Exhibit No.:	
Issues:	Class Cost of Service Study
Witness:	William M. Warwick
Sponsoring Party:	Union Electric Company
Type of Exhibit:	Direct Testimony
Case No.:	GR-2007-0003
Date Testimony Prepared:	July 3, 2006

MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. GR-2007-0003

DIRECT TESTIMONY

OF

WILLIAM M. WARWICK

ON

BEHALF OF

UNION ELECTRIC COMPANY
d/b/a AmerenUE

St. Louis, Missouri
July 2006

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DIRECT TESTIMONY

OF

WILLIAM M. WARWICK

CASE NO. GR-2007-0003

I. INTRODUCTION

Q. Please state your name and business address.

A. William M. Warwick, Ameren Services Company ("Ameren Services"), One Ameren Plaza, 1901 Chouteau Avenue, St. Louis, Missouri.

Q. What is your position with Ameren Services?

A. I am the Managing Supervisor of Rate Engineering.

Q. What is Ameren Services Company?

A. Ameren Services Company provides various corporate, administrative and technical support services for Ameren Corporation ("Ameren") and its affiliates, including Union Electric Company d/b/a AmerenUE ("Company" or "AmerenUE").

Q. Please describe your educational background and employment experience.

A. I received the degree of Bachelor of Science in Engineering Management from the University of Missouri-Rolla in December 1978.

I was employed at ACF Industries' Amcar Division-St. Louis Plant from December 1978 to December 1981 as an engineer in the Industrial Engineering Department responsible for project planning. I began working at Union Electric Company in the Rate Engineering Department in December 1981.

My duties and responsibilities include assignments related to the Company's gas and electric rates, including participation in regulatory proceedings, rate analysis, the development and interpretation of the Company's gas and electric tariffs, including rules and regulations, and other rate or regulatory projects as assigned**.**

II. PURPOSE AND SUMMARY OF TESTIMONY

Q. What is the purpose of your direct testimony in this proceeding?

A. I will discuss:

(1) The development of a fully allocated embedded customer class cost of service study for the Company's Missouri jurisdictional natural gas operations for the test year period of the twelve months ending June 30, 2006; and

(2) The sub-aggregation, or unbundling, of the various functional cost components included in the Company's allocated class cost of service study.

An Executive Summary of my testimony is included in Attachment A of Company witness Wilbon L. Cooper's direct testimony.

III. CLASS COST OF SERVICE STUDY

Q. Please explain the information contained in Schedule WMW-G1.

A. Schedule WMW-G1 contains the results of the Company's customer class cost of service study for its Missouri jurisdictional natural gas operations for the test year ended June 30, 2006. This study is based upon the Company's present rate levels and weather normalized sales during the test year. The Missouri natural gas jurisdictional cost of service study sponsored by Company witness Gary S. Weiss and discussed in his direct testimony provided the total rate base and expense items that formed the starting point for this study.

Q. What is generally meant by the term "cost of service study"?

A. A cost of service study determines a utility's aggregate annual revenue requirement necessary to recover its operating and maintenance expenses and taxes, depreciation of its plant, and a fair return on the utility's net investment in property and plant.

Q. What information is provided by a class cost of service study?

A. A class cost of service study allocates the various costs identified in the cost of service study to each of the Company's rate classes, to determine as accurately as possible the respective cost of serving each of the Company's rate classes.

Q. What rate classes were included in the Company's class cost of service study?

A. The Company's existing residential, general service, interruptible service and standard and large volume transportation service classes were allocated their respective portions of the Company's operating costs in the class cost of service study.

Q. Were the rate base investment and expenses associated with the Company's special contract customers considered in the class cost of service study you performed?

