. For the weather sensitive load, usages are adjusted based on a thirty year average of heating degree days (HDD) compared to the test year actual HDD for each district.

Customer usage is calculated for the months from August 1991 through July 1996 by district by rate schedule. For the heat sensitive customers, the lowest per customer usage occurs during the non-space heating months of July, August, and September. These months represent a customer's base load usage. For those rate schedules showing greater usage in HDD months compared to non-HDD months, the base load usage is subtracted from each customer's total usage to determine the weather sensitive portion. Next, the usage per HDD is calculated. Because of the geographic differences among the districts, a weather station is used for each district to find the appropriate HDD. For SEMO, the weather station at Caruthersville, Missouri, is utilized. For the Kirksville and Butler districts, the respective weather stations at Kirksville and Appleton City, Missouri, are used. Applying the monthly HDD from each district's weather reporting station, a usage per HDD is calculated by district for each schedule. To find the total monthly base load, an average of the past five years base load usages is multiplied by the adjusted monthly number of customers for a total base load for the respective residential and commercial firm rate schedules. To find the weather sensitive load, an average for the past five years weather sensitive usage per HDD per customer is calculated by rate schedule. That average is multiplied by each rate schedule's adjusted number of customers and the thirty year normal HDD by month for the test year ending July 1996 to find the pro forma monthly volumes by

rate schedule. The 30 year normal HDD is defined as the average by month for the thirty years of monthly HDD ending July 31, 1996. The 30 year average normal annual HDD for the Caruthersville weather reporting station is 3,954 HDD compared to the test year total of 4,421 HDD. The 30 year average normal HDD for the Kirksville and Appleton City stations are 5,815 and 4,717, respectively, compared to test year HDD of 6,193 and 5,421, respectively. Because of the colder than normal weather in all districts during the test year, weather sensitive customers' volumes are decreased.

Q. Which rate schedules' volumes in the SEMO district are adjusted?

A. Volumes are decreased for the residential, commercial firm, and commercial interruptible rate schedules compared to actual test year volumes. The decreases in the residential and commercial firm volumes are the result of colder than normal weather during the test year. There is not enough customer growth to offset the effect of the weather for these two rate schedules. The decrease in volumes for the commercial interruptible rate schedule is attributed to the decrease in the number of customers for this rate schedule since no weather adjustment of volumes is made for the schedule due to winter season interruptions. The industrial interruptible small rate schedule's volumes are increased slightly compared to the test year due to the expected addition

of a customer in the pro forma year as mentioned earlier. There is no adjustment to the one industrial interruptible large customer's volumes for the pro forma year.

Q. Please discuss the volume adjustments by rate schedule for the Kirksville district.

A. Volumes are decreased for all rate schedules except the industrial interruptible rate schedule. The decrease in the residential volumes is the result of normalizing for the colder than normal weather during the test year. The slight growth in the number of customers does not offset the weather effect. The decrease in the commercial firm volumes is the result of normalizing the volumes for weather and also the slight decrease in the number of customers for the pro forma year. The analysis of the volumes for the three commercial interruptible customers shows that these customers are weather sensitive. The customers in this class are schools and their curtailment was limited during the test year. However, these customers' base load comprise 58% of their total load resulting in only a slight decrease in volumes due to normalizing for weather in the test year. The industrial firm rate schedule's volumes are decreased due to recognition of the actual number of customers on the schedule at the end of the test year. The industrial interruptible customers' load is not weather adjusted and is slightly increased for recognizing the number of customers at the end of the test year.

Q. Please discuss the volume adjustments by rate schedule for the Butler district.

A. The residential and commercial firm rate schedules' volumes are decreased from their test year levels because of the colder than normal weather. The slight growth in customers does not offset the volume adjustment for the weather normalization for these schedules. The commercial interruptible rate schedule's volumes are decreased slightly for weather normalization. Over half of these customers' usage is base load. No adjustment is made in the volumes for the one industrial firm customer whose usage is in only three months of the test year. Volumes are slightly higher for the industrial interruptible rate schedule due to correcting for a customer's volumes in one month.

Q. What is the total effect on Missouri revenues due to your proposed adjustments to the number of customers and volumes?

A. The result is to decrease total Missouri test year non-gas revenues by $508,565. However, total revenues increased reflecting the recovery of higher projected gas costs as compared to the actual test year level. Company witness Mark Kidd discusses the total effect on book revenues.

Jurisdictional Cost Allocations

Q. Please describe the geographic area served by ANG.

A. ANG serves northeast Arkansas, Southeast Missouri, and the areas in and around the towns of Butler and Kirksville, Missouri. The northeast Arkansas service area is interconnected with the portion of Southeast Missouri that is served by Texas Eastern Transmission Pipeline Company (TETCO) and Arkansas Western Pipeline Company (AWP) which interconnects with the NOARK Pipeline System (NOARK).

