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MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. ER-2007-0002

DIRECT TESTIMONY

OF

PHILIP HANSER

ON

BEHALF OF

UNION ELECTRIC COMPANY
d/b/a AmerenUE

St. Louis, Missouri
July, 2006

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DIRECT TESTIMONY

OF

PHILIP HANSER

CASE NO. ER-2007-0002

I. INTRODUCTION

Q. Please state your name, position, and business address.

A. Philip Hanser, Principal, The Brattle Group, 44 Brattle Street, Cambridge, Massachusetts 02138.

Q. Please describe your background and employment experience.

A. I have been a Principal at The Brattle Group in its Cambridge office for the last nine years. My practice has included issues ranging from industry structure and market power and associated regulatory questions, to specific operational and strategic questions, such as transmission pricing, resource planning, environmental issues, forecasting, rate design, demand-side management and distributed resources.

I have appeared as an expert witness before the Federal Energy Regulatory Commission, the California Energy Commission, the New Mexico Public Service Commission, the Public Service Commission of Wisconsin, the Vermont Public Service Board, the Public Utilities Commission of Nevada, the Connecticut Siting Commission, the Pennsylvania Department of Environmental Protection, and in Federal and state courts. I have served as an instructor at the Edison Electric Institute's Rate Schools about cost of service studies and rate design. I have also presented before the National Association of Regulatory Utility Commissioners and the New York State Energy Research and Development Authority on rate design and resource planning issues. I served six years on

the American Statistical Association's Advisory Committee to the Energy Information Administration.

Prior to joining The Brattle Group, I served as the Project Manager for Rates and Rate Design at the Electric Power Research Institute (EPRI) and, then later, as the Manager of the Demand-Side Management Program. While at EPRI I served as the final project manager for the Electric Utility Rate Design Study, the industry-sponsored multi-volume study to support utilities and commissions in implementing the Public Utilities Regulatory Policies Act of 1978. I also supervised EPRI's biennial surveys of innovative rates as well reports addressing the measurement and evaluation of interruptible and curtailable rates, the impacts of residential time-of-use rates, the design of innovative and traditional rates, and the use of activity-based costing as a supplement to traditional utility accounting. I also served five years with the Sacramento Utility District as an economist where I performed the load research design to support both embedded and marginal cost-based rates and performed or assisted in the development of the District's embedded and marginal costs of service studies. I have published widely in leading industry and economic journals. I have served in the economics and mathematics departments at the University of the Pacific, and in the economics departments at University of California at Davis, and Columbia University, and guest lectured at the Massachusetts Institute of Technology, Stanford University, and the University of Chicago.

II. PURPOSE AND SUMMARY OF TESTIMONY

Q. What is the purpose of your testimony?

A. The purpose of my direct testimony is to support some of AmerenUE's rate design proposals. In particular, my testimony will discuss two separate issues. First, I will

discuss AmerenUE's proposal to stabilize residential rates by limiting the residential rate increase to no more than ten percent (10%) in this case. Second, I will discuss the merits of the Company's proposed riders from an economic perspective.

III. RATE DESIGN GENERALLY

Q. Are there general principles which can be used to guide rate design?

A. Yes. The most well-known elucidation is attributed to James Bonbright. In his classic, Principles of Public Utility Rates, he provides eight such principles. They are:

"1. The related, 'practical' attributes of simplicity, understanding, public acceptability, and feasibility of application.