A. Yes, they were. However, in considering such costs in my study, I employed a cost of service approach similar to that utilized by the Commission Staff, for the lighting class, in the Company's past electric cases involving such studies. This approach consists of allocating the total of all Company investment and expense to the other customer classes, as if there were no special contract customers. This allocation of such costs to the non-special contract customers is offset by also allocating, or crediting, existing special contract revenues to the other customer classes. This allocation of special contract costs and revenues was

done based on each class' respective total net original cost rate base. This process presumes that the Company's current special contract revenues, which comprise about 1.6% of the Company's total revenues, currently provide a fair and reasonable recovery of the Company's total costs of providing such service. Said another way, it is presumed that allocated special contract revenues are equivalent to allocated special contract costs.

Q. Did your class cost of service study include purchased gas costs?

A. No, purchased gas costs, including the cost of the gas commodity, demand, pipeline transportation and a portion of storage costs, are fully recovered through the Purchased Gas Adjustment ("PGA") clause of the Company's tariffs and do not affect the operating income or rate of return earned by the Company.

Q. Please describe the first step you took in the preparation of your class cost of service study.

A. The first step I took was to functionalize costs according to major functional areas, such as production, transmission and distribution plant, in order to determine which customer classes are responsible for such costs.

Q. What categories of cost did you examine in developing the customer class cost of service study summary included in Schedule WMW-G1 of your testimony?

A. I conducted an analysis of all elements of the Company's investment and expense associated with the Company's Missouri natural gas operation, for the purpose of allocating such costs to the customer classes served by the Company. As a part of this analysis, total expenses and investment in property and plant were classified into their customer-related, demand-related, and variable or commodity-related components.

Q. Please describe these categories of cost in greater detail.

A. Customer-Related Costs are those costs which are unrelated to customer usage and result from the very existence of a customer, i.e., the costs of making service available, including the costs of meter reading, billing, etc., as well as the fixed costs associated with the customer's meter, service pipe, and some portion of the Company's investment in distribution mains. These costs do not vary from month-to-month and are unaffected by year-to-year fluctuations in the consumption level of existing customers.

Demand-Related Costs are those costs which the Company incurs in order to meet the maximum daily gas demands imposed by its customers. These costs include a significant portion of all fixed costs associated with the Company's investment in plant and expenses to meet the customers' expected maximum loads on the Company's system.

Commodity-Related Costs are those costs which are a function of the actual volume of gas delivered or sold. Since purchased gas costs are excluded from the class cost of service study, gas supply expenses not included in the Company's PGA and the costs of gas stored underground are the only class cost of service study costs in this category.

Q. What was the next step in your class cost of service study?

A. The next step in the class cost of service study was to develop the appropriate factors to allocate the rate base components and associated operating and maintenance expenses to the various rate classes.

Q. Please describe the development of the factors used to allocate such costs to each customer class.

A. The allocation factors for each customer class were determined by calculating the proportionate share of total customer or property units of each class and the total commodity or demand related units of each class.

Customer-Related allocation factors are generally proportionate to the annual number of customer bills rendered to each rate class or to the weighted average of the customer-related costs of certain items, based on Company studies.

Demand-Related allocation factors are proportionate to either the coincident peak or non-coincident peak day delivered demand of the various rate classes (including the interruptible class' peak demand). Coincident and non-coincident peak day demands are explained further, below.

Commodity-Related allocation factors are proportionate to the volumes sold or transported to each rate class.

Q. After the various allocation factors for each class were derived, what was the next step in the study?

A. The next step was to apply these allocation factors to the various functional components of rate base and operating and maintenance expenses, as developed in total for the Company's Missouri jurisdictional natural gas operations by Mr. Weiss.

Q. Please describe how those costs and expenses were allocated to the various customer classes.

A. The original cost and depreciation reserves of the major functional components of the Company's natural gas rate base for the test year were allocated to

customer classes as described below. The resulting dollar amounts allocated to each class are provided in Schedule WMW-G1.

(1) Production Plant. The Company operates a propane peak shaving plant which produces gas primarily during the Company's highest periods of demand to supplement gas supply from the pipelines normally serving the Company's customers. This production plant was allocated to each customer class on the basis of the class coincident peak demand allocation factor for each customer class. Coincident peak demand is the customer class' peak load the day of the Company's system peak. The coincident peak day demands for the rate classes were determined by Company witness James R. Pozzo and are discussed in his direct testimony. The coincident demand assigned to the interruptible class was only its assurance gas level, due to the likelihood of curtailment on the peak day. Customers who only take transportation service on the Company's distribution system were not allocated production plant since they purchase their gas supply from a third party.