Q. Do the Company's accounting records reflect property according to the above listed areas or districts?

A. Property is recorded by physical location corresponding to the above listed districts. However, some property within a district may also serve not only that district but others as well. For example, the ANG Division operations office is located in Blytheville, Arkansas. The property is recorded in Arkansas general plant but requires allocation to all four districts that benefit from this office. Therefore, some of the plant accounts are directly assigned to their respective districts while other accounts require classification and allocation to some or all of the districts. In addition, there is property on the records of AWG that also serves some or all of the ANG districts.

Q. Is the classification and allocation of accounts for a jurisdictional cost of service similar to performing a class cost of service study?

A. Yes. The accounts are functionalized in accordance with the Uniform System of Accounts. The costs in the accounts are then classified as either commodity, demand or capacity, and/or customer. In comparison with a class cost of service study, the customers are not grouped into homogeneous groups but are established by geographic boundaries. For this jurisdictional cost of service study, the groups are established by districts with distinct boundaries. The Arkansas district occupies the northeast portion of Arkansas and borders the Southeast Missouri district. The remaining two districts, Kirksville and Butler, are located in north central Missouri and west central Missouri, respectively, and are not contiguous with any of the districts.

Q. After classifying the accounts, how are the jurisdictional allocation factors developed?

A. The jurisdictional allocation factors are the result of analyzing the customers within each district. Therefore, the customer numbers, usages, demands, etc., are developed by rate schedule by district first. These are summed for total district allocation factors.

Q. Please discuss the Arkansas ANG property requiring allocation to other districts.

A. Because the Arkansas system is interconnected with the TETCO and AWP areas of Southeast Missouri, Arkansas' storage plant (LNG facility) and transmission plant are allocated between the two districts. The storage plant serves to meet the winter heating needs of both districts and is allocated based on the November-March heating sales for each district. The transmission plant meets daily and peaking demands of the interconnected system. To recognize the dual function, transmission plant is allocated based on an average and peak allocation methodology. Average daily demands are weighted by the interconnected system load factor (31.62%) and the system peak needs are weighted by one minus the interconnected system load factor. As previously mentioned, ANG's operations office is located in Blytheville and serves all districts. The amounts related to the office are identified in general plant by account and classified and allocated based upon each district's total plant.

Q. What is the system peak day used in the average and peak allocation factor calculation?

A. The peak day for the interconnected system is based on the greatest number of HDD which occurred on the system peak day of December 22, 1989. On that day the number of HDD at the Keiser, Arkansas, weather reporting station for the Arkansas district was 60 HDD compared to 59 HDD for the Southeast Missouri district at the Caruthersville, Missouri, weather reporting station. The peak day calculation for each

district is made by rate class recognizing each rate schedule's contribution to peak. For weather sensitive firm usage rate classes, the peak is calculated based on an analysis of the weather sensitive usage per HDD plus base load usage. Non-weather sensitive classes peak day usage is based on the analysis of the usage in the peak heating month of the test year. The peak month daily usage per customer is calculated and divided by the class annual load factor to find the coincident peak usage per customer. This amount is multiplied times the number of customers for the rate schedule's total coincident peak. For the interruptible classes, an analysis of the load curtailed by customer was performed. The calculated coincident peak is reduced based on the amount of load curtailed during the test year peak day of February 3, 1996.

Q. Does any of the SEMO property require allocation to other districts?

A. Yes. Arkansas is the only district receiving an allocation of SEMO property. The Mississippi River Transmission (MRT) and Natural Gas Pipeline (NGPL) areas of SEMO are isolated and not interconnected with the rest of the district. After directly assigning the portion of SEMO's transmission plant that is served from NGPL and MRT, the remaining plant is allocated between Arkansas and SEMO. The same average and peak allocation methodology discussed for allocating Arkansas transmission plant is used to allocate the SEMO transmission plant.

Q. What AWG property is allocated to ANG?

A. In order for ANG's interconnected system to receive their system supply gas purchased from SEECO, AWG's gathering and transmission system is utilized. The final allocation factors from AWG's Arkansas Docket No. 96-030-U are applied to plant balances as of July 1996. In addition, the meter shop, customer information system (CIS), and the general office building also serve ANG and are allocated between ANG and AWG.

Q. How is the AWG gathering and transmission property allocated between Arkansas and SEMO?

A. Each gathering and transmission plant account is allocated between Arkansas and SEMO interconnected system using the same allocation methodologies in AWG's Arkansas Docket No. 96-030-U for the interconnected system. The allocation factors in Docket No. 96-030-U use the unadjusted ANG SEECO sales volumes for the year ending August 1995 and a peak demand of 30,000 Mcf per day which is ANG's maximum daily contract demand with SEECO. The average and peak factor is used to allocate between the two districts certain gathering accounts and all of transmission plant. The load factor for weighing the average demand is based on the interconnected system sales load factor. Other gathering accounts are allocated between the two

districts on a demand/commodity factor or sales volumes.

