Exhibit No.: _____
Issues: Revenue Adjustments, Cost of Service Study, Rate Design, and Tariff Changes
Witness: F. Jay Cummings
Sponsoring Party: Missouri Gas Energy
Case No.: GR-98-140

MISSOURI PUBLIC SERVICE COMMISSION

MISSOURI GAS ENERGY

CASE NO. GR-98-140

DIRECT TESTIMONY OF

F. JAY CUMMINGS

Jefferson City, Missouri

November 26, 1997

DIRECT TESTIMONY OF F. JAY CUMMINGS

CASE NO. GR-98-140

NOVEMBER 26, 1997

Q. **PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

A. My name is F. Jay Cummings. My business address is 504 Lavaca, Suite 800, Austin, Texas 78701.

Q. **BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

A. I am Vice President of Pricing and Economic Analysis for Southern Union Company, which includes Missouri Gas Energy ("MGE" or "Company") as a division.

Q. **PLEASE SUMMARIZE YOUR EDUCATION AND EXPERIENCE.**

A. I have a B.A. degree in economics from Colgate University and a Ph.D. in economics from the University of Virginia. In 1991, I joined Southern Union Gas as its Director of Rates and Regulatory Affairs and became Vice President later that year. In 1994, I became Vice President for Southern Union Company to reflect the expansion of my regulatory responsibilities to include MGE.

Prior to joining Southern Union, I was employed by the Arizona Corporation Commission, the state's utility regulatory agency, as the Utilities Division Chief,

Economics and Rates Section (1985); Chief, Economics and Research Section (1985-88); and Assistant Director (1988-91). From 1973 through 1985, I was on the economics faculties of George Mason University (1973-75) and the University of Texas at Dallas (1975-85). My teaching and research focused on applied microeconomic analyses, which resulted in professional journal publications and conference and seminar presentations. I have submitted testimony in regulatory proceedings in Missouri, Arizona, Texas, and Oklahoma.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. I explain the revenue adjustments contained in MGE's revenue requirement calculations. I also discuss the cost of service study results, the proposed rate design and tariff revisions.

1. REVENUE ADJUSTMENTS

Q. WHAT ARE THE ADJUSTMENTS TO TEST YEAR REVENUE THAT YOU ARE SPONSORING?

A. I am sponsoring the adjustments listed in Schedules H-1 and H-2 included with the direct testimony of Company witness Charles B. Hernandez. Schedule H-1 derives the test year margin by removing gross receipts taxes, unbilled revenue, cost of gas revenue, and miscellaneous adjustments from total per book revenue. Schedule H-

2 contains the various adjustments to test year margin to make it representative for the purpose of setting rates in this proceeding.

Q. **PLEASE EXPLAIN THE FIRST TWO ANNUALIZATION ADJUSTMENTS SHOWN ON SCHEDULE H-2.**

A. Rates from Case No. GR-96-285 became effective on February 1, 1997 and were further adjusted by the Missouri Public Service Commission ("Commission") on March 21, 1997. Since the test year in this case begins in June 1996, a portion of the test year does not reflect the current rates. The first adjustment on Schedule H-2 annualizes the rate increase without considering the impact of customer charge proration, while the second adjustment incorporates the effect of proration.

Q. **PLEASE EXPLAIN THE NEXT ADJUSTMENT, THE WEATHER NORMALIZATION ADJUSTMENT.**

A. This adjustment reduces test year revenue in recognition of the fact that MGE's volumes and resulting revenue were abnormally high because temperatures in the test year were colder than normal. Weather was about 11% colder than normal for Kansas City and St. Joseph and about 2% colder than normal for Joplin during the test year. By making this adjustment, rates are designed to produce the revenue level anticipated under normal temperature conditions.

