Exhibit No.: Issue(s): Cost of Serry Witness: I Type of Exhibit: Sponsoring Party: Case Number: Date Testimony Prepared:

Cost of Service & Rate Design Barb Meisenheimer Direct Public Counsel GR-2009-0434 d: November 3, 2009

DIRECT TESTIMONY

OF

BARBARA A. MEISENHEIMER

Submitted on Behalf of the Office of the Public Counsel

EMPIRE GAS

Case No. GR-2009-0434

November 3, 2009

BEFORE THE PUBLIC SERVICE COMMISSION OF THE STATE OF MISSOURI

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In the Matter of The Empire District Gas Company of Joplin, Missouri for Authority to File Tariffs Increasing Rates for Gas Service Provided to Customers in the Missouri Service Area of the Company.

Case No. GR-2009-0434

AFFIDAVIT OF BARBARA A. MEISENHEIMER

STATE OF MISSOURI)) SS **COUNTY OF COLE**

Barbara A. Meisenheimer, of lawful age and being first duly sworn, deposes and states:

- My name is Barbara A. Meisenheimer. I am Chief Utility Economist for the 1. Office of the Public Counsel.
- Attached hereto and made a part hereof for all purposes is my direct testimony. 2.
- I hereby swear and affirm that my statements contained in the attached 3. testimony are true and correct to the best of my knowledge and belief.

Barbara A. Meisenheimer

Subscribed and sworn to me this 3rd day of November 2009.



SHYLAH C. BROSSIER My Commission Expires June 8, 2013 Cole County Commission #09812742

Shylad C. Brossier Notary P-1

Notary Public

My Commission expires June 8th, 2013.

DIRECT TESTIMONY OF BARBARA A. MEISENHEIMER

EMPIRE DISTRICT GAS

(RATE DESIGN)

CASE NO. GR-2009-0434

Introduction and Summary

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Q. PLEASE STATE YOUR NAME, TITLE, AND BUSINESS ADDRESS.

 A. Barbara A. Meisenheimer, Chief Utility Economist, Office of the Public Counsel (OPC or Public Counsel), P. O. Box 2230, Jefferson City, Missouri 65102. I am also employed as an adjunct Economics and Statistics Instructor for William Woods University.

Q. HAVE YOU TESTIFIED PREVIOUSLY IN THIS CASE?

A. No.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. My testimony addresses Public Counsel's class cost of service studies and rate design recommendations for the Empire District Gas (Empire or the Company) service areas.



Q. PLEASE SUMMARIZE YOUR EDUCATIONAL AND EMPLOYMENT BACKGROUND.

I hold a Bachelor of Science degree in Mathematics from the University of Missouri-Columbia and have completed the comprehensive exams for a Ph.D. in Economics from the same institution. My two fields of study are Quantitative Economics and Industrial Organization. My outside field of study is Statistics.

I have been with the Office of the Public Counsel since January 1996. I have testified on economic issues and policy issues in the areas of telecommunications, gas, electric, water and sewer.

Over the past 14 years I have also taught courses for the University of Missouri-Columbia, William Woods University, and Lincoln University. I currently teach undergraduate and graduate level economics courses and undergraduate statistics for William Woods University.

Q. WHAT INFORMATION HAVE YOU REVIEWED?

A. I reviewed the Company's proposed tariff sheets, direct testimony and workpapers on cost of service and rate design, portions of the Company's current tariff, the Missouri Public Service Commission Staff's (Staff's) workpapers, Accounting Schedules and Cost of Service Report, customer complaints and comments filed with the Missouri Public Service Commission (Commission) and data request responses provided to the Staff and Public Counsel by Empire.

Q. PLEASE PROVIDE BACKGROUND ON EMPIRE'S SERVICE AREA.

A. In May 2006, in Case No. GO-2006-0205, Empire District Gas acquired the natural gas assets and service areas of Aquila, Inc., d/b/a Aquila Networks – MPS and Aquila Networks – L&P. Aquila Networks – MPS included service areas in North Central and West Central Missouri referred to in this case as the North & South systems. Aquila Networks – L&P included a service area in the Northwest corner of Missouri referred to in this case as the Northwest system. As part of the settlement agreement in Case No. GO-2006-0205, the parties agreed to a three year moratorium on rate case and complaint case filings. As a result, this is the first review of rates since Empire acquired the systems in 2006.

Q. PLEASE DISCUSS EMPIRE'S CURRENT AND PROPOSED RESIDENTIAL RATES.

A. Empire currently recovers a portion of non-gas Residential class costs in each district through a fixed customer charge of \$9.50 for the North South system and \$7.00 for the Northwest system. The remaining Residential class costs for each service area are recovered through a volumetric rate. Under this traditional rate design, consumers have the ability to control the non-gas portion of their bill by reducing use, low use customers paid less than high use customers, and the Company and customers shared the risk associated with weather.

Empire now requests that the Commission approve an alternative rate design that recovers all non-gas costs through a flat fixed monthly charge called a Straight-Fixed Variable Charge (SFV). In contrast to the current traditional rate design, the SFV rate design requires customers to pay the same rate regardless of Direct Testimony of Barbara A. Meisenheimer

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the customer's usage, low use customers pay as much as high use customers, and EMPIRE's weather related risk is shifted to customers. The Commission has approved a SFV rate design for only two natural gas companies.¹ Both of these cases occurred in 2006. Since 2006, parties have settled the issue of rate design in three natural gas rate cases. Two of these settlements produced traditional rate designs with Residential customer charges of \$15 for Missouri Gas Utility and \$15 for AmerenUE. The third resulted in the alternative decoupling rate design in effect for Laclede Gas Company with a Residential customer charge of \$15.50.