Q. Are AWG's gathering and transmission facilities allocated to both sales and transportation customers?

A. No. The gathering and transmission facilities are allocated to sales customers only.

Q. How are ANG transportation customers charged for utilizing AWG's gathering and transmission system?

A. Transportation customers who purchase gas supplies behind the AWG system utilize the AWG system. ANG proposes a gathering and transmission rate of $.22325 per Mcf including fuel to recover these costs from transport customers. The proposed rate is based on total SEECO sales to ANG Missouri plus transport volumes using the AWG system.

Q. If the total gathering and transmission property applicable to ANG is allocated to the sales classes and transporters are also paying for the system, is there a double collection?

A. Yes. To avoid over collection of revenues, a crediting of the gathering and transmission revenues received from transportation customers to the sales customers

using the purchased gas adjustment mechanism is proposed.

Q. How is the other AWG plant allocated to ANG?

A. The meter shop (account 374.0) refurbishes meters for all ANG districts as well as AWG. Therefore, the meter shop balance in account 374 and the associated land (account 375.01) is allocated to all ANG districts. The Company's general office building (account 390.01), CIS (account 391.02), and the tools relating to the meter shop (account 394.01) also serve all districts. Allocation factors from Docket No. 96-030-U were applied to AWG plant balances as of July 31,1996. All the accounts except account 390.01 are allocated to all districts on number of customers. Account 390.01 is allocated on total ANG plant as allocated to each district.

Q. Does working capital require allocation among the districts?

A. Yes. None of the working capital accounts are directly assignable. Accounts relating to the LNG plant are allocated between the interconnected Arkansas and SEMO system based on heating sales. The remaining working capital accounts are allocated based upon revenues, total allocated plant, or sales volumes.

Q. How is the acquisition adjustment allocated?

A. The acquisition adjustment is allocated between ANG and AWG based upon net savings accruing to each division due to the ANG acquisition. The amount applicable to ANG is then classified as customer related and allocated to all districts based on the pro forma number of customers.

Q. How are ANG's expenses allocated among the four districts?

A. ANG's expenses are recorded in functional cost centers referred to as budget centers. For the jurisdictional allocation some budget centers are directly assigned while others are allocated between at least two districts and among as many as four districts. As an example, certain town plant budget centers, i.e., the Piggott and Leachville budget centers, require allocation between two districts because these offices serve SEMO as well as Arkansas customers although the offices are located in Arkansas. Budget Center 390, construction general superintendent, is responsible for construction in all four districts and therefore, requires allocation to all four districts.

Q. Do all the ANG expenses first require analysis of the budget centers within the accounts before allocating?

A. No. LNG storage expenses are by account and are allocated based upon the heating sales for the Arkansas and SEMO interconnected system during the months of

November through March.

Q. How are AWG's gathering and transmission operation and maintenance expenses allocated to ANG and the appropriate districts?

A. AWG's expenses for the test year ending July 1996 are allocated to ANG using the same classification and allocation factors from the final cost of service in Docket No. 96-030-U as discussed earlier. Next, these expenses are allocated between the interconnected Arkansas and SEMO system using an average and peak factor for certain gathering expense accounts and all transmission expense accounts. Other production accounts are allocated between the two districts on a demand/commodity factor or sales volumes. These are the same allocation factors used to allocate AWG gathering and transmission plant.

Q. Are there any other AWG expenses allocated to ANG?

A. Yes. General and administrative expenses, depreciation, amortization, and taxes are allocated to ANG. This allocation is because of the allocation of gathering and transmission plant as well as the meter shop, CIS, and the Company's general office building.

Q. Which AWG revenues are allocated to ANG and its districts?

A. The AWG revenues received from the operation of the gathering and transmission plant for the test year ending July 1996 are allocated to ANG using the factors in the final cost of service in Docket No. 96-030-U. Next, these revenues are allocated between the Arkansas and SEMO districts either according to their allocated share of the AWG gathering and transmission plant or the average and peak allocation factors.

Q. What are the results of the jurisdictional cost of service study?

A. The results of the study's classification and allocation of plant and working capital by district are shown in Schedules G-2 and G-2-1, respectively. The classification and allocation by district of revenues and expenses is in Schedule G-3. The next step is to allocate the classified amounts by account for plant, working capital, revenues, and expenses to each Missouri District's rate schedules as found in Section H. Accounts directly assigned to each district require classification before allocating to the respective rate schedules.