(2) Transmission Plant. Transmission plant investment is demand related and was allocated to each customer class based upon the Average and Excess Demand method. This method allocates a portion of these costs according to the average use of all customers and a portion according to the additional use related to the non-coincident peak of each customer class. Non-coincident peak demand is the customer class' actual peak day load regardless of the day of its occurrence. The class non-coincident peak day demands were calculated by Mr. Pozzo.

(3) Distribution Plant. The Company's distribution plant was allocated to each customer class based upon an analysis of the functions performed by the facilities in

Distribution Plant Accounts 374-387. This analysis determined the breakdown of each account into its customer-related and demand-related functions.

The customer-related portions of the distribution system include Services (Account 380), Meters (Account 381), and House and Industrial Regulators (Accounts 383 and 385). Distribution Account 380, Services, was allocated to each of the customer classes by allocation factors which weigh the results of multiplying the current cost of the typical services arrangement, determined for each customer class, by the number of customers in that class. Distribution Account 381, Meters, was allocated to each of the customer classes by allocation factors which weigh the results of multiplying the current cost of the typical metering arrangement, determined for each customer class, by the number of meters used in serving that class. Distribution Accounts 383 and 385, House and Industrial Regulators, were allocated to each of the customer classes by allocation factors which weigh the results of multiplying the current cost of a typical regulator, determined for each customer class, by the number of regulators used in serving that class.

All distribution plant not located on the customer's property was classified as demand-related and allocated on a demand basis. Land and Land Rights (Account 374), Structures and Improvements (Account 375), Mains (Account 376), and Measuring and Regulating Equipment – General and City (Accounts 378 and 379) were all allocated based on the Average and Excess Demand method.

(4) General and Intangible Plant. The balances in these accounts were allocated to each customer class on the basis of the proportion of labor expense allocated to each class. This "labor ratio" method of allocation is the same as that employed by Mr.

Weiss, in arriving at the Missouri portion of General Plant and Administrative and General ("A&G") expenses in his jurisdictional cost of service study

(5) Accumulated Reserves for Depreciation. As such reserves are functionalized by type of plant, these reserves were allocated on the same basis as the allocation of the various plant accounts, as described above.

(6) Materials and Supplies. This component consists of local materials related to production, transmission and distribution facilities and was allocated on the basis of allocated gross plant.

(7) Propane Costs. This component consists of fuel storage inventories related to the propane production plant and was allocated on the basis of the class coincident peak demand allocation factors, excluding transportation customers, for each customer class.

(8) Gas Stored Underground. This component consists of natural gas storage inventories and was allocated based on winter (November-March) sales volumes to each respective customer class. This is typically the period when such underground storage is utilized. Transportation customers were not allocated stored gas since they purchase their gas supply from third parties.

(9) Cash Working Capital. This item is related primarily to operating expenses and was therefore allocated to each customer class in proportion to the total operating expenses allocated to each such class.

(10) Customer Advances and Deposits. This component of rate base was assigned to each customer class on the basis of an analysis of the sources of such deposits in Missouri.

(11) Total Accumulated Deferred Income Taxes. This component is related primarily to investment in property, and was therefore allocated to each customer class on the basis of allocated gross plant.

Q. How did you allocate the Missouri jurisdictional test year natural gas operating and maintenance expenses, as developed by Mr. Weiss, to the various customer classes?

A. In general, with very few exceptions, the Missouri natural gas operating and maintenance expenses were allocated to the various customer classes on the same basis as the related investment in plant was allocated. This type of allocation employs the familiar and widely used "expenses follow plant" principle of cost allocation. For example, the allocator for distribution mains was utilized to allocate distribution main expenses. The only exceptions to this allocation procedure are as follows:

(1) Production Expenses. This item consists of two categories: demand and commodity. The demand or fixed portion of production expenses was allocated on the same basis as production plant, while the commodity or variable portion was allocated based on volumes delivered to each customer class.