In this case, Public Counsel encourages the Commission to retain a traditional residential rate design, which recovers a portion of costs through a fixed customer charge and a portion through a volumetric rate, similar to the rate design approved for Missouri Gas Energy in Case No. GR-2004-0209. In that case, the Commission limited the collection to 55% of non-gas revenue through a fixed customer charge. The remaining 45% of costs were recovered through a uniform volumetric rate applied to all Ccf of consumption

Based on the class revenue shifts proposed in this testimony and estimated increases of \$2,400,000 for the North & South system and \$650,000 for the Northwest system, 55% recovery would result in a \$16.21 Residential customer charge for the North & South systems and a \$16.94 Residential customer charge for the Northwest system. Based on the class cost of service studies described later in this testimony, I calculate the cost directly related to serving individual

¹ The Commission Order approving the SFV for Atmos Energy Corporation in Case No. GR-2006-0387 has been remanded to the Commission.

customers to be \$11.68 for the North & South systems and \$11.89 for the Northwest system. Establishing a customer charge for the Residential class that recovers 55% of class cost will exceed these costs directly related to serving individual customers. To the extent that customer charges exceed the cost directly related to serving an individual customer, the Company is provided some protection against revenue volatility due to weather.

The Company's primary proposal to collect all Residential non-gas costs through a flat fixed fee is extreme. Based on the class revenue shifts proposed in my testimony and estimated increases of \$2,400,000 for the North & South system and \$650,000 for the Northwest system, 100% recovery of non-gas costs through a uniform customer charge would result in a \$29.47 Residential customer charge for the North & South systems and a \$30.80 Residential customer charge for the Northwest system.² These are substantial increases from the current \$9.50 Residential customer charge for the North & South systems and \$7.00 Residential customer charge for the Northwest system.

Q. PLEASE DISCUSS EMPIRE'S CURRENT AND PROPOSED SMALL COMMERCIAL FIRM SERVICE RATES.

² Empire proposes uniform Residential and Small Commercial Firm rates for all service areas. The proposed uniform SFV Residential rate is \$30.

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Direct Testimony of Barbara A. Meisenheimer

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Empire currently recovers a portion of non-gas costs for Small Commercial Firm service customers in each district through a fixed customer charge; \$17.40 for the North South system and \$13.50 for the Northwest system. The remaining Small Commercial Firm costs for each service area are recovered through a volumetric rate. The Company's primary proposal in this case is to implement a \$64 SFV non-gas rate for Small Commercial Firm customers with annual use of less than 5,000 Ccf per year and a \$110 customer charge coupled with a volumetric rate for Small Commercial customers with usage between 5,000 and 20,000 Ccf per year. As was true for the Residential class, the Company proposals are extreme and should be rejected.

I allocated significantly lower costs to the Small Commercial Firm class than did Empire. Based on the class revenue shifts proposed in my testimony and estimated increases of \$2,400,000 for the North & South system and \$650,000 for the Northwest system, 55% recovery of non-gas costs through a customer charge would result in a \$26.32 customer charge for the North & South systems and a \$24.61 customer charge for the Northwest system. These customer charges exceed the cost directly related to serving an individual customer's premise which for the Small Commercial Firm class is approximately \$11.90 for each system. To the extent that customer charges exceed the cost directly related to serving an individual customer, the Company is allowed some protection against revenue volatility due to weather. Ι

1	<u>Tradi</u>	tional Rate Design Provides a Better Conservation Incentive than SFV
2 3	Q.	DO YOU BELIEVE THAT A TRADITIONAL RATE DESIGN THAT RECOVERS A
4		PORTION OF COSTS IN A CUSTOMER CHARGE AND A PORTION IN A VOLUMETRIC
5		RATE PER UNIT PROVIDES A BETTER INCENTIVE FOR CONSERVATION THAN
6		RECOVERING ALL COST IN A FIXED FLAT RATE?
7	А.	Yes. The traditional rate design provides a better incentive for customers to
8		conserve than does the SFV rate design because, under the traditional rate design,
9		increasing consumption increases the non-gas charges a customer must pay.
10		Under the SFV rate design, a customer using little or no natural gas in a month
11		pays just as much in non-gas cost recovery as a customer using limitless natural
12		gas. Setting non-gas rates in a manner that recovers a portion of costs based on
13		volumes creates a financial incentive for a customer to turn back the thermostat
14		and to reduce the gas used for cooking and water heating.
15	Q.	WHAT ARE YOUR CONCLUSIONS REGARDING THE SFV RATE DESIGN COMPARED
16		TO A TRADITIONAL RATE DESIGN AS A METHOD FOR PROMOTING
17		CONSERVATION?
18	А.	It would be appropriate to continue the traditional rate design which contains
19		price signals that encourage conservation and allow residential customers some

control over the non-gas portion of the bill.

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Q. HOW IS COST CAUSATION INCORPORATED INTO SETTING THE PORTION OF COSTS TO BE RECOVERED THROUGH THE CUSTOMER CHARGE AND THE PORTION TO BE RECOVERED THROUGH VOLUMETRIC RATES?

A. It is common in regulated industries for companies to recover costs that are incurred independent of usage in a fixed fee and to recover costs that vary with usage through a usage based fee. Recovering a usage based cost through a usage based fee insures that those who did not cause the cost are not required to pay for it. This objective can be met through establishing a fixed component and a variable component of rates. The cost of meters that tend to be similarly sized for the majority of residential customers can be described as being independent of use and therefore reasonably recovered through a uniform fixed fee. Other facilities and equipment, such as measuring equipment at the entry point to the local distribution system, are associated with the volumetric flow of gas to the system and are therefore reasonably recovered on a per unit basis through a volumetric rate.

17 Q. DOES THE SFV RATE DESIGN MEET THE OBJECTIVE OF DESIGNING RATES BASED 18 ON COST CAUSATION?

A. No. The SFV rate design is inappropriate for recovering all non-gas costs, because a portion of investments and expenses are incurred based on demand and commodity related considerations. In the context of class cost of service studies,

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Direct Testimony of Barbara A. Meisenheimer

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the portion of investments and expenses that are incurred based on demand and commodity related considerations flow through to classes based on demand and commodity related factors and should reasonably be collected through usage based charges. Even the Company assigns certain costs to customer classes based on demand. For example, although I believe the following allocations are significantly understated, the Company's cost of service study identifies 8.93% of the Residential class revenue requirement as commodity and demand related. For the Small Commercial Firm class, the Company allocates an even greater proportion of 18.05% as demand and commodity related.