Cost of Service and Rate Design by Rate Schedule - SEMO

Q. What are the proposed rate schedules or customer groups for the SEMO district cost of service study?

A. The proposed rate schedules for the cost of service study are residential, commercial firm including municipal, industrial firm, commercial interruptible service, industrial small interruptible, and industrial large interruptible. The residential class represents customers whose primary gas usage includes space and water heating, cooking, and air conditioning. The commercial and industrial firm classes include customers whose respective gas usage is in a commercial or industrial establishment not exceeding 15,500 Ccf in any 31 day period. The commercial interruptible class includes customers who use gas in a commercial establishment and are subject to curtailment. The industrial small interruptible class includes customers who use gas in an industrial establishment, use less than 55,000 Mcf per month, and are subject to curtailment. The industrial large interruptible rate schedule is available to customers who use gas in industrial establishments, use over 55,000 Mcf annually, and are subject to curtailment. Only one customer presently qualifies for this rate schedule.

Q. How is the LNG storage plant allocated to the rate schedules?

A. Storage plant is allocated to the rate schedules based upon heating sales during the months of November-March which is the same methodology used to allocate jurisdictionally between interconnected SEMO and Arkansas.

Q. How is transmission plant allocated?

A. Transmission plant is allocated to the rate schedules using the average and peak methodology as was used to allocate between the interconnected systems of SEMO and Arkansas.

Q. Please discuss the classification and allocation of distribution plant.

A. The largest distribution account is mains. The customer portion of distribution mains is found by multiplying the total main footage times the labor cost per foot including benefits. The labor cost per foot is based upon jobs completed in 1996. Comparing that product to the total ending balance of mains results in 60% of mains being classified as customer related and allocated based upon each rate schedule's pro forma number of customers. The remaining 40% of the account is allocated based upon noncoincident demand.

Q. Is noncoincident demand equal to coincident demand?

A. No. Coincident demand is the maximum demand placed on the system at a point in time. During the maximum system demand, the interruptible rate schedule customers are curtailed. The reduction by these customers varies from no reduction to 100% of their previous hourly loads. The coincident demand calculation reflects these no loads

or load reductions. The noncoincident demand is the maximum demand of each rate schedule's group of customers and is greater than the system coincident demand. Allocating the non-customer main costs on a noncoincident demand factor reflects the sizing of the main to meet the customer's or a group of customers' maximum demand in a given area.

Q. Please continue with the allocation of distribution plant.

A. The next largest distribution plant account is services. Services are classified as customer related and allocated based on installed service cost by rate schedule times the number of customers. Service cost by rate schedule is the result of averaging the costs of installed services by rate schedule for 1995 and 1996. The industrial rate schedules are not allocated any services because these customers are required to pay for their service line installation as per ANG's Extension Policy.

Q. How is the meter account classified and allocated?

A. Meters are classified as customer related. The allocation is based upon total meter costs by rate schedule. ANG maintains records showing meter models by district by rate schedule. Also known is the current cost by meter model. The current cost by meter model is then multiplied times the number of that particular meter model. The

result is a total meter cost by rate schedule. Next, the total is divided by the total number of meters for an average cost per meter by rate schedule. Finally, the average cost is multiplied times the pro forma number of customers by rate schedule. The result is a total current meter cost by rate schedule.

Q. Please explain how the remaining distribution accounts are classified and allocated.

A. The remaining distribution accounts except for land and land rights are classified as demand related and allocated based upon noncoincident demand. Land and land rights are classified and allocated based upon the classification and allocation of distribution accounts 375-379.

Q. How is general plant classified and allocated?

A. General plant is classified and allocated to the rate schedules based upon the classification and allocation of storage, transmission, and distribution plant to the rate schedules. This reflects the same methodology used for allocations to each district.

Q. Are the classification and allocation methodologies for AWG gathering and transmission plant to the rate schedules the same methodologies as proposed for the SEMO and Arkansas interconnected system?

A. Yes.

Q. Is the methodology used to allocate the AWG meter related plant and the Company's general office building accounts the same for both the rate schedules and the districts?

A. Yes. The meter related accounts are allocated based upon number of customers. The Company's general office building is allocated based upon total plant as allocated to each rate schedule. This is the same methodology used for allocations to each district.

Q. Because working capital and the acquisition adjustment are allocated to all districts, is the allocation methodology the same for the rate schedules?

A. Yes.

Q. Are the methodologies used for classification and allocation of storage, transmission, and distribution expenses comparable to those same methodologies used for classifying and allocating the corresponding plant accounts?

A. Yes.

Q. What are the classification and allocation of customer accounts, customer service and information and new business expense?

A. These expenses are classified as customer related and allocated on number of customers except meter reading expense. Meter reading expense is customer related and is allocated using the meter plant allocation.

Q. How are administrative and general expenses classified and allocated?

A. Administrative and general salaries, office supplies and expense, administrative expenses transferred, outside services employed, injuries and damages, pensions and benefits, and miscellaneous direct and intercompany general and administrative expenses are classified and allocated based upon total ANG expenses less gas costs as classified and allocated.