2. Freedom from controversies as to proper interpretation.

3. Effectiveness in yielding total revenue requirements under the fair-return standard.

4. Revenue stability from year to year.

5. Stability of the rates themselves, with a minimum of unexpected changes seriously adverse to existing customers.

6. Fairness of the specific rates in the apportionment of total costs of service.

7. Avoidance of 'undue discrimination' in rate relationships.

8. Efficiency of the rate classes and rate blocks in discouraging wasteful use of service while promoting all justified types and amounts of use:

(a) in the control of the total amounts of service supplied by the company

(b) in the control of the relative uses of alternative types of service (on peak versus off-peak electricity;...)"[1]

Q. Can all of these goals be met simultaneously?

A. In many circumstances, no; thus sometimes the comment is made that "rate design is a craft and not a science." Indeed, one of the early authors on rate design wrote, "A basic purpose of this book is to portray rate making not as an exact scientific procedure but as a skillful balancing of conflicting objectives."[2] For example, rate stability may be a desired utility goal, but in the face of dramatic increases in a utility's cost of service, it may be difficult to achieve rate stability and also recover the increased costs of providing the services. Recovering the costs of service may necessitate rate increases that are not gradual.

Commissions may wish to consider economic goals that the utilities they regulate indirectly influence through their rates, but that do not fall under any of the traditional rate design goals. For example, customers may want to express their preference for resource choices that are not necessarily least cost through, say, green rates. Concerns about the local economy's growth pattern may provide an incentive for rate discounts for "infant industries" to bring such industries to the utility's service territory and enhance these industries' chances of success.

Commissions should weigh the costs of such deviations from traditional goals against the benefits from the proposed rates. Rate options may be able to be designed to hold other customer classes harmless. Customers desiring time-of-use rates frequently have the costs of metering and administration included in their bill and not spread throughout their

[1] Bonbright, James, Principles of Public Utility Rates, (New York, NY: Columbia University Press, 1961), at p. 290

[2] Nash, L.R., Public Utility Rate Structures (New York: McGraw-Hill, 1933) at p. viii.

rate class. Potential short-term costs may produce long-term benefits. Rates that significantly stimulate the local economy may, in the long run, lower rates for other customers through providing a larger revenue base against which to spread costs.

IV. REVIEW OF RATE CASE ISSUES

A. Limiting Residential Rate Increase

Q. What is your understanding with regard to AmerenUE's proposal to limit the residential rate increase?

A. AmerenUE proposes to limit the rate increase for residential customers to no more than ten percent (10%) in this case.[3] This proposed residential rate increase is significantly less than the proposed system-wide average increase of approximately eighteen percent (18%).

Q. Please explain why AmerenUE would propose stabilizing residential rates to no more than a ten percent (10%) increase in this case?

A. AmerenUE believes that rate stability for the residential class is an important goal in this case. While cost of service overall is increasing, AmerenUE believes that the customer impact on the residential class must also be considered by the Company and the Commission. Residential customers' options to adapt to higher prices may be more limited than other classes. In addition, some consumers do not have the financial resources to easily absorb electric rate increases. Nonresidential customers, on the other hand, may have the ability to pass along underlying cost increases to their own customers, as well as better access

[3] By residential rate increase being limited to no more than 10%, I mean that the increase in revenue requirement to be collected from the residential customer class is capped at no greater than 10 percent. Thus, some residential rates may increase by more than the proposed limit, while others may see an increase that is less.