The weather-related volume adjustment is based on statistically determined relationships between usage (in Mcf) and temperatures (measured by heating degree days), consistent with methods used by the Commission Staff in Case No. GR-96-285. The difference between volumes statistically explained with actual heating degree days and volumes statistically explained with normal heating degree days becomes the volume adjustment. (Normal heating degree days are the median number of heating degree days for each day over the last 30 years). For the residential, small general service, and large general service classes, the statistical relationships were derived from test year billing cycle data separately for each class and for each of three geographic regions (Kansas City, St. Joseph, and Joplin).

For the large volume service class, individual customer analyses using the past three years of usage data, when available, were conducted to derive temperature-related volume adjustments that were summed to arrive at the class adjustment. Individual customer analyses were performed because of the diversity among customers within the class, and three years of usage data were used to provide a long enough period to conduct meaningful statistical analyses.

The volume adjustments for each customer class were priced at current rates to arrive at the weather normalization revenue adjustment. The test year revenue adjustment reduces test year margin by $3,788,401.

Q. **PLEASE EXPLAIN THE GROWTH ANNUALIZATION ADJUSTMENT.**

A. For each customer class (residential, small general service, and large general service) and geographic region, this adjustment annualizes growth that occurred during the test year by adjusting bill counts and volumes in each month of the test year to the levels that would have been observed had the growth by the end of the test year occurred by that month. Pricing these adjustments at current rates results in an increase in test year margin of $156,126.

Q. **PLEASE EXPLAIN THE REVENUE ADJUSTMENTS ON LINES 6 THROUGH 8 OF SCHEDULE H-2.**

A. The first adjustment, contained on line 6 of Schedule H-2, annualizes the impacts of customers who switched from large general service to large volume service ("LVS") or vice versa during the test year. Line 7 annualizes the impact of new LVS customers added during the test year, of LVS customers who left the system during the test year, and of LVS customers who have plans to shut down their operations. Line 8 annualizes the impact of customers who have permanently reduced or have indicated that that they plan to substantially reduce their loads.

Q. **PLEASE EXPLAIN THE ADJUSTMENT TO ANNUALIZE FLEX CREDITS.**

A. This adjustment on line 9 of Schedule H-2 annualizes the flex revenues received from two customers whose rates changed during and/or subsequent to the end of the

test year. Pursuant to the tariff, the Company negotiates discounted rates with flex rate customers in order to retain them in the face of bypass opportunities that they would otherwise exploit. By retaining these customers, the resulting flex rate revenue offsets the increase required from other customers.

Q. **PLEASE EXPLAIN THE ECONOMIC DEVELOPMENT DISCOUNT ADJUSTMENT CONTAINED ON LINE 10 OF SCHEDULE H-2.**

A. Under the Economic Development Rider (EDR) in the Company's tariff, economic development rate discounts decline each year over a five year period, after which full tariffed rates are applied. This addition to revenue is composed of two parts. First, the difference between revenues computed at tariffed rates in effect at the end of the test year and those revenues at the EDR rates is added to test year revenues. Next, the annualized amount of this difference at the discount levels in effect at the end of the test year is subtracted from this adjusted level of test year revenues. In effect, the adjustment causes customers to bear only the lower level of discounts prevailing at the end of the test year.

Q. **PLEASE EXPLAIN THE ADJUSTMENT TO INCREASE DELAYED PAYMENT CHARGE REVENUE.**

A. This addition to revenue reflects the added delayed payment charges resulting from the proposed increase in the delayed payment charge from 2 percent to 2.5 percent. The adjustment is calculated by applying the higher percentage to the test year late

payment revenue. By making this adjustment, MGE's revenue deficiency is reduced by the amount of the increased late payment revenue.

Q. PLEASE EXPLAIN THE ADJUSTMENT FOR THE PROPOSED RECONNECT FEES.

A. As shown on Sheet No. R-87, the Company proposes to increase the reconnect fee to a cost-based level of $41 for reconnection after failure to furnish a deposit, at customer's request, after meter removal and reinstallation at customer's request, and after failure to provide access for meter reading. The adjustment adds to test year revenue the difference between the proposed fee and current fee times the number of these reconnection occurrences in the test year. MGE's revenue deficiency is reduced by the resulting addition to test year revenue. The Company also proposes to increase the reconnect fee after reselling or redistributing gas, fraudulent or unauthorized use of gas, or tampering with Company property to $150 in order to deter these types of potentially unsafe activities.