Traditional Rate Design Ensures That Those Who Use More Pay More

Q. PLEASE COMPARE THE RANGE OF RESIDENTIAL NON-GAS BILL IMPACTS THAT COULD RESULT FROM THE TRADITIONAL AND SFV RATE DESIGNS.

A. A comparison of Residential non-gas recovery under the SFV rate design and traditional rate structure is shown below:

			Residential l	Bill Impacts			
	North	n & South			No	rthwest	
	(Ave U	Jse 58 Ccf)			(Ave Us	e 57.57 Ccf)	
Customer Use	SFV Rate	Traditional Rate	Difference	Customer Use	SFV Rate	Traditional Rate	Difference
(Ccf)	Design	Design	Per Bill	(Ccf)	Design	Design	Per Bill
-	\$ 29.47	\$ 16.21	\$ (13.26)	-	\$ 30.80	\$ 16.94	\$ (13.86
10	\$ 29.47	\$ 18.50	\$ (10.98)	10	\$ 30.80	\$ 19.35	\$ (11.45
20	\$ 29.47	\$ 20.78	\$ (8.69)	20	\$ 30.80	\$ 21.76	\$ (9.05
30	\$ 29.47	\$ 23.07	\$ (6.40)	30	\$ 30.80	\$ 24.17	\$ (6.64
40	\$ 29.47	\$ 25.36	\$ (4.12)	40	\$ 30.80	\$ 26.57	\$ (4.23
50	\$ 29.47	\$ 27.64	\$ (1.83)	50	\$ 30.80	\$ 28.98	\$ (1.82
60	\$ 29.47	\$ 29.93	\$ 0.46	60	\$ 30.80	\$ 31.39	\$ 0.5
70	\$ 29.47	\$ 32.22	\$ 2.74	70	\$ 30.80	\$ 33.80	\$ 2.9
80	\$ 29.47	\$ 34.50	\$ 5.03	80	\$ 30.80	\$ 36.20	\$ 5.4
90	\$ 29.47	\$ 36.79	\$ 7.32	90	\$ 30.80	\$ 38.61	\$ 7.8
100	\$ 29.47	\$ 39.08	\$ 9.60	100	\$ 30.80	\$ 41.02	\$ 10.2
200	\$ 29.47	\$ 61.94	\$ 32.47	200	\$ 30.80	\$ 65.10	\$ 34.2
300	\$ 29.47	\$ 84.81	\$ 55.34	300	\$ 30.80	\$ 89.18	\$ 58.3
400	\$ 29.47	\$ 107.67	\$ 78.20	400	\$ 30.80	\$ 113.25	\$ 82.4
500	\$ 29.47	\$ 130.54	\$ 101.07	500	\$ 30.80	\$ 137.33	\$ 106.5
600	\$ 29.47	\$ 153.41	\$ 123.94	600	\$ 30.80	\$ 161.41	\$ 130.6
700	\$ 29.47	\$ 176.27	\$ 146.80	700	\$ 30.80	\$ 185.49	\$ 154.6
800	\$ 29.47	\$ 199.14	\$ 169.67	800	\$ 30.80	\$ 209.57	\$ 178.7
900	\$ 29.47	\$ 222.01	\$ 192.54	900	\$ 30.80	\$ 233.64	\$ 202.8
1,000	\$ 29.47	\$ 244.87	\$ 215.40	1,000	\$ 30.80	\$ 257.72	\$ 226.9
2,000	\$ 29.47	\$ 473.54	\$ 444.06	2,000	\$ 30.80	\$ 498.50	\$ 467.7
3,000	\$ 29.47	\$ 702.20	\$ 672.73	3,000	\$ 30.80	\$ 739.28	\$ 708.4
4,000	\$ 29.47	\$ 930.86	\$ 901.39	4,000	\$ 30.80	\$ 980.06	\$ 949.2
5,000	\$ 29.47	\$1,159.53	\$ 1,130.06	5,000	\$ 30.80	\$ 1,220.84	\$1,190.0
	SFV Charge	Traditiona	l Charges		SFV Charge	Traditional	Charges
		Cust Charge	Vol Charge			Cust Charge	Vol Charge
	\$ 29.47	\$ 16.21	\$ 0.22866		\$ 30.80	\$ 16.94	\$ 0.2407

Table 1

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HOW DOES A TRADITIONAL RATE DESIGN IMPACT RESIDENTIAL CLASS BILLS?

Customers with below average to average use would pay less under the traditional rate design. Customers with above average use would pay more under a traditional rate design. Through all levels of use, as a customer uses more, they would pay more under a traditional rate design. Based on my experience, I believe that rates that collect more as the customer uses more are both understandable to customers and considered fair.

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Q. PLEASE COMPARE THE RANGE OF SMALL COMMERCIAL NON-GAS BILL IMPACTS THAT COULD RESULT FROM THE TRADITIONAL AND SFV RATE DESIGNS.

A. A comparison of Small Commercial non-gas recovery under the SFV rate design and traditional rate structure is shown below:

