Exhibit No.:
Issues: Least-Cost Analysis for Metro East Transfer

Witness: Michael S. Proctor
Sponsoring Party: MoPSC Staff
Type of Exhibit: Cross-Surrebuttal Testimony
Case No.: EO-2004-0108
Date Testimony Prepared: March 1, 2004

MISSOURI PUBLIC SERVICE COMMISSION

UTILITY OPERATIONS DIVISION

CROSS-SURREBUTTAL TESTIMONY

OF

MICHAEL S. PROCTOR

UNION ELECTRIC COMPANY
d/b/a AmerenUE

CASE NO. EO-2004-0108

Jefferson City, Missouri
March, 2004

****Denotes Highly Confidential Information****

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the matter of the Application of Union Electric Company (d/b/a AmerenUE) for an order authorizing the sale, transfer and assignment of certain Assets, Real Estate, Leased Property, Easements and Contractual Agreements to Central Illinois Public Service Company (d/b/a AmerenCIPS) and, in connection therewith, certain other related transactions.	))))))))	EO-2004-0108

AFFIDAVIT OF MICHAEL S. PROCTOR

STATE OF MISSOURI)
) ss
COUNTY OF COLE)

Michael S. Proctor, of lawful age, on his oath states: that he has participated in the preparation of the following written testimony in question and answer form, consisting of 10 pages of written testimony to be presented in the above case, that the answers in the following written testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true to the best of his knowledge and belief.

Michael S. Proctor

Subscribed and sworn to before me this 27th day of February, 2004.

DAWN L. HAKE
Notary Public – State of Missouri
County of Cole
My Commission Expires Jan 9, 2005

Notary Public

My commission expires

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CROSS-SURREBUTTAL TESTIMONY

OF

MICHAEL S. PROCTOR

UNION ELECTRIC COMPANY

d/b/a AmerenUE

EO-2004-0108

Q. Are you the same Michael S. Proctor who submitted rebuttal testimony in this case?

A. Yes, I am.

PURPOSE OF CROSS-SURREBUTTAL TESTIMONY

Q. What is the purpose of your cross-surrebuttal testimony in this proceeding?

A. My cross-surrebuttal testimony will address the rebuttal testimony of Office of the Public Counsel witness Mr. Ryan Kind.

Q. What portions of Mr. Kind's rebuttal testimony will you address?

A. Mr. Kind summarizes his position on the Metro East transfer on pages 43 and 44 of his rebuttal testimony. My cross-surrebuttal testimony will address the following points:

- The need for the generation capacity from the Metro East transfer to serve the remaining AmerenUE customers.
- The relationship of the expiration of AmerenUE's EEI contract to the Metro East transfer.
- The need to issue a new RFP for purchased power as the basis for determining the minimum cost alternative to the Metro East transfer.
- The reasonableness of the cost/kW of combustion turbine capacity used by AmerenUE as a minimum-cost alternative to the Metro East Transfer.

NEED FOR CAPACITY FROM THE METRO EAST TRANSFER TO SERVE THE REMAINING AMERENUE CUSTOMERS

Q. What is Mr. Kind's rebuttal testimony regarding the capacity balance position of AmerenUE if the Metro East Transfer takes place?

A. This is shown on Attachment 2 to Mr. Kind's rebuttal testimony. Mr. Kind testifies that numbers in this Attachment show there is no need for the capacity that AmerenUE would have after the proposed Metro East transfer.

Q. Do you agree with Mr. Kind's analysis and conclusions?

A. No, I do not. First, Mr. Kind's calculation of capacity balance for the cases that assume the Metro East transfer are incorrect and overstate the capacity surplus of AmerenUE. I have included the correct calculations in Schedule 1 attached to my cross-surrebuttal testimony. As was the case in Mr. Kind's Attachment 2, all of the calculations in my Schedule 1 assume the transfer of the combustion turbines at Pinckneyville and Kinmundy from Ameren Energy Generation to AmerenUE. The tables in this schedule show the correct megawatts for the years included in Mr. Kind's Attachment 2 and show the amount by which Mr. Kind has overstated the capacity surplus.