Q. PLEASE EXPLAIN THE LAST REVENUE ADJUSTMENT TO RECLASSIFY CUSTOMERS FROM LARGE VOLUME TO LARGE GENERAL SERVICE.

A. MGE proposes to make the Large Volume Service (LVS) rate schedule exclusively a transportation tariff, a change that simplifies the LVS tariff and serves as an aid in understanding its terms and conditions. Only two current LVS customers are sales

customers, and they would be reclassified under the Large General Service (LGS) rate schedule. Under the LGS, these customers would pay substantially lower customer charges but higher volumetric rates. Given their usage during the test year, they would pay $5,303 more under LGS. The adjustment adds this amount to the test year margin to recognize their reclassification. Under the rates proposed by MGE, these customers will pay $119 less under the revised LGS schedule than under the current LGS schedule.

2. COST OF SERVICE STUDY AND RATE DESIGN

Q. HAS A CLASS COST OF SERVICE STUDY BEEN PREPARED AS PART OF THIS RATE FILING?

A. Yes. Schedule FJC-1 summarizes the results of this study.

Q. BRIEFLY DESCRIBE THE COST OF SERVICE STUDY AND ITS PURPOSE.

A. The study first classifies the components of the cost of service into customer, capacity or demand, and commodity related costs. Customer costs depend on the number of customers served, whether or not any gas is used. One example is the cost of the meter at a customer's premises. Capacity costs depend on the maximum delivery requirements of the distribution system. An example is the cost of installing adequately sized mains, in excess of a minimum size to physically reach

customers, to serve customer demands on the coldest day of the year. Commodity costs are volume-related costs, or costs which vary with the amount of gas used by the customer. Purchased gas costs are an example of commodity costs.

The three types of classified costs are then fully allocated to customer classes. These class allocations are based on relative numbers of customers for customer costs, contributions to peak demand for capacity costs, and relative sales volumes for commodity costs. Revenues derived from late payment charges and service charges are credited to the cost of service (line 5, Schedule FJC-1) to determine the amounts that must be recovered through cost of service rates, namely, customer charges and volumetric rates. Line 8, Schedule FJC-1 shows how the revenue increase should be collected from the various customer classes while line 10 shows the customer charges indicated by the cost of service study.

The cost of service study results provide a useful guide or starting point in distributing the overall revenue increase to customer classes and in designing rates for the classes. While reliance on the cost of service study to design rates would produce cost-based rates, other factors, such as the current rate structures and the magnitude of required increases, frequently temper the use of the results.

Q. PLEASE DESCRIBE THE PROPOSED RATE DESIGN.

A. The cost of service study shows that substantial customer charge increases are warranted. The Company proposes that only a portion of the indicated customer charge increases be implemented in this rate case. For example, less than half of the indicated increase in the residential customer charge is proposed in this case. Specifically, the Company proposes a residential customer charge of $12.75, a small general service customer charge of $15.50, a large general service customer charge of $92.50, and a large volume service customer charge of $575.00. For each class, these proposed charges recover a greater portion of customer-related costs through customer charges rather than relying as extensively on volumetric rates to recover these costs. The proposed changes are more equitable to customers since each customer is paying an amount closer to the costs to serve that customer, no matter how much gas the customer uses. They also serve to levelize bill impacts across seasons and, for weather sensitive customers, helps to insulate them, to some degree, against bill swings caused by weather variations.

Q. PLEASE ILLUSTRATE THE LEVELIZING AND INSULATING EFFECTS OF THE PROPOSED INCREASED CUSTOMER CHARGES COMPARED TO RECOVERY OF THE REVENUE INCREASE THROUGH HIGHER VOLUMETRIC RATES FOR RESIDENTIAL CUSTOMERS.