Small Commercial Firm Service Bill Impacts							
	North & South Northwest						
(Ave Use 111.18 Ccf)				(Ave Use 108.71 Ccf)			
Customer Use	SFV Rate	Traditional Rate	Difference	Customer Use	SFV Rate	Traditional Rate	Difference
(Ccf)	Design	Design	Per Bill	(Ccf)	Design	Design	Per Bill
-	\$ 47.85	\$ 26.32	\$ (21.53)	-	\$ 44.75	\$ 24.61	\$ (20.14)
10	\$ 47.85	\$ 28.25	\$ (19.59)	10	\$ 44.75	\$ 26.46	\$ (18.28)
20	\$ 47.85	\$ 30.19	\$ (17.66)	20	\$ 44.75	\$ 28.32	\$ (16.43)
30	\$ 47.85	\$ 32.13	\$ (15.72)	30	\$ 44.75	\$ 30.17	\$ (14.58)
40	\$ 47.85	\$ 34.06	\$ (13.78)	40	\$ 44.75	\$ 32.02	\$ (12.73)
50	\$ 47.85	\$ 36.00	\$ (11.85)	50	\$ 44.75	\$ 33.87	\$ (10.87)
60	\$ 47.85	\$ 37.94	\$ (9.91)	60	\$ 44.75	\$ 35.73	\$ (9.02)
70	\$ 47.85	\$ 39.87	\$ (7.97)	70	\$ 44.75	\$ 37.58	\$ (7.17)
80	\$ 47.85	\$ 41.81	\$ (6.04)	80	\$ 44.75	\$ 39.43	\$ (5.32)
90	\$ 47.85	\$ 43.75	\$ (4.10)	90	\$ 44.75	\$ 41.28	\$ (3.47)
100	\$ 47.85	\$ 45.68	\$ (2.16)	100	\$ 44.75	\$ 43.14	\$ (1.61)
200	\$ 47.85	\$ 65.05	\$ 17.20	200	\$ 44.75	\$ 61.66	\$ 16.91
300	\$ 47.85	\$ 84.41	\$ 36.57	300	\$ 44.75	\$ 80.18	\$ 35.44
400	\$ 47.85	\$ 103.78	\$ 55.93	400	\$ 44.75	\$ 98.71	\$ 53.96
500	\$ 47.85	\$ 123.15	\$ 75.30	500	\$ 44.75	\$ 117.23	\$ 72.48
600	\$ 47.85	\$ 142.51	\$ 94.67	600	\$ 44.75	\$ 135.76	\$ 91.01
700	\$ 47.85	\$ 161.88	\$ 114.03	700	\$ 44.75	\$ 154.28	\$ 109.53
800	\$ 47.85	\$ 181.25	\$ 133.40	800	\$ 44.75	\$ 172.80	\$ 128.06
900	\$ 47.85	\$ 200.61	\$ 152.77	900	\$ 44.75	\$ 191.33	\$ 146.58
1,000	\$ 47.85	\$ 219.98	\$ 172.13	1,000	\$ 44.75	\$ 209.85	\$ 165.10
2,000	\$ 47.85	\$ 413.64	\$ 365.79	2,000	\$ 44.75	\$ 395.09	\$ 350.35
3,000	\$ 47.85	\$ 607.30	\$ 559.46	3,000	\$ 44.75	\$ 580.34	\$ 535.59
4,000	\$ 47.85	\$ 800.97	\$ 753.12	4,000	\$ 44.75	\$ 765.58	\$ 720.83
5,000	\$ 47.85	\$ 994.63	\$ 946.78	5,000	\$ 44.75	\$ 950.82	\$ 906.07
	SFV Charge	Traditiona	l Charges		SFV Charge	Traditional Charges	
	\$ 47.85	S 26.32	vol Charge \$ 0,19366		\$ 44.75	S 24.61	Vol Charge \$ 0 18524

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Q. HOW DOES A TRADITIONAL RATE DESIGN IMPACT SMALL COMMERCIAL SERVICE CLASS BILLS?

A. As with the Residential class, Small Commercial customers with below average to average use would pay less under the traditional rate design. Customers with

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above average use would pay more under a traditional rate design. Through all levels of use, as a Small Commercial customer uses more, they would pay more.

Traditional Rate Design Better Encourages Customers To Stay On The System

Q. IS THERE EVIDENCE THAT THE COMPANY'S RATE DESIGN PROPOSAL WILL DRIVE LOW USE CUSTOMERS OFF THE SYSTEM?

A. Yes. Mr. Overcast, the Company's rate design witness, anticipates a loss of Residential and Small Commercial Firm service customers due to the SFV rate design. Mr. Overcast's workpapers indicate a reduction of 2964 low or no use Residential bills and a reduction of 5568 low or no use Small Commercial bills as a result of the Company's rate design proposal.

Q. IS THERE A BENEFIT TO KEEPING LOW USE CUSTOMERS ON THE SYSTEM?

A. Yes. Low use customers benefit by retaining access to utility service. High use customers and other customer classes benefit by not having to make up the revenue lost when low use customers disconnect service.

Q. HAS THE STAFF PREVIOUSLY REJECTED PROPOSALS TO RECOVER ALL NON-GAS COSTS THROUGH A FIXED CHARGE DUE TO CONCERNS REGARDING THE POTENTIAL DETRIMENT TO LOW USE CUSTOMERS?

A. Yes. The detrimental impact on low use customers of full non-gas recovery through a fixed flat rate was foreseen by Staff witness Dr. Michael Proctor in his surrebuttal testimony in Laclede Gas Case No. GR-2002-356. In testimony responding to Laclede's proposed weather mitigation rate design proposal, Dr. Proctor explained: "While the Staff favors using rate design as a weather mitigation measure, because of the detrimental impact on small users, the Staff

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was not willing to recommend recovering all of the non-gas costs in either the customer charge, first block rate or a combination of these rate components...." (emphasis added) The SFV has exactly the effect that Dr. Proctor rejected because it is designed to collect all non-gas costs through a monthly customer charge.

Traditional Rate Design Is Consistent With The Purpose Of Regulation

Q. IS THE TRADITIONAL RATE DESIGN THAT CORRELATES HIGHER USE WITH HIGHER CHARGES CONSISTENT WITH THE PURPOSE OF REGULATION?

A. Yes. Utility regulation is intended to mimic the outcomes and market environment that is faced by competitive firms. The use of utility regulation to simulate a competitive environment and encourage the benefits that would accrue if the industry were suitable for a competitive structure has been referred to as the competitive market paradigm. This paradigm was described by Dr. James Bonbright on page 93 of *Principles of Public Utility Rates* in the following manner:

Regulation, it is said, is a substitute for competition. Hence its objective should be to compel a regulated enterprise, despite its possession of complete or partial monopoly, to charge rates approximating those which it would charge if free from regulation but subject to market forces of competition. In short, regulation should be not only a substitute for competition, but a closely imitative substitute.

Q. IS THE TRADITIONAL RATE DESIGN THAT CORRELATES HIGHER USE WITH HIGHER CHARGES CONSISTENT WITH PRICING IN COMPETITIVE SERVICE MARKETS?

