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Capacity Planning
Witness: Richard A. Voytas
Sponsoring Party: Union Electric
Type of Exhibit: Cross-Surrebuttal Testimony
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MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. EC-2002-1

CROSS-SURREBUTTAL TESTIMONY

OF

RICHARD A. VOYTAS

ON

BEHALF OF

UNION ELECTRIC COMPANY
d/b/a AmerenUE

Exhibit No. 164
Date 7/1/02 Case No. EC2002-1
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St. Louis, Missouri
June, 2002

** Denotes Highly Confidential Information **

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CROSS-SURREBUTTAL TESTIMONY

OF

RICHARD A. VOYTAS

CASE NO. EC-2002-1

Q. Please state your name and business address.

A. My name is Richard A. Voytas. My business address is 1901 Chouteau Avenue, St. Louis Missouri 63103.

Q. Are you the same Richard A. Voytas who previously filed rebuttal testimony in this proceeding?

A. Yes, I am.

THE EXPERIMENTAL RESIDENTIAL TIME OF USE RATE PILOT PROPOSED BY HONG HU

Q. What is the purpose of this section of your testimony?

A. The purpose of this section is to address issues related to the experimental residential time-of-use rate program testimony sponsored by Hong Hu. My primary focus is on the relationship between least cost resource planning and the potential role of a residential time-of-use rate program. Company witness Richard Kovach will comment on the remaining aspects of the proposal.

Q. Ms. Hu states that restructuring of regional electricity markets in the U.S. has been accompanied by numerous problems, including generation capacity shortages, transmission congestion, wholesale price volatility and reduced system reliability. Is this statement accurate?

A. No. Ms. Hu's statements are at best generalizations that are not supported by the facts. Focusing on the Midwest region of the U.S., where AmerenUE is located, restructuring in the state of Illinois has resulted in an increase in generation, an increase in transmission investment, an increase in system reliability, stable wholesale electricity prices and reduced rates for all consumers. The Mid-America Interconnected Network ("MAIN") Load and Resource Audit of Summer 2002 states that for MAIN as a whole, the projected overall reserve margin for the indicated summer season peak periods of 2002 are 26.0% for June, 17.3% for July and 19.2% for August.

Q. Ms. Hu states that AmerenUE is "also conducting studies that advocate increases in generation reserve margins to ensure system reliability." Ms. Hu implies that this may lead to increases in the cost of service that is to be shouldered by the utility's customers. Please comment.

A. The MAIN Board approved a **minimum** long-term planning reserve margin of 17 to 20% based on engineering reliability criteria. At the suggestion of the Missouri Public Service Commission staff, AmerenUE embarked on a groundbreaking study of optimum planning reserve margins from an economic perspective. The purpose of this study was to take an economic perspective in establishing an optimum planning reserve margin for Ameren over a 10-year planning horizon. Generally speaking, when reserve margins are low, the utility is more likely to purchase from the wholesale market and less likely to sell to the wholesale market. The goal of this study was to determine whether increasing or decreasing the Ameren reserve margin over a broad range of uncertainty factors would increase or decrease the present value of net generation costs to Ameren. The reserve margin that minimized the present value of net costs was selected

as the optimum planning reserve margin. The study confirmed that a minimum planning reserve margin of **____** minimized the present value of net costs to Ameren and its customers. As explained later in my testimony, our reserve margin information is being marked Highly Confidential.

Q. Ms. Hu states that "researchers and utilities nationwide have started to look for solutions that are not as costly as adding new peak power plants and new transmission lines. They are trying to solve the problem of the need for more generation and transmission capacity from the demand side." Is AmerenUE included in this group?

A. Yes, most definitely. AmerenUE collaborated with both the MPSC and OPC Staffs on the design, implementation and evaluation of multiple energy efficiency, conservation, and demand control programs in the 1990's. Documentation of all pilot programs and demand-side measures have been given to OPC in prior Integrated Resource Plan filings, Energy Resource Implementation Plan filings and resource plan briefing sessions.

Pilot programs were tailored specifically for the residential, commercial, and industrial sectors. Specific pilot programs included:

- Residential Do-It Yourself Audit
- Residential Low Income
- Residential Air Conditioning Cycling
- Residential New Home Construction
- Residential Appliance Removal
- School Education (*In Concert With The Environment*)

- Large/Mid/Small Commercial Audits
- Industrial Audits
- Industrial Compressed Air Audits
- Industrial Demand Control Seminars
- Energy Efficient Motors
- Curtailable Power

AmerenUE spent approximately $20 million in designing, implementing and evaluating energy efficiency, conservation and demand control pilot programs. Potential demand-side reductions indicated by various models in the early 1990's showed as high as 135 MW of potential peak demand reduction. Evaluations of the Pilot programs listed above did not confirm preliminary modeling results. In fact, there were no demand side pilot program evaluations that proved to be cost effective. Both impact and process evaluations were performed by independent third party consultants and shared with both the MPSC and OPC Staffs.