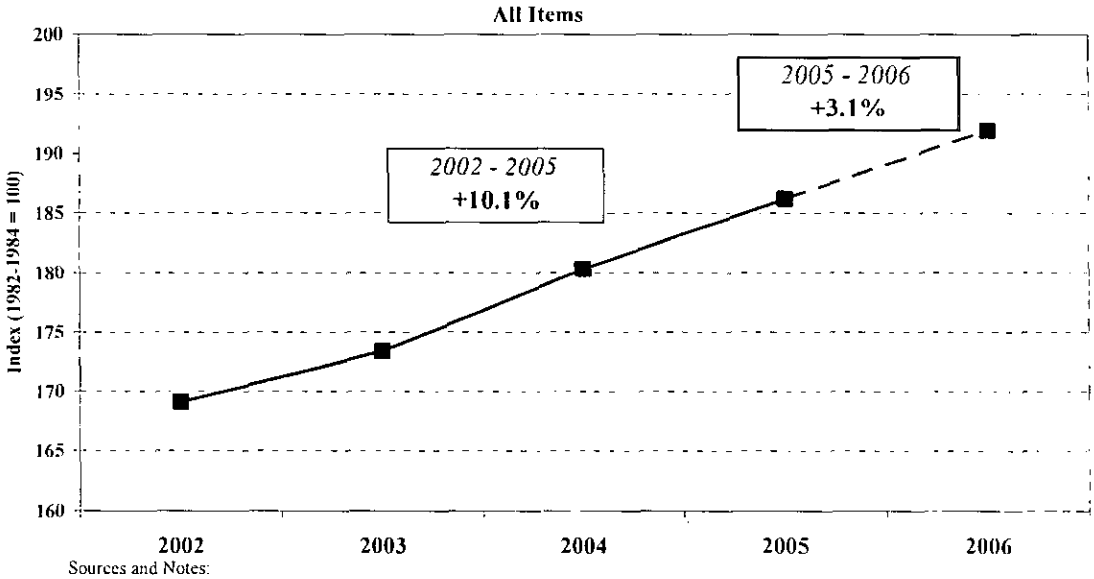
to capital markets to finance any changes in their structures or energy using equipment to respond to changes in energy prices.

Q. Please provide some historical perspective on how AmerenUE's rates have changed in recent years compared to changes in prices that consumers face for other products and services?

A. Since AmerenUE's last rate settlement in 2002, AmerenUE's residential rates decreased by 6% from 2002 through 2005. On the other hand, the price of the typical basket of consumer goods rose by 10.1% over the same period. The average price of a typical market basket of goods, the Consumer Price Index (CPI), is the standard measure of the overall price inflation faced by consumers.

Furthermore, as shown in Figure 1, the CPI is expected to increase by 3.1% between 2005 and 2006.

Figure 1
Consumer Price Index in St. Louis



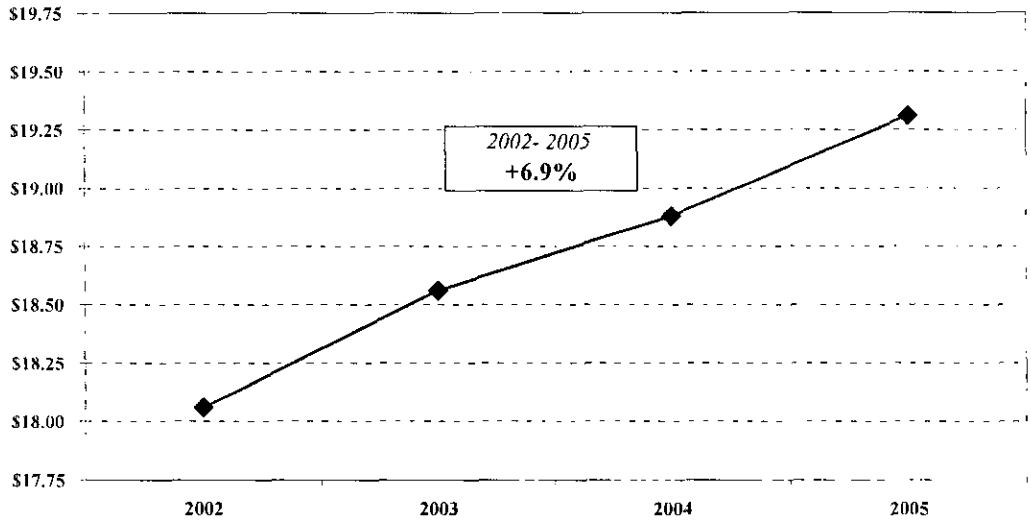
Sources and Notes:
Data from Bureau of Labor Statistics.
2006 CPI from US CPI forecast reported by Blue Chip Economic Indicators.