A. The average residential bill over the year increases about $4.67 per month under the proposed rate design. With this rate design, the monthly increases (with normal

weather) range from $3.93 per month to $6.20 per month compared to a range of $1.09 per month to $11.97 per month with a rate design based on no customer charge increases and only volumetric rate increases. In January, the coldest month of the year, the impacts of weather variations are magnified if the customer charge increase is not increased. The following table shows average January residential bill impacts with normal, colder than normal, and warmer than normal weather:

	Increase With:	
	Proposed Rate Design	No Customer Charge Changes
Normal Weather	$ 6.20	$11.97
25% Colder than Normal	6.73	14.53
25% Warmer than Normal	5.67	9.41

Q. OTHER THAN THE PROPOSED INCREASES IN CUSTOMER CHARGES, DESCRIBE THE REMAINDER OF THE PROPOSED RATE DESIGN.

A. The cost of service study indicates that large general service and large volume service revenues should be reduced. The Company does not propose to implement the indicated overall reductions in this case in order to temper residential and small general service rate increases. In this case, large general service and large volume service volumetric rates are reduced only to the extent necessary to offset the proposed customer charge increases for each of the classes, thereby producing no overall change in revenues from each of these classes. Finally, the remainder of the required revenue increase reflected in the Company's October 3, 1997 filing, or $6,693,275, is recovered through an increase in volumetric rates of $0.01136 per

Ccf for residential customers and $0.01137 per Ccf for small general service customers. It should be noted that the schedules attached to the direct testimony of Charles B. Hernandez support a revenue increase that is $41,713 higher than that used for the proposed rates and tariffs in this case. If the larger overall revenue increase were employed, slightly higher volumetric rates would be applied to residential and small general service customers under the logic of the proposed rate design.

The proposed rate design represents a movement toward cost-based rates as indicated by the cost of service study. However, the Company has chosen not to propose moving completely to the results indicated by the study in this filing in order to temper the rate increases that would be required from residential and small general service customers.

Q. PLEASE DESCRIBE THE AVERAGE BILL IMPACTS RESULTING FROM THE PROPOSED RATE DESIGN.

A. The following table shows the average residential and small general service customer bill impacts for average usage over the year and for January bills, both based on the test year average cost of gas:

	Average Monthly Bill				Average January Bill			
			Change				Change	
	Current	Proposed	$	%	Current	Proposed	$	%
Residential	$ 51.73	$ 56.40	$4.67	9.0%	$119.20	$125.40	$6.20	5.2%
Small General Service	$136.93	$144.16	$7.22	5.3%	$325.60	$336.84	$11.24	3.5%

3. TARIFF CHANGES

Q. PLEASE DESCRIBE THE TARIFF CHANGES MGE IS PROPOSING IN THIS PROCEEDING.

A. Sheet Nos. 25, 28, 31, 42, 76, 77, 83, and 94 incorporate the new cost of service rates. These sheets also reflect a change from Mcf to Ccf billing, a change that improves customer understanding of bills during periods of very low gas usage. References to measurement in Mcfs have also been changed to Ccfs on Sheets No. 38, 40, 61.3, 62, 67, 72, 79, 85, and 91. Sheet Nos. 26, 29, 31.1, 39, 79, 92, and 95 incorporate the proposed increase in the delayed payment charge.

Sheet No. 30 revisions establish the large general service schedule as the large customer sales service schedule. As a sales-only service schedule, the contract contained on Sheet Nos. 32-37 is not applicable and has been deleted. Inapplicable references to contracts for sales service are also removed from Sheet Nos. 25, 28, and 31. Sheet Nos. 49 and 49.1 are deleted since the Company has no customers for this service. The remaining tariff revisions pertain to large volume service, both the LVS and Whiteman Air Force schedules.