Q. How are the remaining administrative and general expenses classified and allocated?

A. Property insurance is classified and allocated based upon the classification and allocation of total ANG plant. Regulatory commission expense is allocated based on each rate schedule's adjusted revenues. Advertising and rents expenses are classified as customer related and allocated based on each rate schedule's adjusted number of customers.

Q. What are the remaining expenses to be classified and allocated?

A. Depreciation, amortization, and taxes are the remaining expenses to be classified and allocated. Depreciation, corporate franchise, and property taxes are classified and allocated according to the classification and allocation of total plant. The plant acquisition amortization is classified as customer related and allocated on the number of customers which is the same methodology applied to the asset. Employment taxes are classified and allocated on total ANG expenses less gas costs as classified and allocated. State and federal income taxes are calculated for each rate schedule.

Q. What are the results of this cost of service study?

A. Schedule H-1 summarizes SEMO's total cost of service by rate schedule. The total recommended percentage increase is 11.43%. The schedule presents each rate schedule paying its allocated costs at the recommended overall rate of return. As a result, the residential and commercial/municipal firm rate schedules show increases of 22.41% and 6.58%, respectively. The industrial firm rate schedule shows a decrease of 4.26%. The interruptible rate schedules indicate reductions of 10.33% for commercial interruptible, 31.88% for industrial small interruptible, and 40.67% for industrial large interruptible. The reduction for the one industrial large interruptible customer is for transportation costs. Some of the industrial interruptible small rate schedule customers are transporters while the majority are sales customers. Therefore,

the percentage decrease is not necessarily reflective of the decrease to be experienced for a transportation only customer. Because all commercial interruptible customers are sales customers, the proposed decrease reflects the average decrease for customers served from this rate schedule.

Q. What is your proposed rate design for the residential rate schedule?

A. Presently, the residential rate design is a customer charge of $7.00 and a non-gas commodity rate of $.09348 per Ccf. I recommend recovering most of the customer related costs per the cost of service study by increasing the customer charge to $8.50. Recovery of all remaining costs volumetrically increases the non-gas commodity rate to $.20834 per Ccf.

Q. Are any changes proposed to the current residential gas air conditioning rider?

A. Yes. Presently, the rider is applicable to billings rendered during the months of May through October and the residential rate is reduced by $.05 per Ccf for usage over 30 Ccf. The proposed rider is applicable to billings rendered during the months of June through September and for all usage over 30 Ccf the rate is reduced by $.04681 per Ccf. The reduction is based on identifying residential coincident peak related costs per the cost of service study.

Q. What is your proposed rate design for the commercial/municipal and industrial firm rate schedules?

A. The present commercial/municipal and industrial firm customer charges are $12.50 and $25.00, respectively. The non-gas commodity rate is $.09669 for both commercial/municipal and industrial firm rate schedules. I propose a customer charge of $13.50 and $65.00 for the commercial/municipal and industrial firm rate schedules, respectively. The cost of service study shows that not only customer costs differ with these rate schedules but also non-gas commodity costs. Therefore, I propose a non-gas commodity rate of $.12245 for the commercial/municipal firm schedule and a non-gas commodity rate of $.05513 for the industrial firm rate schedule.

Q. What is your proposed rate design for the commercial interruptible rate schedule?

A. I recommend increasing the monthly customer charge from the present $25.00 to $65.00. The proposed non-gas commodity rate is to decrease from $.09669 per Ccf to $.03566 per Ccf.

Q. What is your proposed rate design for the industrial small interruptible rate schedule?

A. The monthly customer charge is proposed to increase from the present $75.00 to $220.00. The proposed non-gas commodity rate is a decrease from $.1046 per Ccf to

$.02013 per Ccf.

Q. What is your proposed rate design for the industrial large interruptible rate schedule?

A. I propose maintaining the present customer charge of $12,500 for this customer. The present non-gas commodity rate of $.1046 is proposed to decrease to $.0152.

Q. What are the recommended transportation rates?

A. Transportation rates for qualifying customers are the same as the non-gas commodity rate and customer charges for the sales customers. The firm transportation rate also includes an amount for continued recovery of pipeline demand charges. Transporters also pay the gathering and transmission facilities charges if the gas purchased by the transporter uses those facilities.

Q. Are there any additions to the previously discussed rate schedules?

A. Yes. An addition is made to the availability sections of the industrial small interruptible and industrial large interruptible rate schedules requiring electric generation customers to give notice and receive confirmation of supply availability before consumption begins for electric generation to assure adequate natural gas supplies.