Because AmerenUE's residential rate has not changed since 2005, the upward trend of the CPI will again reduce the real price of electricity beyond 2005. This implies that the price of electricity in constant (or inflation-adjusted) dollar terms will decline even further by early 2007, when the new rate becomes effective,

This implies that, on net, even with the proposed rate increase of 10%, the price of electricity in constant (or inflation-adjusted) dollar terms for AmerenUE's residential customers will have declined relative to the prices of other goods these consumers purchase. AmerenUE's residential rate decreased by approximately 6% since the last settlement in 2002, that is from a 7.24 cents/kWh in 2002 to 6.81 cents/kWh in 2006. The maximum impact of a full 10% residential rate increase will bring the residential price to 7.49 cents/kWh. This represents an increase of approximately 3.4% in residential rates since the last rate settlement in 2002, compared to a projected change in the CPI of over 13%.

Another way to view the impact of the rate is to compare it to nominal wages over the same period. As can be seen in Figure 2, nominal wages rose by 6.9% between 2002 to 2005.

Figure 2
Nominal Hourly Wage in St. Louis



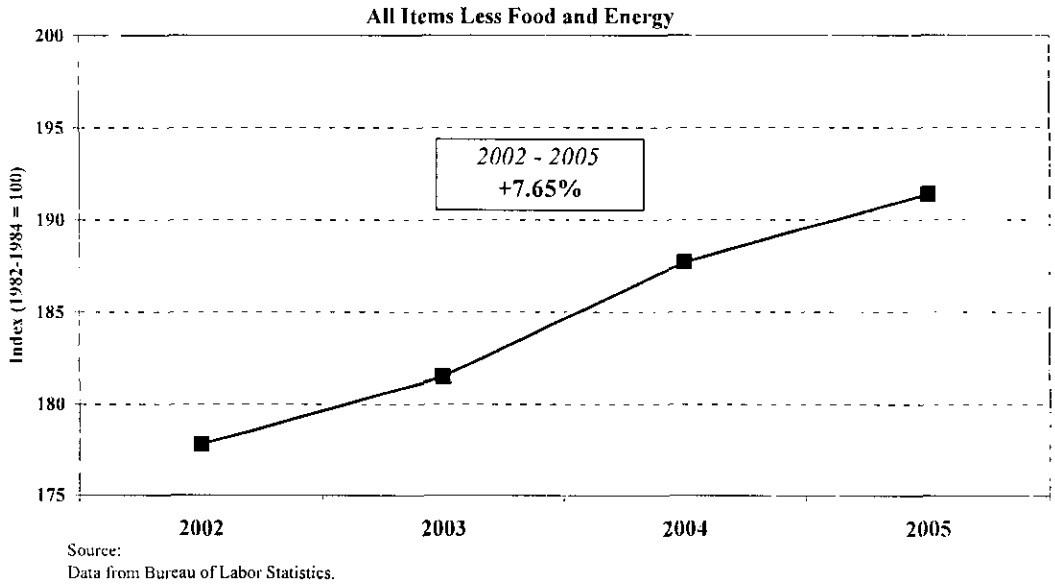
Sources and Notes:
Data from Bureau of Labor Statistics, National Compensation Survey, All Occupations.
Data reported in June of each year.

Thus, electricity costs as a proportion of consumers' incomes fell from 2002 to 2005, meaning that consumers during this period on average were spending a smaller share of their budgets to pay for the same amount of electricity. Following the historical pattern of annual wage increases of 2% to 3%, with AmerenUE's residential rate remaining unchanged over 2005 to 2006, consumers continued to allocate a smaller share of their budgets to paying for the same amount of electricity into the future.

Yet another indication of the impact of the proposed cap is in comparison to the core inflation rate. Core inflation in the United States is defined as the CPI excluding food and energy. By excluding food and energy costs, core inflation excludes volatility in the CPI inflation rate caused by potentially short-lived changes in food commodity prices due to weather or to movements in international oil prices. The core inflation rate provides information on the underlying movement of the CPI that represents part of a permanent

trend. As can be seen in Figure 3, the core inflation rate increased by 7.65% between 2002 to 2005, with the annual increases ranging from 2% to 3%. I expect annual increases of this magnitude to continue through 2006 and early 2007 when the new rate will become effective.