Restructuring of the electric industry and the rapidly changing marketplace further eroded potential benefits contemplated by energy efficiency and conservation by lowering wholesale power costs. Major driver variables for DSM such as capital costs and energy costs declined from the levels they were at in the 1990s. Energy Service Companies (ESCO) grew rapidly in the mid 1990s but diminished in the late 1990s as customer demand for these services failed to materialize.

Today, AmerenUE continues to analyze and offer demand side options. As Ms. Hu acknowledges in her testimony, AmerenUE offers a time-of-day tariff to residential customers. For larger customers, AmerenUE offers time of day rates and

voluntary customer load curtailment options where the Company pays customers market prices for energy if customers reduce load.

Q. On page 6, line 11 of her testimony, Ms. Hu states "Currently, there are still very few demand response programs for small customers." Please comment.

A. AmerenUE does not currently offer demand response programs for residential customers. AmerenUE has analyzed thousands of energy efficiency measures and implemented multiple residential pilot demand side programs. As I stated earlier, from a least cost planning perspective, the evaluation of all programs showed that they were more costly than supply side options.

Q. Beginning on page 6, line 22 of Ms. Hong's testimony, she addresses the potential benefits that time of use rates can bring to the utility and the customers. There is no mention of costs. Is the implementation of a time of use rate program cost free?

A. There are major costs to consider in the design, implementation and evaluation of a residential time of use rate pilot. There are infrastructure issues related to the AmerenUE CellNet network. The CellNet network was designed for monthly consumption usage. Daily time of use readings require advanced meter reading capability in the form of more powerful communication equipment. There are transactional costs associated with using the CellNet system on a more frequent basis. If a web based communication system is desired to keep customers informed of their consumption, there are web-related costs. There are consumer education/marketing and advertising costs. Finally, there are program design, implementation and evaluation

costs. Costs have to be defined. A full evaluation of the costs of such a program vs. the benefits therefrom needs to be conducted before such a program is implemented. If such evaluation results in net benefits, cost recovery is an issue that would need to be addressed.

Q. Ms. Hu cites Puget Sound Energy (PSE) "as probably the most successful utility in its endeavors of offering TOU rates to their small customers." Please comment.

A. It would have been helpful if Ms. Hu defined the term "success". Ms. Hu appears to equate success with the fact the PSE has about 300,000 residential customers on time of use rates. The fact of the PSE pilot is that customers were put on the rate on an "opt-out" basis rather than an "opt-in" basis. Many PSE residential customers were not even aware that they were on the rate. In fact, the Washington Utilities and Transportation Commission recognized this flaw in its recent rate case settlement stipulation with PSE. The stipulation states "PSE agrees that further implementation of its optional time of use program to new and additional customers, including customers relocating to premises previously served under the TOU program, shall operate as an opt-in program for customers rather than a opt-out program." It would be reasonable to expect that future levels of participation based on "opting in" will be less than today's levels.

Q. Did PSE have any unique circumstances that could impact the participation in their time of use pilot?

A. PSE relies on hydro for the majority of their generation. A lack of water backfill as a result of a lack of snow put hydro resources at all time low levels going into

summer 2001. Temperatures for summer 2001 hit unprecedented highs. All the components for the "perfect storm" in terms of worst case electric load and supply were in place. Media attention was focused on the situation. Consumers definitely had a heightened awareness of the situation.

Q. Please address the recommendation concerning implementation of time of use electric rates contained in "The Final Report of The Missouri Energy Policy Task Force." The issue is that time of use pricing can be offered to moderate Missouri's need for additional generating capacity.

A. The impact that time of use pricing may have on moderating peak demand is a function of the time of use rate design. Under a dynamic real time pricing design with real time pricing and consumption information continuously available to consumers, there is a potential for customers to modify their electric energy consumption behavior in a way that moderates the need for additional generating capacity. The downside, from the customer's perspective, is that the customer rather than the utility assumes all price risk.

Q. Please address Ms. Hu's proposal that the Commission establish a collaborative committee that includes technical experts from the Commission Staff, Public Counsel and AmerenUE to design and evaluate the experimental residential TOU program.

A. It appears to be Ms. Hu's opinion, unsubstantiated by any analysis, that time of use pricing will mitigate electric utilities need for peaking power, will improve residential energy efficiency, will lower consumer's electric bills, and provide short run reliability benefits. Ms. Hu makes a quantum leap from her unsubstantiated opinion to

the formation of a committee with a charter to have a pilot time of use program in place "no later than six months after the Commission's order."

I definitely oppose the formation of a collaborative committee at this time to design and evaluate an experimental residential time of use pilot.