Q. Please list any additions to the transportation tariff.

A. If the customer wishes ANG to purchase gas on its behalf, the customer's initial nomination for each month is to be submitted ten (10) business days prior to the beginning of the month. Also, any notices of changes in the customer's first of the month daily nomination must be made twenty-six (26) hours prior to the nomination deadline of the pipeline interconnecting with ANG at the point of receipt. The customer is required to purchase the volumes nominated and acquired by ANG on customer's behalf. If customer purchases its own gas supply, the initial nomination for each month is to be submitted seven (7) business days prior to the beginning of the month. Also, any notices of changes in the daily nomination are proposed to be twenty-six (26) hours prior to deadline of the interconnecting pipeline at the point of receipt. ANG proposes to limit a change in a customer's nomination to fifty percent (50%) of the previously confirmed average daily volume. ANG will confirm a customer's nomination prior to 3:00 p.m. on the business day prior to the date the nomination or nomination change is to be effective. If the nomination is not received from the customer's gas supplier and confirmed by ANG, no change or confirmation can be made by ANG and the prior confirmation will remain in effect.

Cost of Service and Rate Design by Rate Schedule - Kirksville

Q. What are the proposed rate schedules or customer groups for the Kirksville district cost of service study?

A. The proposed rate schedules for the cost of service study are residential, commercial firm including municipals, industrial firm, commercial interruptible service, and industrial interruptible service. The residential class represents customers whose primary gas usage includes space and water heating, cooking, and air conditioning. The commercial and industrial firm rate schedules include customers whose respective gas usage is in a commercial or industrial establishment not exceeding 15,500 Ccf in any 31 day period. The commercial interruptible class includes customers who use gas in a commercial establishment and are subject to curtailment. The industrial interruptible rate schedule includes customers who use gas in an industrial establishment and are subject to curtailment.

Q. How is transmission plant allocated?

A. Transmission plant is allocated to the rate schedules using the average and peak methodology. Average usage by rate schedule is weighted by the Kirksville system load factor and the peak usage by rate schedule is weighted by one minus the Kirksville system load factor.

Q. Please discuss the classification and allocation of distribution mains.

A. Distribution mains are considered to be both customer and demand related. The customer portion of distribution mains is found by multiplying the total footage times the labor cost per foot including benefits. The labor cost per foot is based upon jobs completed in 1996. Comparing that product to the total ending balance of mains results in 49% of mains being classified as customer related and allocated based upon each rate schedule's pro forma number of customers. The remaining 51% of the account is allocated based upon noncoincident demand.

Q. Is Kirksville's noncoincident demand equal to coincident demand?

A. No. Coincident demand is the maximum demand placed on the system at a point in time. During the maximum system demand, the interruptible rate schedule customers are curtailed. The amount of reduction by these customers varies. The coincident demand calculation reflects these load reductions. The noncoincident demand is the maximum demand of each rate schedule's group of customers and is greater than the system coincident demand. Allocating the non-customer main costs on a noncoincident demand factor reflects the sizing of the distribution main to meet the customer's or a group of customers' maximum demand in a given area.

Q. Please continue with the allocation of distribution plant.

A. Services are classified as customer related and allocated based on installed service cost by rate schedule times the number of customers. Service cost by rate schedule is the result of averaging the costs of installed services by rate schedule for 1995 and 1996. The industrial rate schedules are not allocated any services because these customers are required to pay for their service line installation as per ANG's Extension Policy.

Q. How is the meter account classified and allocated?

A. Meters are classified as customer related. The allocation is based upon total meter costs by rate schedule. As stated previously in the discussion of the allocation of SEMO's meters, ANG maintains records showing meter models by district by rate schedule. Current costs by meter model are also known. The current cost by meter model is multiplied times the number of that particular meter model. The result is a total meter cost by rate schedule. Next, the total is divided by the total number of meters for an average cost per meter by rate schedule. The average cost is then multiplied times the pro forma number of customers by rate schedule. The result is a total current meter cost by rate schedule.

Q. Please explain how the remaining distribution accounts are classified and allocated.

A. The remaining distribution accounts except for land and land rights are classified as demand related and allocated based upon noncoincident demand. Land and land rights are classified and allocated based upon the classification and allocation of distribution accounts 375-379.

Q. How is general plant classified and allocated?

A. General plant is classified and allocated to the rate schedules based upon the classification and allocation of transmission and distribution plant to the rate schedules.

Q. Is the methodology used to allocate the AWG meter related plant and the Company's general office building accounts the same for the rate schedules as for the districts?

A. Yes. The meter related accounts are allocated based upon number of customers. The Company's general office building account is allocated based upon total plant as allocated to each rate schedule and is the same methodology used for the districts.

Q. Is the allocation methodology used for working capital and the acquisition adjustment the same for the rate schedules as for the districts?

A. Yes.

Q. Are the classification and allocation of transmission and distribution expense accounts comparable to the allocation and classification of the corresponding plant accounts?

A. Yes.

Q. What are the classification and allocation of customer accounts, customer service and information and new business expense?

A. These expenses are classified as customer related and allocated on number of customers except meter reading expenses. Meter reading expenses are customer related and are allocated using the meter plant allocation.