Figure 3
Core Inflation in St. Louis



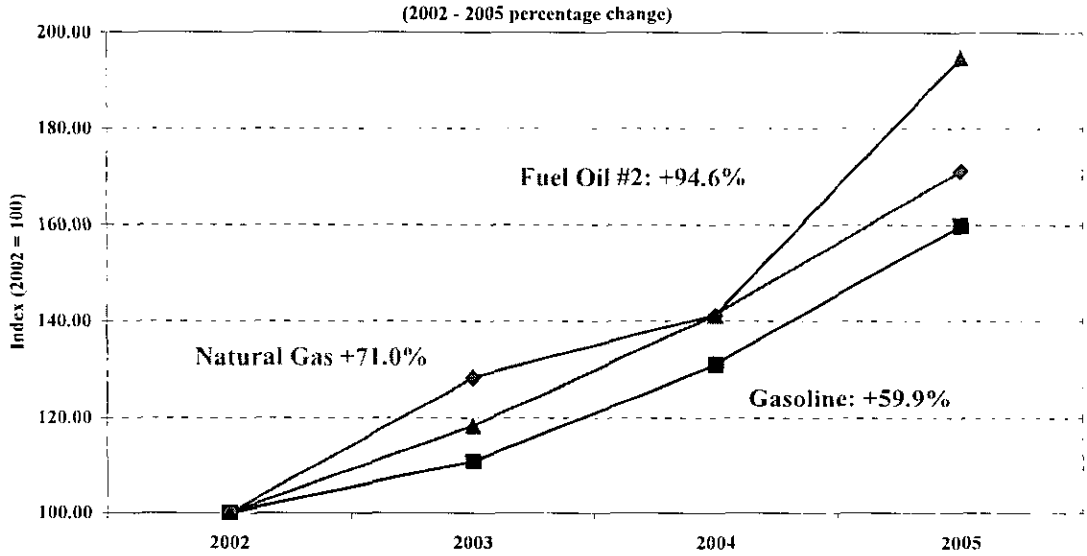
Source:
Data from Bureau of Labor Statistics.

This further reinforces the historical perspective that the price of electricity in constant (or inflation-adjusted) dollar terms has declined relative to prices of other typical goods purchased by AmerenUE's residential customers. Because the price of electricity in constant (or inflation-adjusted) dollar terms fell relative to other goods, even if wages had remained constant rather than risen from 2002 to 2005, consumers would have allocated a smaller share of their budgets to paying for the same amount of electricity.

Q. Please provide some historical perspective on how AmerenUE's rates have changed in recent years compared to changes in electric rates and other energy prices that consumers face.

A. The 10% limit on residential rate increase is significantly less than the increase in the prices of other energy in Midwest urban areas since 2002. Figure 4 shows that between 2002 and 2005, the increases in gasoline price, fuel oil price and natural gas price were 59.9%, 94.6% and 71.0%, respectively.

Figure 4
Consumer Energy Prices in Midwest Urban Areas



Source:
Data from Bureau of Labor Statistics.

These prices have continued to increase since 2005.

Furthermore, when considering that AmerenUE's rates have decreased since 2002, even the entire 10% limit on residential rate increase is lower than the increase in the average rate for the non-restructured states and for the United States overall. As the Commission knows, Missouri has not restructured its electric markets and uses a more

traditional rate base/rate of return regulatory approach. For the period 2002 to 2005, the increases in the residential rates in non-restructured states and across the entire United States were 13% and 11% respectively. Even if AmerenUE were to increase its current residential rate by 10%, its residential rate increase since 2002 would be only about 3.4%. This change would be just over one quarter of the rate increase in other non-restructured states and less than one third of the rate increase across the entire United States, as of 2005. Residential rates across the United States in the first quarter of 2006 are already 12% higher than they were a year ago, further indicating that rates in other areas are rising faster than AmerenUE's.