A. Absolutely. In highly competitive markets, it is common for firms to recover all cost through only usage based fees. Even in more concentrated markets, rate

structures that recover some portion of costs through volumetric charges are the norm. For example, telephone rates typically include a fixed minimum fee charged for basic access to the telephone network and additional usage based incremental fees that recover a portion of the investment and associated expenses. If customers demand either more services "over the pipe" or "a larger pipe" the customer pays more.

It is also the norm in competitive markets for customers to have some control over the charges they pay to the service provider. This not the case with the SFV rate design. From a rate design perspective, recovery of all costs through a flat fixed rate is a recovery method of choice for firms with sufficient market power to impose flat fees or enough regulatory support to impose them. Rate designs that consist of a customer charge and volumetric charge are supportable based on recognizing that the value of service is both in having access to gas as well as in using gas so cost would not be uniformly allocated to customers. In my opinion, recovery through a customer charge and volumetric rate is reasonable and fair from both an economic and policy perspective. Historically, this Commission has determined that it is appropriate for those who use more to pay more. Public Counsel encourages the Commission to continue this policy.

Q. IS THE TRADITIONAL RATE DESIGN CONSISTENT WITH MIMICKING THE RATE OF RETURN OPPORTUNITIES AND RISK THAT EXISTS IN COMPETITIVE MARKETS?

A. Yes. The Commission's ordered non-gas revenue requirement is not a fixed or guaranteed level of revenue that a Company is entitled to recovery each year. Instead, the level of revenue requirement approved by the Commission is a target level of costs including expenses, taxes and return on investment that an efficiently run company, barring unforeseen events has the opportunity to recover

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under long term average weather conditions. The Commission approved revenue requirement accounts for and is intricately related to potential weather variations that may affect costs and revenues from year to year. The process of normalizing demand determinates to account for weather and establishing a rate of return sufficient to attract investment despite the risk of weather variations are probably the two most obvious elements linking weather variations to revenue requirement. After the revenue requirement is determined, rates are set at a level anticipated to recover the target level of costs. However, the ratemaking process only reflects the anticipated cost and revenues at a snap shot in time. It does not guarantee or limit levels of either future costs or revenues and is not designed or intended to provide uniform recovery each year. Once rates are set, by improved efficiency or circumstances, a Company has an opportunity to earn a return above that incorporated in the revenue requirement. Likewise, by inefficiency, a Company faces the potential to earn a return below that incorporated in the revenue requirement. This process mimics a competitive business environment by creating incentives for the Company to minimize costs.

Utility regulation does not create an "entitlement" for the utility to earn a Commission determined return that fully compensates the utility for its cost of If that were the case, there would be no reason to determine an service. appropriate level of a risk adjusted return that should be included in a utility's rates. Instead, utility regulation is intended to mimic the outcomes and market environment that is faced by competitive firms. While viewed by investors as undesirable, earnings uncertainty serves an important role in the efficient operation of competitive markets by providing inherent protections for consumers. Earnings uncertainty motivates competitive business entities to minimize costs and to strive for customer satisfaction. Eliminating earnings

> uncertainty in a regulated environment would have a similar detrimental effect on consumers as would eliminating earnings uncertainty in an unregulated market. However, in a competitive environment, consumers retain the ability to reduce or forgo purchases in response to excessive prices or poor service.

In recognition and in consideration of the service it provides as a natural monopoly, a local gas distribution company is granted an additional concession not ordinarily available in a competitive business environment. It is allowed to request a rate review to, when justified, realign revenues to costs. This concession together with other concessions made by the Commission and other governmental entities more than adequately addresses issues of potential under earnings. For example, direct pass-through of costs such as those flowed through the PGA, have substantially shifted weather related risks to consumers. It is undesirable and unnecessary to shift greater earnings risk to consumers.

Q. CAN YOU CITE ANY ANALYSIS BY A RECOGNIZED UTILITY INDUSTRY EXPERT THAT SUPPORTS YOUR BELIEF THAT UTILITY COMMISSIONS GENERALLY SET RATES AT A LEVEL WHICH ALLOWS UTILITIES THE OPPORTUNITY (AS OPPOSED TO A GUARANTEE) TO ATTAIN THEIR AUTHORIZED RETURN?

Yes, the following quote from page 202 of A. J. G. Priest's *Principles of Public Utility Regulation* supports this widely recognized regulatory principle:

...the utility's return allowance might be compared with fishing or hunting license with a limit on the catch. Such a license does not guarantee that the holder will catch anything at all; it simply makes the catch legal (up to a specified limit) provided the holder is successful in his own efforts.

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Class Cost of Service Study Method

Q. WHAT IS THE REGULATORY PURPOSE OF A CLASS COST OF SERVICE STUDY?

A. A class cost of service study is a tool used by regulators to aid in determining an appropriate rate structure. It can be used as a guide in identifying, on a cost causative basis, the cost of serving a particular group of customers. A class cost of service study can also be used to evaluate the relative cost of service among classes. This comparison of relative cost is the focus of Public Counsel's study and is reflected in the study assumption that the Company's revenue requirement is equal to the level of current revenue.

Q. WHAT IS THE RELATIVE IMPORTANCE OF CLASS COST OF SERVICE STUDY RESULTS IN RATE DESIGN?

A. A class cost of service study provides the Commission with a general guide for a service based on costs to determine just and reasonable rates. The Commission must, on a case by case basis, balance the results of a cost of service study with other relevant factors that go into the rate making decision process. Other relevant factors include the value of a service, the affordability of service, rate impacts, and rate continuity, to highlight a few.

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Q. WHAT COSTS ARE REFLECTED IN YOUR CLASS COST OF SERVICE STUDY?

A. Public Counsel's class cost of service study includes non-gas or margin costs associated with storing, transporting and delivering gas to customers. Gas costs recovered through the purchased gas adjustment rate are determined in a separate proceeding and are not at issue in this case.

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Q. WHAT ARE THE REPRESENTATIVE CLASSES INCLUDED IN PUBLIC COUNSEL'S CLASS COST OF SERVICE STUDY?

