

Exhibit No.:
Issue: Cost of Service
Witness: Daniel I. Beck
Type of Exhibit: Surrebuttal
Sponsoring Party: MoPSC Staff
Case No.: GR-97-272

MISSOURI PUBLIC SERVICE COMMISSION
UTILITY OPERATIONS DIVISION

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SURREBUTTAL TESTIMONY

OF

DANIEL I. BECK

ASSOCIATED NATURAL GAS COMPANY

A DIVISION OF ARKANSAS WESTERN GAS COMPANY

CASE NO. GR-97-272

Jefferson City, Missouri

September, 1997

Surrebuttal Testimony of
Daniel I. Beck

1 subsequently made several changes to the allocators that I have developed. The revised
2 allocators are attached on Schedules 1 and 2.

3 Q. Which allocators have you changed?

4 A. I have revised the allocators for Accounts 380 through 384, which are
5 for services, meters and regulators. In my direct testimony, I allocated a small amount
6 (less than 1%) of the cost for these accounts to the Large Volume Service (LVS) Class.
7 Based on the information contained in Staff Data Request 4125, I have eliminated the
8 allocation of these costs to the Large Volume Service (LVS) Class; this is consistent
9 with Noranda's position regarding the allocation of these costs. Instead, the distribution
10 equipment that is serving the LVS Class is in other distribution accounts including
11 Account 385, which is Industrial measuring and regulating station equipment.

12 Q. You state that distribution equipment is serving the LVS Class. Is
13 this the position of Noranda's witness John W. Mallinckrodt?

14 A. Yes and no. In his rebuttal testimony, he stated on page 2, lines 25
15 and 26, that "Noranda is not served by ANG's distribution system." Since Noranda is
16 the only customer in the LVS Class, it would be logical to assume that he also believes
17 that the LVS class is not served by ANG's distribution system. However, in Noranda's
18 workpapers, a number of distribution accounts, including Account 385, are allocated to
19 the LVS class.

20 Q. Is it your position that the LVS Class is served by the distribution
21 system but is not served by each and every distribution account that make up that
22 system?

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1 A. Yes. Based on Noranda's workpapers, this appears to be their
2 position also. However, it appears that the allocation of one account, distribution
3 mains, accounts for most of the differences regarding the distribution system between
4 Staff and Noranda. Staff has allocated distribution mains based on capacity utilization
5 while Noranda first assigns zero distribution mains to the LVS Class and then uses the
6 Company's methodology to allocate the remaining distribution main.

7 Q. What is your position on this matter?

8 A. Although on its face it appears that Noranda is not being directly
9 served by distribution mains, I believe that Noranda should be allocated a significant
10 portion of the costs for distribution mains. In my opinion, the value that Noranda
11 receives from ANG's combined transmission and distribution systems is best
12 approximated by the Staff's use of capacity utilization methodologies to allocate
13 transmission and distribution systems.

14 Q. Please give an example that would explain why you believe that
15 capacity utilization is the best method to allocate both transmission and distribution
16 systems.

17 A. For ANG's system, the transmission and distribution systems are
18 interconnected and can act as a substitute for one another. This interdependence is quite
19 common for local distribution systems. For example, due to growth in usage in an urban
20 area, it is a common occurrence that the distribution system becomes unable to provide
21 adequate service without adding capacity. Many times the need for additional capacity is
22 provided by building a transmission main on the fringe of the population centers to the

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1 needed areas. This alternative is usually more economical than upgrading the existing
2 distribution mains in heavily populated areas. In essence, the transmission main becomes
3 a substitute for distribution system upgrades. If at a later date a new customer who is
4 located next to the transmission main and would therefore be most economically served
5 by directly connecting it to the transmission main, then that customer should be
6 connected to the transmission main and should be allocated both the costs of
7 transmission and distribution main.

8 Q. Does the transmission main that Noranda is connected to serve as a
9 substitute for distribution main?

10 A. In my opinion, it is very likely that much of ANG's transmission main
11 is a substitute for distribution main. As can be seen in the map in John W.
12 Mallinckrodt's direct testimony, the Noranda plant, Marston, Howardville, Lilbourn, and
13 New Madrid are all be located in a circle with a 3 or 4 mile radius. Given this close
14 proximity, it would have been relatively easy to serve these locations with a single large
15 distribution system instead of separate distribution systems connected by a transmission
16 line. The fact that ANG chose to serve each of these locations separately should not
17 automatically exclude one customer from contributing to the costs of distribution mains.

18 Q. Are you saying that ANG should have built a large distribution system
19 instead of connecting several smaller distribution systems with a transmission line?

20 A. No. What I am saying is that in many cases, transmission lines built
21 by Local Distribution Companies are substitutes for building larger distribution systems.
22 When costs are substitutable, they are in effect joint costs. Because of this, it is not

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1 proper to allocate only the costs of the transmission line to customers that happen to
2 geographically locate close to that transmission line. Such a policy would take the
3 concept of "cost causation" to an absurd extreme. What is important is that Noranda is
4 getting the same value of service as other customers located within the smaller
5 distribution areas. The value of the service for Noranda should be measured in terms of
6 the same cost allocation factors that are applied to all customers.