(2) Customer Accounts Expenses. Account 903, Customer Records and Collection Expenses, was allocated to each class based on the number of annual bills in each customer class. Account 904, Uncollectible Accounts, was allocated to each customer class on the basis of the annual level of such activities applicable to each customer class in the Company's Missouri natural gas business. Accounts 902 and 905, Meter Reading and Miscellaneous Customer Accounts Expense, were allocated to each class based on the

number of customers in each customer class. Account 901, Supervision, was allocated to each class on the basis of the composite allocation of all other Customer Accounts Expenses.

(3) Customer Service and Sales Expense. These expenses were allocated to each customer class using the composite allocation of Customer Accounts Expenses.

(4) A&G Expense. A&G expenses were allocated to the various customer classes on the basis of the class composite distribution of previously allocated labor expenses. As indicated earlier, this allocation of A&G expenses reflects the same method as that utilized by Mr. Weiss in the Company's jurisdictional cost of service study.

Q. How did you allocate the test year depreciation expenses?

A. Since depreciation expenses are functionalized and are directly related to the Company's original cost investment in plant, this expense within each function was allocated to each customer class on the basis of the previously allocated original cost production, transmission, distribution and general plant.

Q. How did you allocate the test year real estate and property taxes?

A. Real estate and property tax expenses are directly related to the Company's original cost investment in plant. Thus, this expense was allocated to customer classes on the basis of gross plant.

Q. How did you allocate the test year income taxes?

A. Income tax expense is directly related to the Company's net operating income as a proportion of its net rate base investment, i.e. rate of return on its net original cost rate base. As a result, income taxes were allocated to each class on the basis of the net original cost rate base of each customer class.

Q. Please identify Schedule WMW-G2.

A. Schedule WMW-G2 was derived from the class cost of service summary on Schedule WMW-G1. To develop Schedule WMW-G2, I modified the base revenues of each class in Schedule WMW-G1 to reflect the class revenues necessary for the Company to realize equalized rates of return from each customer class at the Company's current level of total Missouri natural gas revenues.

Q. Please describe the method used to equalize rates of return for each customer class, as reflected in your Schedule WMW-G2.

A. The total net original cost rate base of each customer class was multiplied by the Missouri jurisdictional test year return of 8.607%, as indicated in Mr. Weiss' testimony, to obtain the required total net operating income of each class. This net operating income was then added to the operating expenses of each class to obtain the total operating revenue of each class required for equal class rates of return. The resulting cost of service of each customer class is set forth on line 5 of Schedule WMW-G2. However, the revenue requirement of each customer class is as indicated in Mr. Cooper's Schedule WLC-G2.

IV. UNBUNDLING FUNCTIONAL COST COMPONENTS

Q. What is your second area of responsibility in this case?

A. My second area of responsibility was to disaggregate or unbundle the Company's class revenue requirements in its allocated class cost of service study. These costs were divided into the following Functionalized Cost Categories.

(1) Customer Related Costs

(2) Distribution - Demand Related Costs

(3) Transmission - Demand Related Costs

(4) Production - Commodity Related Costs

(5) Production - Demand Related Costs

Q. Why is a breakdown of such costs necessary?

A. This breakdown was required by Mr. Cooper for use in the development of proposed rates in this case, which are discussed in Mr. Cooper's direct testimony.

Q. Please describe the general method utilized in your analyses for the unbundling of the Company's revenue requirement.

A. This unbundling process entailed a detailed analysis of the various components of the equalized customer class rates of return study presented in Schedule WMW-G2 of my testimony. As the Company's various components of cost presented in Schedule WMW-G1 were allocated to customer classes on either a customer, commodity or demand related basis, the unbundling process consisted of extracting these various components of cost and summarizing them into the functional cost categories indicated earlier.