Q. What is a better approach to address the role that time of use pricing may take at AmerenUE?

A. Stakeholders need answers to several key questions. Do the benefits of time of use pricing outweigh the incremental costs? Will AmerenUE customers respond to time of use pricing? Will AmerenUE customers elect time of use pricing on a voluntary basis and/or object to an "opt-out" tariff? These questions will need to be answered through a variety of analyses, market research and limited testing before rolling out a pilot program. This approach is a multi-step process with each subsequent step dependent upon positive findings in previous steps.

CAPACITY PLANNING ISSUES IN THE REBUTTAL TESTIMONY OF MARK DRAZEN

Q. What is the purpose of this section of your testimony?

A. The purpose of this section is to address issues related to capacity planning in the testimony of Mark Drazen. Specifically, I will address Mr. Drazen's incomplete understanding of the facts surrounding AmerenUE's resource planning requirements.

Q. Mr. Drazen testifies to the importance of considering all options in the resource planning development stage before embarking on a capacity acquisition program. Does AmerenUE do this?

A. Definitely. Even though requirements to Chapter 22 of the Commission's rules regarding electric utility resource planning have been modified, the Company continues to follow the guidelines specified in Chapter 22. The Company considers all economic supply-side and demand-side options in developing its least cost plan. Any plan is a snapshot of an ongoing planning process at AmerenUE. The plan continuously evolves as new information is received, economic conditions change, new technologies emerge, legislation changes, and the planning process itself improves.

Q. Beginning on page 8, line 22, Mr. Drazen attempts to explain AmerenUE's summer 2001 cost of purchased power. Please comment.

A. Mr. Drazen testifies that "In early 2001, Ameren cancelled the proposed transfer" (referring to the proposed transfer of the AmerenUE Metro East service area to AmerenCIPS). This wording is misleading. Ameren Energy Marketing (AEM) withdrew its offer to supply power to AmerenCIPS to serve the AmerenUE Metro East service area due to the MPSC Staff's refusal to grant expedited treatment to the proposed transfer. AEM's decision was not a joint Ameren decision. Rather, the decision was strictly an AEM decision based on a perspective of other market opportunities to supply power versus waiting for a decision on the proposed transfer based on an elongated schedule proposed by Staff to analyze the proposed transfer.

Q. On page 9 of his testimony, Mr. Drazen contrasts market prices for capacity and energy for summer 2001 versus summer 2002. He makes the point that neither cost is representative of future conditions. Please comment.

A. Mr. Drazen fails to recognize that market prices for electricity are extremely volatile, as they are for most energy commodities. To the extent that an

electric utility relies on purchases from the market for capacity and energy, purchased energy costs are what they are at the time of the execution of a power supply agreement. In my view, the key point here is that the prudence of a utility's decision to purchase power at any given time can, and should, be evaluated by comparing the costs and benefits of such purchased power to the costs and benefits associated with pursuing other alternatives.

Further, AmerenUE intends to pursue a portfolio of market purchases, owning generation and transferring existing load to meet its capacity needs over the next ten years. In addition, we will analyze the benefits/costs of renewable energy technology as well as demand-side options and include those options as appropriate. The portfolio of assets chosen will meet the planned resource planning requirements of an electric utility on a going forward basis for some time.

Q. Mr. Drazen states on page 9 of his testimony that "For generation, the cost of supply from existing resources will decline, as greater output is obtained and as plant is further depreciated." Has Mr. Drazen considered all relevant factors in making this statement?

A. No. There are incremental costs related to pending multi-pollutant emissions controls issues. There are potential cost issues related pending renewable portfolio standards legislation. There are economic dispatch/market price issues to consider. It does not appear that Mr. Drazen has considered any of these factors.

Q. Mr. Drazen states that it is unclear to him why AmerenUE is using an **___ planning reserve margin target. Please clarify planning reserve margin criteria.**

A. This answer includes Highly Confidential information involving the Company's resource planning activities. In particular, it includes market specific information relating to services offered in competition with others.

The MAIN Board approved a minimum long-term planning reserve margin of 17 to 20% based on engineering reliability criteria. At the suggestion of the Missouri Public Service Commission Staff, AmerenUE embarked on a groundbreaking study of optimum planning reserve margins from an economic perspective. The purpose of this study was to take an economic perspective in establishing an optimum planning reserve margin for Ameren over a 10-year planning horizon. Generally speaking, when reserve margins are low, the utility is more likely to purchase from the wholesale market and less likely to sell to the wholesale market. The goal of this study was to determine whether increasing or decreasing the Ameren reserve margin over a broad range of uncertainty factors would increase or decrease the present value of net generation costs to Ameren. The reserve margin that minimized the present value of net costs was selected as the optimum planning reserve margin. The study confirmed that a minimum planning reserve margin of **____** minimized the present value of net costs to Ameren and its customers.