Q. What are your conclusions regarding the limiting of the residential rate increase?

A. Limiting the residential class rate increase to no more than 10% ,which would be less than the proposed overall system average rate increase, but would be higher than today's rates, is reasonable for the following reasons.

First, the maximum actual impact of a full 10% residential rate increase, which will, on net, yield a 3.4% increase in residential rates since the last rate settlement in 2002, is less than the increase in prices for the typical market basket of goods over the last four years. The increase in the average price of the typical market basket of goods, in St. Louis, is 10.1% between 2002 to 2005, and is expected to have an additional 3.1% increase between 2005 and 2006. This suggests that, in terms of consumer purchasing power, electricity would continue to be relatively cheaper than other goods.

Second, the actual impact of the 3.4% increase in residential rates, which is less than the increase in nominal wages, has permitted consumers to allocate a smaller share

of their budgets to pay for the same amount of electricity. Nominal hourly wages have increased by 6.9% from 2002 to 2005. Following the historical pattern, a 2% to 3% increase between 2005 to 2006 can be expected.

Third, the actual impact of the 3.4% increase in residential rate is less than the increase in the so-called core components of the consumer market basket underlying the CPI and, thus, reinforces the historical perspective that the price of electricity in constant (or inflation-adjusted) dollar terms will have declined relative to prices of other typical goods purchased by AmerenUE's residential customers. In combination with the decline in the relative real price of electricity, this indicates that electricity would likely be a smaller share of consumers' budgets.

Fourth, the 10% residential rate increase is less than the increase in the prices of other energy resources in Midwest urban areas since 2002. There was a 59.9% increase in gasoline price, a 94.6% increase in fuel oil price and a 71% increase in natural gas price from 2002 to 2005 in the Midwest urban areas. These prices have continued to increase further since 2005.

Finally, for the period January 2002 to June 2005, the average increases in residential rates in non-restructured states and across the entire United States were 13% and 11%, respectively. Therefore, as of 2005, the actual impact of the proposed 10% increase in the residential rate, which is approximately 3.4% since the last rate settlement in 2002, is just around one quarter of the residential rate increases in other non-restructured states and less than one third of the residential rate increase across the entire United States. Residential rates across the United States in the first quarter of 2006 are already 12% higher than they

were a year ago, further indicating that residential rates in other areas are rising faster than AmerenUE's.

B. Proposed Rate Riders

Q. Please describe the nature of AmerenUE's proposed riders in this case.

A. Two of the rate riders, Economic Re-development Rider (ERR), and Economic Development and Retention Rider (EDRR) , may be described as "economic development" or " business incentive" rates because they aim at promoting local economic development through providing financial incentives to attract new/existing customers to join/expand operations within AmerenUE's service area. In particular, the ERR rider is designed to attract new non-residential customers to locate within designated areas of the City of St. Louis as well as increasing existing customers' loads within specific areas of St. Louis. The EDRR is designed to reduce the likelihood of potential and existing non-residential customers exiting the AmerenUE service territory and switching to a more competitive energy supply source.

Q. Are there similarities in the way the rates have been designed?

A. Yes. For one, both riders are designed to help defray AmerenUE's costs that otherwise would need to be paid for by other customers, while maintaining the incentives for the customers they are aimed at. The ERR and EDRR provide new and/or existing customers a maximum amount of 15% discount off their tariff charges for five years. ERR also provides a reduction in upfront charges, up to one half of the projected revenue, to assist customers to relocate existing facilities. However, both riders limit such rates only to industrial customers with very specific characteristics. Both riders enforce maximum terms that require customers executing contracts prior to December, 2008 and require customer

participation in specific economic development programs and/or locations in specifically designated economic development zones. For example, they require that customers attest that the loads that would qualify either increase the load factor of local distribution facilities or exceed that of the system as a whole, thus guaranteeing a contribution to the AmerenUE's fixed costs in the short run and, if successful, to an overall defrayal of costs. These restrictions are necessary to preserve ratemaking equity while still affording AmerenUE the opportunity to attract new load under certain defined circumstances.

