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Witness: Daniel I. Beck
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MISSOURI PUBLIC SERVICE COMMISSION
UTILITY OPERATIONS DIVISION

DIRECT TESTIMONY

OF

DANIEL I. BECK

ATMOS ENERGY CORPORATION

CASE NO. GR-2006-0387

Jefferson City, Missouri
September 2006

Staff Exhibit No. 128
Case No(s) GR-2006-0387
Date 11-30-06 Rptr PF

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI**

In the Matter of Atmos Energy)
Corporation's Tariff Revision Designed to)
Consolidate Rates and Implement a)
General Rate Increase for Natural Gas)
Service in the Missouri Service Area of)
the Company.)

Case No. GR-2006-0387

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 following Direct Testimony in question and answer form, consisting of 5 pages of Direct Testimony to be presented in the above case, that the answers in the following Direct 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 25th day of September, 2006.



Notary Public



My commission expires _____

DAWN L. HAKE
My Commission Expires
March 16, 2009
Cole County
Commission #05407643

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OF

DANIEL I. BECK

ATMOS ENERGY CORPORATION

CASE NO. GR-2006-0387

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DIRECT TESTIMONY

OF

DANIEL I. BECK

ATMOS ENERGY CORPORATION

CASE NO. GR-2006-0387

Q. Please state your name and business address.

A. My name is Daniel I. Beck and my business address is Missouri Public Service Commission, P. O. Box 360, Jefferson City, Missouri 65102.

Q. Are you the same Daniel I. Beck that filed Direct Testimony in the current case regarding Special Contracts?

A. Yes.

Q. What is the purpose of your direct testimony?

A. The purpose of my direct testimony is to explain the procedures used for the development of allocation factors for mains, services, meters and regulators. In addition, I will discuss the peak demands used by Staff for allocation of costs.

ALLOCATION OF MAINS

Q. What allocation factor was used for mains?

A. The cost of mains was allocated to the classes based on their utilization of the capacity of the system.

Q. Why is utilization of capacity an appropriate basis for allocating the cost of mains?

A. Mains are an integrated system of pipes that provide service to customers to the degree that the capacity of that system is utilized. While the diameters of the pipes used in that

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1 system are sized to carry sufficient volumes to meet peak day demands, the value to the customer
2 from the system occurs throughout the year, not just on the peak day. The allocation of the cost
3 of mains should reflect the total value that customers derive from the service throughout the year.

4 Utilization of the capacity of mains is a reasonable way of measuring how the various classes of
5 customers benefit from that portion of the local distribution system.

6 Q. How did you measure the capacity utilization of mains?

7 A. First, the relative amount of capacity utilized in each month of the year is
8 calculated. Then, in each month that relative amount of capacity is allocated to the classes based
9 on their contribution to the monthly peak demand. These allocations are added over all twelve
10 months to derive the annual capacity utilization of each class.

11 The calculation of the relative amount of capacity utilized in each month is made by
12 ranking the months from the lowest to highest in terms of peak demand. The capacity used in the
13 lowest demand month is obviously utilized in all other months as well. The additional capacity
14 used in the next lowest demand month is utilized in all higher demand months, but not in the
15 lowest demand month. Applying this same principle to each succeeding month results in a
16 determination of the relative amount of capacity being utilized in each month.

17 Q. Is capacity utilization equivalent to total gas usage by the classes?

18 A. No, it is not. A class with more efficient utilization of capacity requires less
19 capacity to provide the same total gas usage than one that utilizes the capacity in a less efficient
20 manner. Consider a simple example of two classes having the same total usage of 100 MCFs per
21 year. The class having perfect efficiency of capacity utilization takes 50 MCFs in both the off-
22 peak and on-peak periods. The class having less efficient use of capacity takes 30 MCFs in the
23 off-peak period and 70 MCFs in the on-peak period. Notice that the capacity required in the off-

1 peak period is 80 (50 + 30) MCFs and the capacity required in the on-peak period is 120 (50 +
2 70) MCFs. Out of a total capacity of 120 MCFs, 80 MCFs of capacity is utilized in both periods,
3 but an additional 40 (120 - 80) MCFs is needed to serve the on-peak period. If both classes had
4 perfect efficiency (50 MCFs each in both periods) then the total capacity required would have
5 only been 100 (50 + 50) MCFs. Clearly, the less efficient use of capacity by the one class has
6 resulted in additional capacity being added to the system.