A. For class cost of service study purposes, customers are grouped into "classes" based on type of customer and utilization patterns. My class cost of service studies include the same customer classes as the Company's study: Residential, Small Commercial, Small Volume Firm, Large Volume Firm, Small Volume Transport, Large Volume Firm, Large Volume Transport and Large Volume Interruptible.

Q. ON WHAT DATA ARE YOUR CLASS COST OF SERVICE STUDIES BASED?

A. The Accounting Schedules filed with the Staff's direct revenue requirement testimony were the source of most of the investment and expense data that I used in my studies. The Accounting Schedule data is associated with a test year ending December, 31, 2008. I used Company data on customer counts, revenues and usage patterns to develop allocation factors for assigning revenues and costs to customer classes. Except where specified, my use of Staff and Company information should not be viewed as an endorsement of either Staff's or the Company's methods for calculating accounting costs, billing determinants, peak demands or allocation factors.

Q. IS THERE A POSSIBILITY THAT SOME INFORMATION USED IN YOUR STUDY WILL BE UPDATED AND REVISED AS THIS CASE PROGRESSES?

 A. Yes. It is common for the Staff and Company to update or reconcile information as cases progress. I will update my studies accordingly.

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Q. PLEASE DESCRIBE THE ASSIGNMENT OF COST TO THE CUSTOMER CLASSES.

A. The assignment of costs to customer classes involves a three-step process in which costs are first functionalized, then classified, and finally allocated to customer classes based on factors that reflect cost causation.

Q. PLEASE DESCRIBE THE FUNCTIONALIZATION OF COSTS.

A. Functionalization involves categorizing cost accounts by associated function.
 Functional categories include; Production, Storage, Transmission, Distribution,
 Customer Accounts and Administrative and General (A&G).

Q. PLEASE DESCRIBE THE CLASSIFICATION OF COSTS.

 A. Classification is achieved by further categorizing costs into customer related, commodity related, demand related or "other related" costs. Some costs are categorized as having multiple cost components.

Q. PLEASE DESCRIBE CUSTOMER RELATED COSTS.

A. Customer related costs vary directly (in fixed proportion) with the number of customers served. Examples of customer related costs include: expenses associated with meter reading, billing, and the return on investments associated with metering equipment and service connections.

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Q. PLEASE DESCRIBE COMMODITY RELATED COSTS.

A. Commodity related costs vary with the quantity of gas purchased. While Missouri's local distribution companies recover purchased gas cost through the PGA, other plant accounts may still be categorized as commodity related.

Q. PLEASE DESCRIBE DEMAND RELATED COSTS.

 A. Demand related costs vary with the capacity requirement of plant or equipment. They are related to the maximum system requirements that reflect the capacity necessary to serve demand during peak periods. Demand related costs include most production, transmission and storage costs and expenses associated with these types of plant. In addition, some distribution plant and related expenses are demand related costs.

Q. PLEASE DESCRIBE THE ALLOCATION PROCESS.

A. Following functionalization and classification, allocation factors are applied to distribute a reasonable share of jurisdictional costs to each customer class. Some costs are uniquely attributable to, and therefore directly assignable to, a particular customer class. For costs that are jointly attributable, in measurable proportions, to a group of customer classes, the costs are assigned to each customer class based on factors that reflect each class's share of joint use. Finally, cost accounts associated with common facilities or common overheads that cannot be directly or jointly assigned are allocated to classes based on general factors. Typical allocation factors include measures of usage, sales, or weighted measures of customer counts.

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Q. WHAT TYPES OF PLANT INVESTMENTS ARE ALLOCATED IN A CLASS COST OF SERVICE STUDY?

 A. Common types of plant allocated in a class cost of service study include intangible plant, production plant, storage plant, transmission plant, distribution plant and general plant.

Q. HOW ARE INTANGIBLE PLANT ACCOUNTS ALLOCATED?

A. Intangible plant accounts include expenses related to organizing the enterprise, obtaining franchise and consent and other miscellaneous items. (Accounts 301, 302, and 303) These costs are not directly or jointly attributable to particular customer classes, instead they are common costs allocated on the basis of the portion of overall cost of service assigned to each customer class.

Q. ARE ANY GAS STORAGE, PRODUCTION OR TRANSMISSION PLANT ACCOUNTS ALLOCATED IN YOUR STUDIES?

- A. Yes. Empire has a limited amount of jurisdictional investment in gas storage and transmission plant. I allocated storage related investments based on winter sales volumes and transmission measuring equipment on annual throughput.
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Q. HOW ARE DISTRIBUTION PLANT ACCOUNTS ALLOCATED?

A. Mains transport gas throughout the Company's service area and represent a significant portion of distribution plant. The system of mains serves three primary purposes. It is designed to reach customers throughout the service area,

to provide gas year round and to satisfy periods of peak demand. Therefore, I developed an allocator for Mains (Account 376) that reflects these three purposes.

The first component of my mains allocator is related to reaching customers throughout the service area. Although I do not recognize any portion of mains costs as directly related to the number of customers, I do recognize that indirectly the number of customers and the dispersion of customers affect the cost of mains. To reflect the indirect affect of customers on mains costs, I have used a zero-intercept method to develop a "customer related" component used in allocating mains. The method uses regression analysis to determine the portion of mains cost on an integrated system that would be incurred if "0" gas were provided. This method identifies 38.25% of mains costs for the North & South systems and 35.35% for the Northwest system of mains costs as "customer related" so I allocated these proportions of Mains (Account 376) on the basis of weighted customers. The remaining 61.75% of mains costs for the North & South systems and 64.65% for the Northwest system of the Mains allocation is divided between a commodity related component based on average use and a demand related component based on non coincident peak day demand that occurs in excess of average daily demand.

The commodity related component of my mains allocator is related to the use of mains to deliver gas throughout the year. I allocated 31.98% of Mains (Account 376) for the North & South systems and 30.64% of Mains (Account 376) for the Northwest system based on each customer class's share of annual system sales volumes measured in Ccf.