7 Q. Is this different from electric utility service, where customers get
8 lower rates for taking transmission, primary and secondary service?

9 A. Yes, it is. The issue for electric customers taking service at different
10 voltage levels relates to who owns the transformers. The higher the voltage level at
11 which a customer takes service, the greater will be the amount of transformers owned by
12 the customer rather than the utility. This is clearly not the case for natural gas utility
13 service.

14 Q. ANG witness Donna Campbell's rebuttal testimony also addresses the
15 allocation of distribution main. What is your response to the statement on page 25, lines
16 11 through 13 of this testimony which was "Classifying distribution mains as both
17 customer and demand related is recognized by the National Association of Regulatory
18 Utilities Commissioners' Gas Distribution Rate Design Manual"?

19 A. I agree that a methodology which determines both a customer and
20 demand related portion is a method that is commonly used to allocate costs. However,
21 this statement does not imply that this methodology is the only method that could be

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1 used. It also does not imply that this methodology is superior to other methodologies
2 without examining the evidence regarding the specific case at hand.

3 In this case, the Company's calculation of their Customer and Demand
4 Methodology contained an error (See Beck, rebuttal, pages 7 and 8). I believe that the
5 Company's method which contains this error should not be utilized in this case.

6 Q. ANG witness Donna Campbell's rebuttal testimony took exception to
7 Staff's method of allocating transmission mains. What is your response?

8 A. Although the methods that Staff and ANG used to allocate
9 transmission mains are different, the results are very similar if the same peak loads are
10 used. Schedule 3 shows a comparison of Staff's Capacity Utilization methodology to the
11 Company's Average and Peak Methodology. In addition, a third set of allocators which
12 are labeled "Modified Average and Peak" were developed using the Company's
13 methodology and Staff's peak demands. As can be seen by this calculation, the major
14 differences between Staff and ANG in this case regarding the allocation of transmission
15 mains is the calculation of peak demands, not the methodology used.

16 Q. Donna Campbell's rebuttal testimony, on page 15, lines 4-6 states that
17 "the proposed Staff classification does not properly reflect the curtailment of the
18 interruptible rate schedule customers during system peak load conditions, which
19 occurred during February 1996." What is your response?

20 A. Staff believes that the benefits of the curtailment of interruptible rate
21 customers on ANG's system is related to the upstream pipeline and not the Company's
22 transmission or distribution system. Therefore, there is no need to create a separate class

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1 or classes for the interruptible customers to develop a cost of service for a rate
2 proceeding such as this one. Instead, the benefits related to interruptibility should be
3 dealt with in the PGA/ACA process.

4 Q. Doesn't the testimony of Charles V. Stevens show that ANG's
5 transmission system is currently capacity constrained?

6 A. No, it does not. This testimony, which includes Schedule CVS-1,
7 shows that if one makes a specific set of assumptions, then portions of the system could
8 be considered capacity constrained. The assumptions that I am referring to are:

9 1) The peak demands used in this model are "future peaks" and not the
10 peaks currently experienced by the Company.

11 2) The peak day demands should be increased by an additional 16% to
12 convert peak day into peak hour loads.

13 3) The peak hour load should be assumed to occur for all hours of the
14 peak day.

15 4) The flows from the upstream pipelines could not be varied.

16 These assumptions are important because each assumption alters the facts
17 of the Company's present situation. For example, the adjustments to the peak loads for
18 "future peaks" together with the adjustment for peak hour equivalence have a major
19 impact on the results of the modeling. When compared to the peak day demands that the
20 Company used to allocate costs, the adjusted peaks are approximately 30% higher.
21 Schedule 4 contains a comparison of the peaks that the Company used in this case for

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1 the various modeled regions. Obviously, a 30% change in demands would have a
2 significant effect on the results that were obtained from the modeling.

3 Q. In his calculations, did Mr. Stevens take into account that upstream
4 pipeline supply is likely to be interrupted before constraints become operative on ANG's
5 transmission lines?

6 A. No, he did not. In the last 5 years, the only interruptions on ANG's
7 system have been due to upstream pipeline supply limitations. It makes little sense to
8 offer customers a reduced level of distribution costs when they are already getting a
9 discount for the gas supply service that is the operative limiting factor.

10 Q. Does this conclude your surrebuttal testimony?

11 A. Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the matter of Associated Natural)	
Gas Company's Tariff Revised Designed)	
to Increase Rates for Gas Service to)	CASE NO. GR-97-272
Customers in the Missouri Service)	
Area of the Company.)	