Second, Mr. Kind's analysis looks at reserve margin and fails to take into account the savings in energy cost for the remaining AmerenUE customers from the Metro East transfer. In other words, whether or not the transfer is a detriment to AmerenUE's Missouri retail customers is also a question of energy cost, not simply capacity need. Nowhere in Mr. Kind's rebuttal testimony does he address the savings in energy cost from the transfer. Thus, the asserted lack of capacity need is, by itself, not a viable argument for detriment.

RELATIONSHIP OF THE EXPIRATION OF THE EEI CONTRACT TO THE METRO EAST TRANSFER

Q. Does Mr. Kind attempt to link the need for capacity to the termination of the contract between AmerenUE and EEI for capacity and energy from the Joppa generation plant?

A. Yes, he does. At page 11 or his rebuttal testimony, Mr. Kind asks the question whether or not the additional capacity from the Metro East transfer would be needed if AmerenUE would continue to have access to the capacity from the Joppa generation plant. His answer to this question is "No." From my reading of Mr. Kind's rebuttal testimony, this is the only link provided to the expiration of the EEI contract and the Metro East Transfer.

Q. Do you agree with Mr. Kind that the generation capacity from the Metro East transfer would not be needed if the EEI contract is renewed?

A. No, I disagree with this conclusion. The termination of the EEI contract is directly linked in AmerenUE's resource plan to the addition of combustion turbine capacity at the Venice plant location and not to the Metro East transfer. Specifically, even with the Metro East transfer, AmerenUE will need to add additional capacity in 2006 when the EEI contract expires. On the other hand, with the Metro East transfer and the continuation of the EEI contract, AmerenUE's resource plan would only be able to defer the capacity addition at Venice by 1 year for a 17% reserve margin, and 2 (perhaps 3) years for a 15% reserve margin.

Q. Assuming there is no Metro East transfer, what impact does the expiration or continuation of the EEI contract have on AmerenUE's capacity needs?

A. Assuming there is no transfer and absent any other capacity additions, including the combustion turbines at Pinckneyville and Kinmundy, AmerenUE would need additional capacity starting this summer; i.e., the combustion turbine capacity assumed as an alternative to the Metro East transfer. The capacity deficits for AmerenUE are shown on Schedule 2 attached to this testimony. At a 15% reserve margin, the capacity deficit would be greater than the Metro East transfer in 2004 even with the continuation of the EEI contract. In my opinion, the Metro East transfer is not dependent upon the expiration or continuation of the EEI contract, and the continuation of that contract should not be a necessary condition for Commission approval of the Metro East transfer.

Q. Why did you exclude the capacity from the combustion turbines at Pinckneyville and Kinmundy in your calculation of capacity balance absent the Metro East transfer?

A. As Mr. Kind points out in his rebuttal testimony, absent the Metro East transfer, the Illinois Commerce Commission would retain approval jurisdiction over that transfer because the Metro East service area would still be in AmerenUE. At page 5 of his rebuttal testimony, regarding Ameren's strategy for regulatory approval, Mr Kind testifies concerning: "significant opposition to the transfer of the AEG's Pinckneyville and Kinmundy plants that it had encountered when it sought approval of the transfer from the Illinois Commerce Commission (ICC)." By including the capacity from the Pinckneyville and Kinmundy plants in his calculation for the non-transfer scenario, Mr. Kind failed to reflect his own view as to the likelihood that the ICC would not approve the purchase of these units by AmerenUE in his calculations on Attachment 2 to his

rebuttal testimony. Also, Mr. Kind's calculations of the case of retention of the EEI contract included the addition of combustion turbine capacity at Venice, which of course would not be needed if that contract were extended.

NEED FOR AN RFP TO DETERMINE THE MINIMUM COST ALTERNATIVE TO THE METRO EAST TRANSFER

Q. What is Mr. Kind's position on the need for AmerenUE to issue an RFP with respect to the Metro East Transfer?

A. Mr. Kind's position is that an RFP is required in order to determine the minimum cost alternative to the Metro East Transfer.