The demand related component of my mains allocator (the remaining 29.77% of Mains (Account 376) for the North & South systems and 34.01% of

Mains (Account 376) for the Northwest system) is related to the use of mains to deliver gas during periods of peak use. I allocated this portion of Mains (Account 376) for each system based on each customer class's share of non coincident peak day demand in excess of average daily demand measured in Ccf.

Land and Land Rights, Structures and Improvements (Accounts 374 and 375) are closely related to the system of distribution mains. I allocated these costs on the same basis as Mains (Account 376).

Measuring and Regulating Station Equipment (Accounts 378 and 379) are related to the year round flow of gas and are therefore classified as commodity related. I allocated these costs based on each customer class's share of annual sales volumes measured in Ccf.

Accounts 380 through 385 include cost directly related to serving customer premises. For example, services connect the customer premise to distribution mains. Similarly, meters and regulators at the customer premise measure and regulate gas flow at the premise. While these types of cost may differ by customer class, for example the cost of a typical meter associated with residential use is less expensive than the typical meter used to serve a large industrial customer, within each class, the costs tend to vary directly with the number of customers served. Based on this direct relationship between the number of customers served and costs, I classified these costs as customer related and developed allocation factors based on customer numbers weighted to reflect cost differences between customer classes. The type of allocation for each account is shown below:

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<u>Account</u>		Description	Allocation based on
	380	Services	Weighted services
	381	Meters	Weighted meters
	383	House Regulators	Wt. meters less Lg. Vol.
	385	Meas. and Reg. Station Equip Industrial	Large Volume customers

Q. HOW ARE GENERAL PLANT ACCOUNTS ALLOCATED?

A. General plant accounts are allocated to customer classes based on each class's allocation of net non-general plant.

Q. HOW ARE OTHER RATE BASE ITEMS ALLOCATED?

A. Other rate base items include additions and deductions to net plant in service. For each, I selected an allocator that seemed most clearly related to the cost causation. The types of cost and allocation factor used in my studies are listed below:

Table 4

Rate Base Additions	Allocation Factor
Cash Working Capital	Cost of Service
Materials and Supplies	Total Net Plant
Prepayments	Cost of Service

Direct Testimony of Barbara A. Meisenheimer Case No. GR-2009-0434 Prepaid Pension Asset

Labor Winter Sales

Natural Gas Stored Underground

Unamortized Balances

Rate Base

Rate Base Deductions	Allocation Factor
Interest Offset	Cost of Service
Federal Income Tax Offset	Rate Base
State Income Tax Offset	Rate Base
City Tax Offset	Rate Base
Regulatory Liabilities	Rate Base
Customer Advances	Bills
Customer Deposits	Bills
Deferred Income Taxes	Rate Base

Q. PLEASE DESCRIBE HOW OPERATION AND MAINTENANCE EXPENSES ARE ALLOCATED IN YOUR CLASS COST OF SERVICE STUDIES?

A. For allocating most of the accounts in this category, I used the "expenses follow plant principle". For example, the operations and maintenance expenses related to mains and services are allocated to customer classes on the same basis as the mains and services plant accounts. Similarly, operations and maintenance expenses related to non-customer specific measuring and regulating station equipment are allocated on the basis of annual Ccf as was the plant account related to measuring and regulating station equipment. For cost accounts not directly associated with a corresponding plant account, I selected an allocator that

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seemed most clearly related to the cost causation. The types of operation or maintenance expense and allocation factor used in my study are listed below:

Table 5

Operations

Account	Description	Allocation based on
870	Supervision & Engineering	Net Distribution Plant
874	Mains and services	Net Mains/Services Plant
875	Measuring & Regulating Stations	Annual Ccf
876	Measuring & Reg. Commercial	Large Ind. Bills
877	Measuring & Regulating City Gate	Annual Ccf
878	Meter & House Regulating	Wt. meters less Lg. Vol.
879	Customer Installations	Lg. Industrial Bills
880	Other Expenses	Net Distribution Plant

Maintenance

<u>Account</u>	Description	Allocation based on
887	Mains	Mains
889	Measuring & Regulating Stations	Annual Ccf
890	Measuring & Reg. Commercial	Large Ind. Bills
891	Measuring & Regulating City Gate	Annual Ccf
892	Services	Weighted Services
893	Meters & House Regulators	Wt. meters less Lg. Vol.
894	Other Equipment	Net Distribution Plant

Q. HOW ARE CUSTOMER ACCOUNTS, CUSTOMER SERVICE, AND SALES PROMOTION EXPENSES ALLOCATED?

A. Customer service expenses and sales promotions are indirectly related to the number of customers and are allocated on the basis of number of customer bills. Meter Reading (Account 902) was allocated based on the Company's meter reading study. Customer Records and Collections (Account 903) was allocated on the basis of weighted meters. I allocated Supervision (Account 901) based on the number of bills. I do not view uncollectibles as having a direct relationship to the number of customers or to the paying customers within the same class, so I allocated Uncollectibles (Account 904) on the basis of overall cost of service. For each account the type of expense and allocation factor used in my study are listed below:

Table 6

Customer Accounts

Account	Description	Allocation based on
901	Supervision	Bills
902	Meter Reading	Meter Reading Study
903	Customer Records and Collection	Weighted Meters
904	Uncollectible Accounts	Cost of Service
905	Miscellaneous	Customer Acct. Expense