AFFIDAVIT OF DANIEL I. BECK

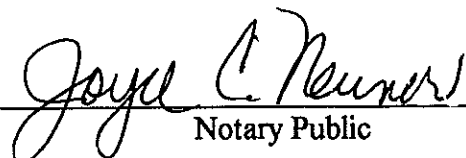
STATE OF MISSOURI)	
) ss	
COUNTY OF COLE)	

Daniel I. Beck, of lawful age, on his oath states: that he has participated in the preparation of the foregoing written testimony in question and answer form, consisting of 8 pages of testimony to be presented in the above case, that the answers in the attached written testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true to the best of his knowledge and belief.



Daniel I. Beck

Subscribed and sworn to before me this 3rd day of September, 1997.



Notary Public

My commission expires _____
Joyce C. Neuner
Notary Public, State of Missouri
County of Osage
My Commission Exp. 06/18/2001

METER AND REGULATOR ALLOCATORS
Case No. GR-97-272

Customer / Demand Split for Meters & Regulators

Class	SEMO	Kirksville	Butler
Customer	0.2081	0.2118	0.2085
Demand	0.7919	0.7882	0.7915
	1.0000	1.0000	1.0000

Customer Component by Class

Class	SEMO	Kirksville	Butler
RES	0.1836	0.1746	0.1803
SGS	0.0240	0.0361	0.0275
LGS	0.0005	0.0011	0.0007
LP	0.0000	0.0000	0.0000
	0.2081	0.2118	0.2085

Demand Component by Class

Class	SEMO	Kirksville	Butler
RES	0.4917	0.3988	0.5254
SGS	0.1748	0.2019	0.2036
LGS	0.1253	0.1875	0.0625
LP	0.0000	0.0000	0.0000
	0.7919	0.7882	0.7915

Combined Meter & Regulator Allocator by Class

Class	SEMO	Kirksville	Butler
RES	0.6754	0.5734	0.7057
SGS	0.1988	0.2380	0.2311
LGS	0.1258	0.1886	0.0632
LP	0.0000	0.0000	0.0000
	1.0000	1.0000	1.0000

SERVICE ALLOCATORS
Case No. GR-97-272

Customer / Demand Split for Services

Class	SEMO	Kirksville	Butler
Customer	0.6138	0.3624	0.3553
Demand	0.3862	0.6376	0.6447
	1.0000	1.0000	1.0000

Customer Component by Class

Class	SEMO	Kirksville	Butler
RES	0.5417	0.2987	0.3072
SGS	0.0707	0.0618	0.0468
LGS	0.0014	0.0019	0.0012
LP	0.0000	0.0000	0.0000
	0.6138	0.3624	0.3553

Demand Component by Class

Class	SEMO	Kirksville	Butler
RES	0.2398	0.3226	0.4279
SGS	0.0853	0.1633	0.1658
LGS	0.0611	0.1517	0.0509
LP	0.0000	0.0000	0.0000
	0.3862	0.6376	0.6447

Combined Service Allocator by Class

Class	SEMO	Kirksville	Butler
RES	0.7815	0.6213	0.7352
SGS	0.1560	0.2251	0.2127
LGS	0.0626	0.1536	0.0522
LP	0.0000	0.0000	0.0000
	1.0000	1.0000	1.0000

Comparison of Transmission Allocation Methodologies

Case No. GR-97-272

SEMO District

	Residential	SGS	LGS	LVS
Company Average & Peak	60.91%	25.19%	7.37%	6.54%
Modified Average & Peak	51.82%	19.17%	16.44%	12.57%
Staff Capacity Utilization	50.08%	19.60%	17.96%	12.36%

Butler

	Residential	SGS	LGS
Company Average & Peak	71.30%	26.54%	2.16%
Modified Average & Peak	66.41%	25.43%	8.16%
Staff Capacity Utilization	64.21%	24.77%	11.02%

Kirksville

	Residential	SGS	LGS
Company Average & Peak	58.55%	29.04%	12.41%
Modified Average & Peak	47.93%	24.90%	27.16%
Staff Capacity Utilization	47.29%	24.58%	28.14%

Comparison of the Peak Hour and Day Values Provided by ANG
Case No. GR-97-272

System Name	Are Interruptible Loads Included?	Peak Day MCF used To Model Flows	Peak Hour MCF used To Model Flows*	Peak Day MCF used In Cost of Service	Ratio of Peak Hour Flow to Peak Day COS
Integrated	No	80,872	93,811	73,752	127%
Integrated	Yes	85,815	99,546	Not Available	
Jackson	No	7,313	8,483	Not Available	
Jackson	Yes	7,903	9,167	Not Available	
Doniphan	No	2,051	2,379	Not Available	
Doniphan	Yes	2,142	2,484	Not Available	
SEMO	No	Not Available	Not Available	52,930	135%
SEMO	Yes	Not Available	Not Available	62,998	
Kirksville	No	11,088	12,862	9,544	
Kirksville	Yes	11,978	13,894	11,276	
Butler	No	6,967	8,082	5,988	
Butler	Yes	7,044	8,171	6,253	

* Peak Hour = Peak Day multiplied by 1.16

Note: The Company's response to Staff Data Request 3542 is the source of the flow model inputs and the Company's workpapers are the source of the Cost of Service Inputs