In addition, both programs are designed to encourage employment within the AmerenUE service area and improve utility revenues, thus enhancing regional income and offsetting fixed costs that would be borne by other customers.

Q. Will these riders be pursued in conjunction with the public agencies' development efforts?

A. My understanding is that these programs will complement such economic development efforts.

Q. Is AmerenUE also proposing a demand response rate?

A. Yes. It is proposing an Industrial Demand Response (IDR) pilot program. The IDR pilot program is designed to provide incentives for industrial process customers to participate in load curtailments.

Q. What is a demand response rate?

A. There is a wide variety of such rates, but their common theme is eliciting some form of voluntary reduction in customer usage in response to a real-time request from the utility from which it receives service. In the PJM regional transmission organization, the Mid-Atlantic Distributed Resources Initiative represents a large-scale effort to develop such

programs. The industrial response pilot for the Missouri service area focuses on industrial customers with a minimum billing demand of 25,000 kW, a minimum curtailable load of 5,000 kW, and a minimum annual load factor of 65%.

Q. How would you further characterize this rate?

A. This rate has as its cost basis an estimate of the marginal value of capacity, i.e., capacity that could be avoided if the customer responds as required under this rate as well as an estimate of avoided energy costs. The rate also has the potential for a buy-through by the customer if AmerenUE is capable of doing so at the time of its request for curtailment.

Q. What are the social benefits for the Industrial Demand Response Pilot?

A. Through voluntary load curtailment, the IDR pilot program has the effect of (1) ensuring firm supply to non-interruptible customers, (2) potentially avoiding the use of external purchases of high cost energy, which reduces price volatility, (3) lowering enforcement costs, which reduce social costs in the application of the pilot program. If industrial customers fail to reduce their load to the current Firm Power Level, unless covered by pre-arranged buy-through provisions, their power level for the current and all succeeding months will be set to the maximum hourly demand during the curtailment periods within the billing period. This financial penalty provides incentives for self enforcement. Thus, the IDR pilot program improves service reliability and reduces price volatility.

Q. What are your conclusions regarding the proposed rate riders?

A. The "economic development" or "business incentives" rate riders, ERR and EDRR, have some common features. To begin with, their short run goal is increasing new load or new customers with very specific characteristics. In the long run, the goal is to increase both employment within the AmerenUE service area and utility revenues, thus

enhancing regional income and offsetting fixed costs that would be borne by other customers. They are subject to significant limitations on customer eligibility. These restrictions are necessary to preserve ratemaking equity while still affording AmerenUE the opportunity to attract new load under certain defined circumstances. These restrictions include limiting such rates only to industrial customers with very specific characteristics, enforcing maximum terms that require customers to execute contracts prior to December, 2008, and requiring customer participation in specific economic development programs, and/or locations in specifically designated economic development zones.

Both ERR and EDRR aim at changing the "entry" costs for the customers affected. In addition, given the restrictions on these programs' customer eligibility and their relatively short duration, any potential equity concerns should be kept to a minimum.

The IDR pilot program, is a "test the waters" pilot demand response program for industrial customers. Such rates are very common throughout the U.S. and are encouraged by the regional transmission organizations. AmerenUE joins many other utilities in their exploration of the potential for customer participation in addressing resource needs.

Through voluntary curtailment, the IDR pilot program has the effect of (1) ensuring firm supply to non-interruptible customers, (2) potentially avoiding the use of external purchases of high cost energy, which reduces price volatility, (3) lowering enforcement costs, which reduce social costs in the application of the pilot program. Thus, IDR pilot program improves service reliability and reduces price volatility.