Customer Service and Information

Account	Description	Allocation based on
908	Customer Assistance	Bills

	909	Inform & Instruct Advertising	Bills			
	910	Miscellaneous	Bills			
	<u>Sales</u>					
	<u>Account</u>	Description	Allocation based on			
	911	Supervision	Bills			
	912	Demonstrating and Selling	Bills			
Q.	HOW ARE AD	OMINISTRATIVE AND GENERAL (A &	G) EXPENSES ALLOCATED?			
A.	Property insurance (Account 924) is allocated on the basis of net non-general					
	plant. Expenses related to salaries, administration, outside services, injuries and					
	damages, and employee pensions and benefits (Accounts 920, 921, 922, 923, 925					
	and 926) are allocated on the basis of payroll. The remainder of A & G expenses					
	are allocated on the basis of the overall class cost of service.					
Q.	HOW ARE TAXES ALLOCATED?					
4.	Property tax	es are allocated on the basis of the	e net plant previously allocated to			
Α.	Property taxes each class.	es are allocated on the basis of the Franchise taxes are allocated on the	e basis of rate base. Payroll taxes			
Α.	Property tax each class. are allocated	es are allocated on the basis of the Franchise taxes are allocated on the d as a function of payroll expen	e basis of rate base. Payroll taxes se. Income taxes are allocated			
A.	Property tax each class. I are allocated according to	es are allocated on the basis of the Franchise taxes are allocated on the d as a function of payroll expen o the rate base attributable to each	e basis of rate base. Payroll taxes se. Income taxes are allocated class. Other taxes are allocated			

CLASS COST OF SERVICE STUDY RESULTS

Q. WHAT ARE THE RESULTS OF PUBLIC COUNSEL'S CLASS COST OF SERVICE STUDY?

A. The results of my class cost of service studies are shown below:

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Current Rate of Return							
North & Sout	h System	Northwest System					
Residential	3.56%	Res	-7.15%				
Sm Commercial	22.39%	SmComm	13.49%				
Sm Vol Firm	36.35%	Sm Vol Firm	28.42%				
Lg Vol Firm	-17.88%	Lg Vol Firm	-21.67%				
Lg Vol Int	15.17%	Lg Vol Int					
Tran Sm Vol	28.52%	Tran Sm Vol	52.10%				
Tran Lg Vol	-5.13%	Tran Lg Vol	-1.97%				
System Average	5.84%	System Average	-1.24%				

Table 7

Based on my studies for both service areas, the Residential class, Large Volume Firm class and Large Volume Transport class have returns below the system average return. For both service areas, the Small Commercial class, Small Volume Firm class and Small Volume Transport class are providing a return above the system average. The Large Volume Interruptible class for the North & South service is also providing a return above the system average return. The rate of return for each class is shown on Line 16, of Schedule BAM DIR-1 NS and Schedule BAM DIR-1 NW. The revenue neutral shift required to equalize the class rates of return is shown on Line 24, of Schedule BAM DIR-1 NS and Schedule BAM DIR-1 NW.

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Q. WHAT LEVEL OF RESIDENTIAL CUSTOMER CHARGE IS SUPPORTED BY YOUR CLASS COST OF SERVICE STUDY?

A. My cost of service study results indicates that the direct customer costs related to serving the customer premises are \$11.68 for the North & South systems and \$11.89 for the Northwest system. These amounts include a return on the Company's investment in meters, regulators, services and other customer premises, operating and maintenance expenses associated with those investments, meter reading expenses and billing expenses. The customer cost calculations are shown on Page 9, of the class cost of service studies included in this testimony as Schedule BAM DIR-2 NS and Schedule BAM DIR-2 NW.

<u>Class Cost of Service Study Results and Rate Design Recommendations</u>

Q. WHAT CLASS REVENUE REQUIREMENTS DO YOU PROPOSE BASED ON YOUR CLASS COST OF SERVICE STUDY RESULTS?

Generally, Public Counsel recommends that, where the existing revenue structure departs greatly from the class cost of service, the Commission should impose, at a maximum, class revenue shifts equal to one half of the "revenue neutral shifts" indicated by Public Counsel's class cost of service study. Revenue neutral shifts are shifts that hold overall company revenue at the existing level but allow for the share attributed to each class to be adjusted to reflect the cost responsibility of the class. In addition to moving half way to the revenue neutral shifts, if the Commission determines that an overall increase in revenue requirement is necessary, then no customer class should receive a net decrease as the combined result of: (1) the revenue neutral shift that is applied to that class. Likewise, if the

Commission determines that an overall decrease in revenue requirement is necessary, then no customer class should receive a net increase as the combined result of: (1) the revenue neutral shift that is applied to that class, and (2) the share of the total revenue decrease that is applied to that class.

Based on Public Counsel's general recommendation, I developed class revenue requirements in a three step process. In the first step, I calculated one half of the revenue neutral shift for each class indicated by my class cost of service studies. In the second step, I calculated the proportional share of net increase in revenue requirement each class would receive based on estimated increases of \$2,400,000 for the North & South system and \$650,000 for the Northwest system. The third step adjusted the combined amounts from the first two steps to ensure that no class received a decrease given that there was a net system increase.

Q. HAVE YOU PREPARED SCHEDULES ILLUSTRATING THIS RATE DESIGN METHOD?

A. Yes. Line 8, of Schedule BAM DIR-3 NS and Schedule BAM DIR-3 NW illustrate one half of the revenue neutral shift indicated by my class cost of service study. Line 11, of Schedule BAM DIR-3 NS and Schedule BAM DIR-3 NW illustrates the spread of an increase in total revenue similar to the increase associated with Staff's midpoint rate of return. Line 13, illustrates the combined effect of one half of the revenue neutral shift indicated by my class cost of service study and the increase in the total revenue requirement. Lines 15-18, of Schedule BAM DIR-3 NS and Schedule BAM DIR-3 NW illustrate the adjustments made to ensure that no customer class receives a net decrease as the combined result of:

	Direct Barbar Case N	Direct Testimony of Barbara A. Meisenheimer Case No. GR-2009-0434		
1		(1) the revenue neutral shift that is applied to that class, and (2) the share of the		
2		total revenue increase that is applied to that class. Lines 27-28, of Schedule BAM		
3		DIR-3 NS and Schedule BAM DIR-3 NW illustrate the customer charge and		
4		volumetric rates produced.		
5	Q.	IF THE COMMISSION DETERMINES IT REASONABLE IN THIS CASE, CAN YOUR		
6		RATE DESIGN METHOD BE APPLIED TO DIFFERENT REVENUE REQUIREMENTS?		
7	А.	Yes, it can. This method could be utilized to calculate class revenue requirements		
8		and customer and volumetric rates for any practical level of overall revenue		
9		requirement.		
10	Q.	DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?		
11	А.	Yes.		