Q. PLEASE EXPLAIN THE LARGE VOLUME TARIFF CHANGES.

A. In addition to containing revised rates, Sheet No. 42 provides a reference to contract demand charge rates specified elsewhere in the tariff and removes the

inapplicable reference to cycle billing for this transportation-only service. Sheet No. 40 establishes LVS as transportation only and adds clarifying language on multiple meter locations. Sheet Nos. 41 and 41.1 delete references to LVS as a sales service and move, with minor clarifying language, contract demand conditions from the current Sheet Nos. 45 and 46. The filed Sheet No. 45 contains material from the current Sheet No. 47 with the term "city gate" replaced with the pipeline supplier designation "delivery location." With these changes, current Sheet Nos. 46 and 47 are now blank.

Sheet No. 44 deletes the reference to minimum bills which are described on Sheet No. 42 and incorporates the proposed increased in the delayed payment charge. This Sheet, along with Sheet No. 61.3, clarifies the application of unauthorized use charges. The detail concerning application of unauthorized use charges, currently found on Sheet No. 48.2, has been moved to Sheet No. 61.3 of the transportation provisions section of the tariff. Current Sheet No. 48.2 becomes blank. Sheet Nos. 50 through 58 contain the proposed form of contract for LVS customers. This form removes references to LVS sales service, incorporates Ccf billing, and eliminates unnecessary duplication and appendices.

Sheet Nos. 61.1 and 61.2 introduce a pooled service option for transportation customers through which the gas supplies of a group of eligible customers served by a single supplier may be aggregated for the purpose of determining penalties

during pipeline operational orders and local distribution curtailments. Sheet No. 70 revisions require electronic gas measurement (EGM) for 100 percent of LVS customer volumes and establish conditions for termination of the transportation service option for failure to meet EGM requirements. Sheet No. 71 corrects a grammatical error. Sheet No. 78 replaces default sales charges with the contract demand option and unauthorized use charges for Whiteman Air Force Base, consistent with LVS service conditions. Sheet No. 80 makes the contract demand option conditions consistent with the LVS conditions. Sheet No. 82 makes the reference to the Commission consistent with references elsewhere, a change that is also made on Sheet Nos. 26, 29, 31.1, 39, 45, and 95. Finally, Sheet No. R-87 contains the previously discussed changes in the reconnect charges.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, at this time.

MISSOURI GAS ENERGY
A DIVISION OF SOUTHERN UNION COMPANY
Class Cost of Service Study Summary
Test Year Ended May 31, 1997

LINE	DESCRIPTION (a)	TOTAL (b)	RESIDENTIAL (c)	UNMETERED GAS LIGHTS (d)	SMALL GEN. SERVICE (e)	LARGE GEN. SERVICE (f)	LARGE VOL. SERVICE (g)
1	Customer Costs	$118,249,013	$ 89,478,372	$ -	$ 24,615,973	$ 1,174,459	$ 2,980,207
2	Capacity Costs	$ 31,955,440	$ 19,689,025	$ 654	$ 7,584,852	$ 1,172,462	$ 3,508,446
3	Commodity Costs	$ 918,530	$ 432,393	$ 31	$ 172,488	$ 33,264	$ 280,354
4	Total Cost of Service Before Revenue Credits	$151,122,982	$ 109,599,791	$ 685	$ 32,373,313	$ 2,380,185	$ 6,769,008
5	Revenues Credited to Cost of Service	$ 3,872,900	$ 2,930,602	$ -	$ 806,224	$ 38,466	$ 97,608
6	Total Cost of Service	$147,250,082	$ 106,669,189	$ 685	$ 31,567,089	$ 2,341,719	$ 6,671,400
7	Revenue at Present Rates	$119,391,229	$ 82,171,555	$ 966	$ 25,047,953	$ 3,098,896	$ 9,071,858
8	Revenue Deficiency	$ 27,858,853	$ 24,497,633	$ (281)	$ 6,519,136	$ (757,177)	$ (2,400,458)
9	Annual Bills		4,898,510	0	673,803	5,358	4,944
10	Indicated Customer Charge		$18.27	$0.00	$36.53	$219.20	$602.79

SCHEDULE FJC-1