7 Q. Can you continue with your example to explain how capacity utilization is
8 determined for each class?

9 A. Yes. The 80 MCFs of capacity required to meet the off-peak demand is also used
10 to meet a portion of the on-peak demand. Assuming equal period lengths, half of this 80 MCFs
11 of capacity is allocated equally to both periods (i.e., 40 MCFs off peak and 40 MCFs on-peak).
12 The additional 40 MCFs of capacity required to serve the on-peak period is assigned to only that
13 period. The result is, that of the 120 MCFs of total capacity, 40 MCFs goes to the off-peak
14 period and 80 MCFs goes to the on-peak period.

15 The classes are then allocated the capacities from each period based on their
16 contribution to demand (usage) as shown in the following table.

	Class 1		Class 2		Total	
	Usage	Capacity	Usage	Capacity	Usage	Capacity
Off-Peak	50	25	30	15	80	40
On-Peak	50	33.33	70	46.67	120	80
Total	100	58.33	100	61.67	200	120

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18 While the total usage for each class is the same (100 MCFs each), the capacity
19 utilized by the more efficient class 1 (58.33 MCFs) is less than the capacity utilized by the less
20 efficient class 2 (61.67 MCFs).

ALLOCATION OF SERVICE LINES

Q. How were the costs associated with service lines allocated?

A. Services were allocated by using the allocation factors developed by the Company as provided to the Staff in Data Request 228. The Company's analysis was reviewed. The obvious assumption that affects the results of this allocator is the length of service lines which is 100 feet for Residential and Small General Service customers and 250 feet for all other customers. In my experience, Residential and Small General Service customers typically have closer to 75 feet of service line while Large General Service customers have approximately 150 feet of service line. The length of Large Volume Service customer's service line can vary greatly since this is often a small number of customers with very unique requirements.

Q. Based on that review, what do you recommend regarding service line allocators?

A. I recommend that the Company's allocators for service lines be used but the relative accuracy of the Class Cost-of-Service be recognized since service lines accounts for approximately 25% of the cost-of-service. I also recommend that Atmos perform a typical service cost study that is based on a reasonable sample size of customers from each customer class. Since the Staff is proposing an additional class of customers and some consolidation of the current rates, any study for its next rate case should include all classes that result from the current case.

ALLOCATION OF METERS AND REGULATORS

Q. How were the costs associated with meters and regulators allocated?

A. Meters and regulators were allocated by using the allocators developed by the Company in this case. The Company's analysis was reviewed and compared to Staff's allocators in previous cases. Based on that review, I determined that the Company's allocators for meters

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1 and regulators produced reasonable allocations to the residential and Small General Service
2 classes. However, as with services, meters and regulators can vary greatly for large customers.
3 Therefore, I recommend that the Company's allocators for meters and regulators be used but the
4 relative accuracy of the Class Cost-of-Service be recognized since services accounts for
5 approximately 15% of the cost-of-service. I also recommend that Atmos perform a typical
6 service cost study that is based on a reasonable sample size of customers from each customer
7 class.

8 CALCULATION OF PEAK DEMANDS

9 Q. How were peak demands calculated?

10 A. To develop various allocators for use in Staff's Class Cost-of-Service Study,
11 monthly peak demands were required. For the Residential (RES) and Small General Service
12 (SGS) Classes, Staff developed monthly peak Heating Degrees (HDD) by averaging the coldest
13 day of the month for each of the 30 years in the historical data base. These monthly peak HDDs
14 were then combined with the per customer usage coefficients that were determined by the Staff's
15 weather normalization process to determine peak customer usage for the RES and SGS classes.

16 For the larger customers, I used the monthly sales developed by Staff witness Anne
17 Ross as the basis for calculating monthly peak demands. Typically, the Staff develops a peak
18 day monthly demand by taking into account the fact that there are approximately 20 working
19 days in a month. However, in this case, the Staff used the conservative assumption that the large
20 customers peak day usage is simply their monthly usage divided by the number of days in the
21 month.

22 Q. Does this conclude your direct testimony?

23 A. Yes, it does.