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 Electric Service Provided to Customers in the Company's Missouri Service Area.	)))))	Case No. ER-2007-0002

AFFIDAVIT OF PHILIP HANSER

Commonwealth of Massachusetts)
) **ss**
County of Middlesex)

Philip Hanser, being first duly sworn on his oath, states:

1. My name is Philip Hanser. I work in the City of Cambridge, Massachusetts, and I am employed by The Brattle Group.

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 16 pages, and Attachment A, 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.

Philip Hanser

Subscribed and sworn to before me this 5 day of July, 2006.

Notary Public

My commission expires: Nov. 15, 2007

MARJORIE J. FISCHER
Notary Public
Commonwealth of Massachusetts
My Commission Expires Nov 15, 2007

EXECUTIVE SUMMARY

Philip Hanser

Principal, The Brattle Group

* * * * * * * * * * *

The purpose of my direct testimony is to discuss two separate issues in support of some of AmerenUE's rate design proposals. First, I discuss AmerenUE's proposal to stabilize residential rates by limiting the residential rate increase to no more than ten percent (10%) in this case. Second, I discuss the merits of the Company's proposed riders from an economic perspective.

Limiting the residential class rate increase to no more than 10% is reasonable in this case. First, the maximum actual impact of a full 10% residential rate increase will, on net, yield a 3.4% increase in the nominal price of electricity that consumers face since the last rate settlement in 2002. This is less than the increase in prices for the typical market basket of goods in St. Louis over the last four years. The price of the St. Louis consumer's typical market basket of goods was up 10.1% from 2002 to 2005, and is expected to increase an additional 3.1% between 2005 and 2006. Thus, electricity will continue to be relatively cheaper than other goods. Second, nominal hourly wages have increased by 6.9% from 2002 to 2005 and can reasonably be expected to rise 2% to 3% from 2005 to 2006. As a result, electricity will likely continue its trend as a smaller share of consumers' budgets. Third, the proposed increase is significantly less than the increase in the so-called core components of the consumer market basket underlying the CPI, reinforcing the conclusion that the proportion of consumers' total

budgets that will likely be spent on electricity will continue to fall. Fourth, the proposed cap is a significantly smaller increase than consumers face for other energy resources in Midwest urban areas since 2002. From 2002 to 2005 in Midwest urban areas, gasoline prices rose 59.9%, fuel oil prices rose 94.6%, and natural gas prices increased 71%. Needless to say, these prices have continued to rise since 2005. Thus, electricity as part of the consumer's energy budget will likely shrink. Finally, for the period January 2002 to June 2005, the average increase in residential rates in non-restructured states and across the entire United States were 13% and 11%, respectively, which implies the proposed increase is roughly one-quarter of the residential rate increases in other non-restructured states and less than one-third of the residential rate increase across the entire United States. As residential rates across the United States in the first quarter of 2006 are already 12% higher than they were a year ago, the disparity between AmerenUE's rates and that of the rest of the country is even larger even with the proposed rate cap.

Two of the rate riders, the Economic Re-development Rider, and the Economic Development and Retention Rider, are "economic development" or "business incentive" rates available to customers on AmerenUE's non-residential tariffs. Their short run goal is attracting new load or new customers or retaining existing loads with very specific characteristics. In the long run, the goal is to increase both employment within the AmerenUE service area and utility revenues, thus enhancing regional income and offsetting fixed costs that would be borne by other customers. They are subject to significant limitations on customer eligibility that preserve ratemaking equity while still affording AmerenUE the opportunity to attract new load under certain defined circumstances. These restrictions include limiting such rates only to industrial customers

with very specific characteristics, enforcing maximum terms that require customers to execute contracts prior to December, 2008, and requiring customer participation in specific economic development programs, and/or locations in specifically designated economic development zones.

The third rider is an Industrial Demand Response Pilot which is a "test the waters" pilot demand response program for industrial customers. Such rates are very common throughout the U.S. and are encouraged by regional transmission organizations. AmerenUE joins many other utilities in their exploration of the potential for customer participation in addressing resource needs.