Q. Do you agree with that an RFP is needed to determine the minimum cost alternative to the Metro East transfer?

A. No, I do not agree with that position. The Metro East transfer is a long-term addition of capacity and lower cost energy to meet the needs of AmerenUE's remaining load. In contrast, an RFP would primarily be used by AmerenUE to solicit capacity to meet AmerenUE's short-term needs for reserves. By this, I mean that if AmerenUE is planning to add capacity and there is evidence that capacity can be purchased for a short period of time at a cost that is below the cost of adding new capacity, then an RFP would be issued to determine whether or not it is less costly to delay the addition of the new capacity and in the interim enter into a short-term contract. This strategy is particularly relevant for AmerenUE because of its existing capacity mix. Moreover, because of its abundance of base-load capacity, it is unlikely that AmerenUE will be able to purchase energy from the market at a lower cost than it would incur by generating that energy from its existing plants.

Q. Would it be possible for AmerenUE to issue an RFP for long-term energy and capacity?

A. Anything is possible, but the longer the term of the contract, the less likely that any existing generation will be able to meet the terms of the contract. Thus, long-term contracts usually involve building a new plant. Even if an existing Independent Power Producer has existing capacity and is willing to enter into a long-term contract, the price of such a contract will likely reflect the cost of a new plant. At that point, it makes more sense for AmerenUE to build the plant itself than to incur the risk of higher costs when the contract expires.

Q. What additional information would AmerenUE have gained had it issued an RFP?

A. At most, AmerenUE would have been able to determine if it could have delayed the addition of the combustion turbines that it would otherwise have had to construct absent the Metro East transfer. In an apples-to-apples comparison of the two alternatives, the RFP could also have resulted in purchases that would delay the Metro East transfer. Thus, if an RFP is an issue, the only issue it raises is the timing of AmerenUE's request for the Metro East transfer. With the rate moratorium in place, I see very little benefit to AmerenUE's Missouri retail ratepayers from taking this approach.

THE REASONABLENESS OF THE COST/KW OF COMBUSTION TURBINES USED BY AMERENUE AS THE MINIMUM-COST ALTERNATIVE TO THE METRO EAST TRANSFER

Q. What is Mr. Kind's position regarding the $471/kW cost assumed by AmerenUE as a minimum cost alternative to the Metro East transfer?

A. Mr. Kind's position is that $471/kW is too high. Mr. Kind compares this figure to $390/kW estimate of the cost of gas-fired capacity from a 2000 Missouri Public

Service Commission (Commission) Case No.EA-2000-37. He also compares this figure to $312/kW that is a 2002 offer from NRG Audrain, LLC to sell its combustion turbines located in Audrain county. In addition, Mr. Kind testifies that AmerenUE did not provide adequate support for its estimate of the cost of the combustion turbines.

Q. What is your analysis of the $390/kW estimate from Case No. EA-2000-37?

A. The $390/kW estimate from Case No. EA-2000-37 was from an earlier application by AmerenUE for approval of the Metro East transfer that was filed July 19, 1999. However, the $390/kW is in line with the cost of the Westinghouse D5A units installed in 2001 at Kinmundy (2 units at 116 MW/unit, 11,400 Btu/kWh, $413/kW). These units were less costly than the General Electric 6B units installed at Columbia (3 units at 35 MW/unit, 12,200 Btu/kWh, $482/kw), and the combination of General Electric LM-6000 units and 6B units at Pinckneyville (4 LM-6000 units at 44 MW/unit, 9,500 Btu/kWh, and 4 6B units at 35 MW/unit, 12,200 Btu/kWh at an average installed cost of $510/MW).

Moreover, based on the costs paid by Ameren for the combustion turbines at Kinmundy and Pinckeyville, the issue raised by Mr. Kind appears to be: why didn't AmerenUE assume that 597 megawatts of capacity would all be built in the larger unit size at a lower per kW cost? There are several reasons that this might not be an optimal configuration. The smaller General Electric units at Pinckneyville have significant operational advantages over the larger Westinghouse units at Kinmundy. The smaller units have greater flexibility for quick starts than the larger units. The LM-6000 units at Pinckneyville, even though they are smaller, have better heat rates than the larger units at

Kinmundy. Perhaps the greatest advantage to the smaller combustion turbines is the ability to bring them on line in sequence to meet changes in load. Combustion turbine heat rates (efficiencies) tend to be very poor unless the units are run at or near capacity. If load is increasing by less than the capacity of a large combustion turbine, then the utility has to back down cheaper generation in order to run the combustion turbine at a reasonable heat rate level. Smaller units offer greater flexibility in being able to bring fewer megawatts on line to match increased load without having to back down cheaper generation.