Q. How are administrative and general expenses classified and allocated?

A. Administrative and general salaries, office supplies and expense, administrative expenses transferred, outside services employed, injuries and damages, pensions and benefits, and miscellaneous direct and intercompany general and administrative expenses are classified and allocated based upon total ANG expenses less gas costs as classified and allocated.

Q. How are the remaining administrative and general expenses classified and allocated?

A. Property insurance is classified and allocated based upon the classification and

allocation of total ANG plant. Regulatory commission expense is allocated based on each rate schedule's adjusted revenues. Advertising and rents expenses are classified as customer related and allocated based on each rate schedule's adjusted number of customers.

Q. What are the remaining expenses to be classified and allocated?

A. Depreciation, amortization, and taxes are the remaining expenses to be classified and allocated. Depreciation, corporate franchise, and property taxes are classified and allocated according to the classification and allocation of total plant. The plant acquisition amortization is classified as customer related and allocated on the number of customers which is the same methodology applied to the asset. Employment taxes are classified and allocated on total ANG expenses less gas costs as classified and allocated. State and federal income taxes are calculated for each rate schedule.

Q. What are the results of this cost of service study?

A. Schedule H-2 summarizes Kirksville's total cost of service by rate schedule. The total recommended percentage increase is 6.02%. The schedule presents each rate schedule paying its allocated costs at the recommended overall rate of return. As a result the residential and commercial firm rate schedules show increases of 16.99% and 5.22%,

respectively. The industrial firm rate schedule shows a increase of 6.18%. The interruptible rate schedules indicate reductions of 39.07% for commercial interruptible and 23.24% for industrial interruptible. These interruptible schedules contain both sales and transportation customers. The one commercial interruptible sales customer's decrease is 16.83% compared to a decrease of 88.34% for the two transporters. The four industrial interruptible sales customers' decrease is 11.18% compared to the one transporter's decrease of 68.58%. The percentage decrease is much greater for transporters because gas costs are excluded from their revenues.

Q. What is your proposed rate design for the residential rate schedule?

A. Presently, the residential rate design is a customer charge of $7.00 and a flat non-gas commodity rate of $.04760 per Ccf. I recommend increasing the customer charge per the cost of service study to $8.50 which will recover most of the customer related costs. Recovery of all remaining non-gas costs increases the rate to $.15495.

Q. What is your proposed rate design for the commercial, municipal and industrial firm service rate schedules?

A. The present commercial/municipal firm and industrial firm customer charges are $12.50 and $25.00, respectively. Per the cost of service study, I propose increasing

the customer charges to $13.50 for the commercial/municipal firm customers and $65.00 for the industrial firm customers. The present non-gas commodity rate is $.04760 for both commercial/municipal firm and industrial firm customers. I propose a non-gas commodity rate of $.08019 for the commercial/municipal customers and a rate of $.06768 for the industrial customers recognizing the different costs to serve these two customer groups per the cost of service study.

Q. What is your proposed rate design for the commercial interruptible rate schedule?

A. I recommend increasing the monthly customer charge from the present $25.00 to $200.00. The proposed non-gas commodity rate is to decrease from the present $.10180 to $.01104 per Ccf.

Q. What is your proposed rate design for the industrial interruptible rate schedule?

A. I propose increasing the present customer charge of $75.00 to $220.00 while decreasing the non-gas commodity rate from $.10180 to $.02901.

Q. What are the recommended transportation rates?

A. Transportation rates for qualifying firm customers are the proposed customer charges plus the non-gas commodity rates and an amount to recover pipeline demand charges.

For qualifying customers served under the interruptible rate schedules, the transportation rates are the customer charges plus the non-gas commodity rates.

Q. Are there any additions to the previously discussed rate schedules?

A. Yes. An addition is made to the availability section of the industrial interruptible rate schedule requiring electric generation customers to give notice and receive confirmation of supply availability before consumption begins for electric generation to assure adequate natural gas supplies.

Q. Please list any additions to the proposed transportation tariff.

A. The proposed additions are the same as those discussed for SEMO's transportation tariff.

Cost of Service and Rate Design by Rate Schedule - Butler

Q. What are the proposed rate schedules or customer groups for the Butler district cost of service study?

A. The proposed rate schedules for the cost of service study are residential, commercial firm including municipals, industrial firm, commercial interruptible service, and industrial interruptible service. The residential class represents customers whose

primary gas usage includes space and water heating, cooking, and air conditioning. The commercial and industrial firm rate schedules include customers whose respective gas usage is in a commercial or industrial establishment not exceeding 15,500 Ccf in any 31 day period. The commercial interruptible class includes customers who use gas in a commercial establishment and are subject to curtailment. The industrial interruptible rate schedule includes customers who use gas in an industrial establishment and are subject to curtailment.

Q. Are the same classification and allocation methodologies applied to Butler's plant as discussed earlier for the classification and allocation of Kirksville?