Q. In this accounting of the Company's total costs, how did you reconcile total costs with the Company's various sources of revenue?

A. As the objective of the cost unbundling analysis was to unbundle the costs associated with the Company's base rate revenues, the Company's miscellaneous revenue sources associated with other revenues were deducted from the unbundled functional cost categories in a manner reflective of where the costs associated with such services appear in the Company's accounts. Some examples of other Company revenues are late pay charges, dishonored check charges, meter rentals and disconnect/reconnect charges.

Q. Following this process of netting the Company's miscellaneous revenues against their supporting costs, were the remaining unbundled costs the amounts which are, in the aggregate, recovered in the Company's base rate revenues?

A. Yes, the steps I have described will equate the Company's base rate revenues with the costs associated with such revenues. The results of this analysis are contained in Schedule WMW-G3 of my testimony. As I indicated earlier, this information will be used by Mr. Cooper in the development of the revised rates being proposed by the Company in this case.

Q. Does this conclude your direct testimony?

A. Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a AmerenUE for Authority to File Tariffs Increasing Rates for Natural Gas Service Provided to Customers in the Company's Missouri Service Area.	)))))	Case No. GR-2007-0003

AFFIDAVIT OF WILLIAM M. WARWICK

STATE OF MISSOURI)
) **ss**
CITY OF ST. LOUIS)

William M. Warwick, being first duly sworn on his oath, states:

1. My name is William M. Warwick. I work in the City of St. Louis, Missouri, and I am employed by Ameren Services Companies as Managing Supervisor of Rate Engineering.

2. Attached hereto and made a part hereof for all purposes is my Direct Testimony on behalf of Union Electric Company d/b/a AmerenUE consisting of 14 pages and Schedules WMW-G1 through WMW-G3, all of which have been prepared in written form for introduction into evidence in the above-referenced docket.

3. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded are true and correct.

William M. Warwick

William M. Warwick

Subscribed and sworn to before me this 3rd day of July, 2006.

Carolyn J. Woodstock

Notary Public

My commission expires:

CAROLYN J. WOODSTOCK
Notary Public - Notary Seal
STATE OF MISSOURI
Franklin County
My Commission Expires: May 19, 2008

AmerenUE
MISSOURI GAS OPERATIONS
CLASS COST OF SERVICE ALLOCATION STUDY
12 MONTHS ENDED JUNE 2006

TITLE: COST OF SERVICE SUMMARY (Current Rates)

LINE #	ITEM	TOTAL MISSOURI	RESIDENTIAL	GENERAL	INTERRUPTIBLE	TRANSPORTATION SERVICE STANDARD	TRANSPORTATION SERVICE LARGE VOLUME
1							
2	COST OF SERVICE SUMMARY						
3							
4	GAS OPERATING REVENUE						
5	Sale of Gas	$ 56,213,886	$ 34,867,638	$ 13,249,271	$ 851,473	$ 3,127,331	$ 4,118,173
6	Special Contract Revenues	$ 963,856	$ 604,954	$ 248,775	$ 15,640	$ 43,484	$ 51,003
7	Other Operating Revenues	$ 2,163,673	$ 1,713,678	$ 341,156	$ 13,633	$ 44,896	$ 50,310
8							
9	TOTAL GAS OPERATING REVENUES	$ 59,341,415	$ 37,186,270	$ 13,839,201	$ 880,746	$ 3,215,711	$ 4,219,487
10							
11	EXPENSES:						
12	Total Gas O&M Expenses	$ 29,708,819	$ 21,427,122	$ 5,747,010	$ 311,536	$ 1,020,776	$ 1,202,375
13	Depreciation Expense	$ 6,940,919	$ 4,507,491	$ 1,692,403	$ 90,953	$ 299,489	$ 350,583
14	Taxes Other than Income Taxes	$ 6,290,533	$ 4,020,145	$ 1,538,349	$ 83,331	$ 300,317	$ 348,391
15							
16	INCOME TAXES	$ 8,340,910	$ 5,275,701	$ 2,073,584	$ 111,861	$ 407,409	$ 472,355
17							
18	NET UTILITY OPERATING INCOME	$ 8,060,234	$ 1,955,810	$ 2,787,855	$ 283,065	$ 1,187,721	$ 1,845,784
19							
20	RATE BASE	$ 218,130,143	$ 136,907,059	$ 56,300,163	$ 3,539,521	$ 9,840,831	$ 11,542,569
21							
22	RATE OF RETURN - REALIZED	3.70	1.43	4.95	8.00	12.07	15.99