Q. Mr. Drazen testifies that AmerenUE's load/capacity forecast does not appear to anticipate any increase in the amount of price-responsive or interruptible load. Please comment.

A. Each year, more industrial customers have signed on to participate in the voluntary customer curtailment program offerings of AmerenUE. There is a difference between customer sign-ons and actual customer participation. Customer participation is

based on customer's willingness to curtail load for a given price. Obviously, the driver for potential load reduction under this program is market price. Ameren's forward view of market prices does not warrant increased load reduction from this program for the near future.

Q. Mr. Drazen states that AmerenUE's load/capacity forecast does not appear to include any provision for other sources of capacity, such as distributed generation and customer-procured independent supply. Please comment.

A. The trend for customers at AmerenUE is to remove/reduce the small amount of customer-owned generation on the AmerenUE system. For example, in the 1980's, customer owned generation in the AmerenUE service territory was approximately 100 MW. Today, it is less than 60 MW. Many distributed technologies including reciprocating engines, fuel cells, wind generators and microturbine generators have been "touted" in the media. AmerenUE keeps track of the technology and costs of these alternative technologies in the development of its least cost resource plans. Although there may be a niche market for certain technologies under unique individual customer situations, the economics of distributed generation are such that it is not projected to have an impact on AmerenUE's resource planning process in the foreseeable future.

Q. Mr. Drazen refers to the Office of Public Counsel (OPC) recommendation of the implementation of a residential time-of-use rate as a way to reduce peak demands. Please comment.

A. Please refer to my rebuttal of OPC witness Hong Hu.

Q. On page 14 of his testimony, Mr. Drazen attempts to explain what he refers to as the "Metro East" effect. Please discuss.

A. Mr. Drazen attempted to quantify the impact, in terms of the reduction in load, that the sale of AmerenUE's Metro East service territory to AmerenCIPS would have. Mr. Drazen incorrectly identified the firm AmerenUE Metro East load as 600 MW. The firm load is 520 MW. Mr. Drazen applied an **____** planning reserve margin to his erroneous load estimate of 600 MW to arrive at an equivalent capacity number of about 700 MW. The correct calculation is **____** of 520 MW that is equivalent to about 600 MW of capacity.

Mr. Drazen erroneously stated that the generation supply for the AmerenUE load that was proposed to be sold to AmerenCIPS would be supplied by Ameren Energy. The supply would come Ameren Energy Marketing – a distinct and different business entity than Ameren Energy.

Mr. Drazen states that AmerenUE decided against the transfer. The fact is that AmerenCIPS decided that the timing of the analysis of the proposed transfer by the MPSC staff was such that they were no longer willing to consider it. Hence, AmerenUE did not have a buyer for its Metro East service area.

Q. Mr. Drazen attempts to determine the annual cost of CTG capacity in Table 8, page 17 of his testimony. Please comment.

A. Mr. Drazen attempted to show that the demand cost component of the former AmerenUE Missouri interruptible rate is less than the cost of building new CTGs. There are flaws/erroneous assumptions in Mr. Drazen's analysis. First, Mr. Drazen based his capital cost assumption on the judgment of Staff witness Dr. Proctor that the

"normal" planning reserve margin capacity cost is $490/kW. For the reasons discussed in my May testimony, there is no support by Dr. Proctor or anyone else for the contention that $490/kW is a representative number for the test year. Second, Mr. Drazen erroneously applies an **____** planning reserve margin adder to the cost of a CTG. Electric utilities only plan for firm load, not interruptible load. Consequently, there should not be a **____** reserve margin **_____** or any adder in the calculation. Depending on the installed cost of a CTG used in the calculation, it is unlikely that the annual cost of CTG capacity is greater than the demand component of the former AmerenUE Missouri interruptible rate. It also is important to note that this is solely a comparison between the former interruptible rate option and a self-build option. There may be short term market options that further increase the differential between the former interruptible rate.

Q. Does this conclude your testimony?

A. Yes. It does.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

The Staff of the Missouri Public Service Commission, Complainant,	)	
vs.	)	Case No. EC-2002-1
Union Electric Company, d/b/a AmerenUE, Respondent.	)	

AFFIDAVIT OF RICHARD A. VOYTAS

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

Richard A. Voytas, being first duly sworn on his oath, states:

1. My name is Richard A. Voytas. I work in St. Louis, Missouri and I am employed by Ameren as Manager, Corporate Analysis.

2. Attached hereto and made a part hereof for all purposes is my Cross-Surrebuttal Testimony on behalf of Union Electric Company d/b/a AmerenUE consisting of 14 pages, which has 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.

Richard A. Voytas

Subscribed and sworn to before me this 21st day of June, 2002.

Notary Public

My commission expires:

DEBBY ANZALONE
Notary Public - Notary Seal
STATE OF MISSOURI
St. Louis County
My Commission Expires: April 18, 2006