A. Yes. The methodologies are the same but the results differ. For example, the classification of distribution mains is not the same due to labor and total main cost differences between the districts. Using the same methodology as discussed for Kirksville, Butler's customer portion of mains is 66% and the demand portion is 34%. Another example is the average and peak methodology used to allocate transmission mains. The system load factor for Butler is 19.31% compared to Kirksville's load factor of 32.31%. Therefore, a greater percentage of Butler's transmission plant is allocated on a coincident peak basis than Kirksville's transmission plant.

Q. Are the plant related expenses classified and allocated using methodologies as applied to the corresponding plant accounts?

A. Yes.

Q. What methodologies are used to classify and allocate non-plant related expenses?

A. The same methodologies as discussed for classifying and allocating the non-plant related expenses in Kirksville are the same methodologies used for Butler's expenses.

Q. What are the results of this cost of service study?

A. Schedule H-3 summarizes Butler's total cost of service by rate schedule. The total recommended percentage increase is 8.27%. The schedule presents each rate schedule paying its allocated costs at the recommended overall rate of return. As a result the residential rate schedule shows an increase of 13.26% compared to a slight decrease of .43% for the commercial firm rate schedule. The industrial firm rate schedule, which has only one customer with usage only a few months of the year, shows an increase of 92.73%. The interruptible rate schedules indicate reductions of 9.62% for commercial interruptible and 55.77% for industrial interruptible. The industrial interruptible rate schedule's decrease is an average for two (2) sales customers and one (1) transportation customer. The transporter's decrease is greater than the average of

the three with a decrease of 76.40% while the sales customers' decrease is less than the average at 16.45%. The decrease for the transporters is much greater because of the exclusion of gas costs in the revenues.

Q. Do you propose implementing these increases and decreases?

A. I propose implementing the cost of service results for the residential, commercial interruptible, and industrial interruptible rate schedules. Due to the severity of the cost of service increase for the one industrial firm customer, I propose combining this customer with the commercial firm rate schedule for designing the non-gas commodity rate.

Q. What is your proposed rate design for the residential rate schedule?

A. Presently, the residential rate design is a customer charge of $7.00 and a flat non-gas commodity rate of $.16805 per Ccf. I recommend increasing the customer charge to $8.50 per the cost of service study and also increasing the non-gas commodity rate to $.24882 per Ccf.

Q. Are any changes proposed to the current residential gas air conditioning rider?

A. Yes. Presently, the rider is applicable to billings rendered during the months of May

through October and the residential rate is reduced by $.11805 for usage over 30 Ccf. The proposed rider is applicable to billings rendered during the months of June through September and for all usage over 30 Ccf the rate is reduced by $.02757 per Ccf. The reduction is based on identifying residential coincident peak related costs per the cost of service study.

Q. What is your proposed rate design for the commercial, municipal and industrial firm rate schedules?

A. The present customer charges for the commercial/municipal firm and industrial firm are $12.50 and $25.00, respectively. I propose increasing the customer charges per the cost of service to $13.50 for commercial/municipal firm customers and $65.00 for industrial firm customers. The present non-gas commodity rate is $.16805 for both commercial/municipal and industrial firm customers. I propose decreasing the non-gas commodity rate to $.15958 for both customer groups. The cost of service study shows that the rate should be higher for the industrial firm group. As previously discussed, there is only one industrial firm customer whose usage is not continuous and would cause the rates for this one customer to be unreasonable. Therefore, I recommend combining the cost of service for determining the non-gas commodity rate for these two customer groups.

Q. What is your proposed rate design for the commercial interruptible rate schedule?

A. I recommend increasing the monthly customer charge from the present $25.00 to $65.00. The proposed non-gas commodity rate is to decrease from the present $.10760 to $.04277 per Ccf.

Q. What is your proposed rate design for the industrial interruptible rate schedule?

A. I propose maintaining the present monthly customer charge at $75.00 while decreasing the non-gas commodity rate from $.12760 to $.02728.

Q. What are the recommended transportation rates?

A. Transportation rates for qualifying customers are the same as the customer charges and non-gas commodity rates in the previously discussed rate schedules.

Q. Are there any additions to the previously discussed rate schedules?

A. Yes. An addition is made to the availability section of the industrial interruptible rate schedule requiring electric generation customers to give notice and receive confirmation of supply availability before consumption begins for electric generation to assure adequate natural gas supplies.

Q. Please list any additions to the proposed transportation tariff.

A. The additions to the transportation tariff are identical to those previously discussed for SEMO's transportation tariff.

Miscellaneous Fees - All Districts

Q. Please discuss any changes in miscellaneous fees.

A. The special meter reading charge during normal business hours is proposed to increase to $10.00 from the present $5.00 fee and during non-standard working hours the fee is proposed to increase to $20.00 from the present $10.00 fee. The proposed insufficient check charge is $15.00 compared to the present charge of $3.00.

Q. Does this conclude your direct testimony?

A. Yes.