AmerenUE
MISSOURI GAS OPERATIONS
CLASS COST OF SERVICE ALLOCATION STUDY
12 MONTHS ENDED JUNE 2006

TITLE: COST OF SERVICE SUMMARY (Equal Returns)

LINE #	ITEM	TOTAL MISSOURI	RESIDENTIAL	GENERAL	INTERRUPTIBLE	TRANSPORTATION SERVICE STANDARD	TRANSPORTATION SERVICE LARGE VOLUME
1							
2	COST OF SERVICE SUMMARY						
3							
4	GAS OPERATING REVENUE						
5	Sale of Gas (Margin)	$ 66,717,210	$ 44,472,969	$ 15,357,522	$ 896,496	$ 2,754,812	$ 3,235,410
6	Special Contract Revenues	$ 963,856	$ 604,954	$ 248,775	$ 15,640	$ 43,484	$ 51,003
7	Other Operating Revenues	$ 2,513,498	$ 2,026,752	$ 377,127	$ 13,675	$ 45,582	$ 50,361
8							
9	TOTAL GAS OPERATING REVENU	$ 70,194,564	$ 47,104,675	$ 15,983,424	$ 925,811	$ 2,843,878	$ 3,336,775
10							
11	EXPENSES:						
12	Total Gas O&M Expenses	$ 29,847,739	$ 21,558,364	$ 5,754,098	$ 311,536	$ 1,020,776	$ 1,202,965
13	Depreciation Expense	$ 6,940,919	$ 4,507,491	$ 1,692,403	$ 90,953	$ 299,489	$ 350,583
14	Taxes Other than Income Tax	$ 6,290,533	$ 4,020,145	$ 1,538,349	$ 83,331	$ 300,317	$ 348,391
15							
16	INCOME TAXES	$ 8,340,910	$ 5,235,083	$ 2,152,818	$ 135,345	$ 376,296	$ 441,367
17							
18	NET UTILITY OPERATING INCOME	$ 18,774,463	$ 11,783,592	$ 4,845,756	$ 304,647	$ 847,000	$ 993,469
19							
20	RATE BASE	$ 218,130,143	$ 136,907,059	$ 56,300,163	$ 3,539,521	$ 9,840,831	$ 11,542,569
21							
22	RATE OF RETURN - REALIZED	8.607	8.607	8.607	8.607	8.607	8.607

AmerenUE
MISSOURI GAS OPERATIONS
CLASS COST OF SERVICE ALLOCATION STUDY
12 MONTHS ENDED JUNE 2006

	Total	Residential	General	Interruptible	Transportation Service Standard	Transportation Service Large Volume
Base Revenue						
Customer	$ 31,695,352	$ 24,719,329	$ 5,825,908	$ 224,473	$ 531,431	$ 394,210
Production -- Demand	$ 1,715,045	$ 1,157,633	$ 556,997	$ 414	$ -	$ -
Production -- Energy	$ 3,115,498	$ 2,005,543	$ 1,007,773	$ 96,683	$ 1,916	$ 3,583
Transmission -- Demand	$ 840,594	$ 461,598	$ 222,454	$ 15,970	$ 61,748	$ 78,824
Distribution -- Demand	$ 29,350,722	$ 16,128,866	$ 7,744,390	$ 558,955	$ 2,159,717	$ 2,758,793
	$ 66,717,210	$ 44,472,969	$ 15,357,522	$ 896,496	$ 2,754,812	$ 3,235,410