The average cost of this combination and the average heat rate is what AmerenUE used as the combustion turbine alternative to the Metro East Transfer. AmerenUE apparently used an average of larger and smaller units to provide a combination of both the cheaper cost of the larger units and the greater flexibility of the smaller units, replicating the engineering design of what it had installed at Kinmundy and Pinckneyville in the recent past. While I am not aware of any study performed by AmerenUE to determine the "optimal" combination of these characteristics, as an economist I understand the design principles that would be involved.

Q. Do you have other sources of information to confirm that AmerenUE's cost/kW for combustion turbines is reasonable?

A. In the resource planning meetings that the Staff and the Office of the Public Counsel have with the utilities, we regularly receive estimates of the costs of combustion turbines. Those costs vary depending on the type of combustion turbines that the utilities want to install to fit the operating conditions they expect for use of these units. While there are some exceptions, these estimates are generally consistent with

what AmerenUE has paid for both its larger combustion turbine units at Kinmundy and its smaller combustion turbines at Pinckneyville.

Q. What is your evaluation of the $312/kW offer from NRG to AmerenUE regarding the combustion turbines in Audrain county?

A. The NRG offer of sale at $312/kW was not a valid offer to meet the reserve capacity requirements for AmerenUE, because AmerenUE would not be able to obtain firm transmission service from this facility. In Federal Energy Regulatory Commission (FERC) Docket No. EC03-53-000 regarding the sale of the Pinckneyville and Kinmundy combustion turbines to AmerenUE, Administrative Law Judge Carmen A. Cintron issued an Initial Decision on February 5, 2004 in which the NRG offer and the lack of transmission service were discussed in great detail (see pages 75 – 85 of the Initial Decision). Judge Cintron accepted the testimony of Ameren witness Pfeiffer as credible and summarized that testimony as follows:

> "According to Mr. Pfeiffer, the Audrain facility is located in close proximity to AmerenUE's Bland-Franks high voltage line. However, operation of the Audrain plant increases the loading of the Bland-Franks line, which during 1999 and 2000 (and as recently as 2003) 'was completely subscribed looking forward with respect to requests for future long-term firm transmission service.' Although Audrain is also electrically located near to the Palmyra transformer, 'the Palmyra transformer was also a potential constraint to the ability of the Audrain Facility to deliver power into the market.' Thus, ATC from the Audrain facility was limited or unavailable since the plant went into service, and neither DENA nor NRG has confirmed any long-term point-to-point service from the Audrain facility." [Initial Decision, Docket No. EC03-53-000, 177, footnotes omitted]

Judge Cintron goes on in the Initial Decision to state that the FERC Staff had correctly concluded that "Audrain is not considered an Ameren network resource because the capacity of the Audrain plant is not under contract to supply network load in the Ameren control area." [Initial Decision, Docket No. EC03-53-000, ¶

180, footnote omitted] In addition, because of the lack of firm transmission service, transmission network upgrades would be required in order for the Audrain plant to qualify as a network resource. If a facility does not qualify as a network resource, then the capacity of that facility cannot be counted as reserves for the utility. The inability of the Audrain facility to receive firm transmission service without transmission upgrades is a likely contributor to the below market price being offered by NRG. There appear to be other factors involved, including: 1) potential equipment problems; 2) lack of black start and quick start capability; 3) inability to burn an alternate fuel to natural gas; 4) design flaws in the generator step-up transformers; and 5) NRG's poor financial condition.

Q. Does this complete your cross-surrebuttal testimony?

A. Yes, it does.

SCHEDULE 1
IS DEEMED
HIGHLY CONFIDENTIAL
IN ITS ENTIRETY

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SCHEDULE 2
IS DEEMED
HIGHLY CONFIDENTIAL
IN ITS ENTIRETY

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