Ameren Ex. 4.0

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Ameren Exhibit No. 4.0
Witness
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REBUTTAL TESTIMONY

OF

MARK EACRET

DOCKET NOS. 00-0259, et al.

On behalf of the Ameren Companies

Q. Please state your name.

A. Mark Eacret.

Q. Did you submit direct testimony in this proceeding?

A. Yes.

Q. What is the purpose of your rebuttal testimony?

A. The purpose of my rebuttal testimony is to respond to the testimony of various witnesses regarding the operation of the Ameren market index methodology.

Q. Staff witness Christ recommends "that Ameren not test its monthly basis adjustments to determine whether they are statistically significant and then using (sic) only those that are statistically significant." Do you agree?

A. No. It is not appropriate to reflect adjustments that are not statistically significant. It seems that in this case statistical insignificance results primarily from either an insufficient number of paired daily market values, a high volatility of the differences between the paired daily market values, or a combination of the two. Into Cinergy data were reported daily in the Power Markets Week Daily Price Report and Power Markets Week for the periods in question. However, Southern MAIN data were occasionally not reported in these sources. Ameren therefore augmented its base data set with Lower MAIN prices from the Bloomberg Price

Survey when Southern MAIN data were not reported. This ensured matched pairs of daily market values for each market for each business day.

However, there remained four months for which the difference between the means of the daily prices in the two markets was not statistically significant from zero and hence no basis was assigned. These were the months of June through August of 1999 and January of 2000. These months all include spikes in the daily differences (generally associated with price spikes) that distort the monthly mean differences. (See ~~Exhibit~~ Schedule I)

Missing data points and price spikes, while bothersome, do not damage the method as long as they are properly corrected. Corrective measures are necessary in order to achieve what Mr. Zuraski describes in his testimony as "a relatively stable basis relationship" because there must be some level of daily basis spike that is considered excessive or some number of matched pairs that is considered insufficient Ameren's preferred method would involve statistical tests to determine if these problems have corrupted the basis adjustment calculations. Nothing in the text or analysis of Mr. Christ's testimony persuades otherwise.

Q. Does Ameren agree with Mr. Christ's criterion for determining the "best" basis adjustment?

A. No. In his testimony, Mr. Christ notes that he will "refer only to their [different basis adjustments] absolute value to focus on the size of the error, not its positive or negative direction. The 'best' basis adjustment has the lowest absolute average percent error, and the 'worst' has the highest absolute percent error." Ameren would agree with this approach.

However, in calculating percent error estimates in Schedule 1, Mr. Christ averages the actual monthly averages for each transaction month, before calculating their absolute value. Therefore, a basis adjustment method which returned monthly averages that alternated 100% positive and 100% negative for eight months (which would average zero over the period) would be the "best" method when compared with a method which returned monthly averages of 1% positive for five months and 1% negative for three months (which would average less than 1%). That is of course an extreme example, but it demonstrates the area of disagreement.

Mr. Christ then averages the averages that were calculated above for each of the market pairs and each of the two transaction months. The average of these eight averages is used to determine which method is "best", again without computing their absolute value. ~~Exhibit 2~~ Schedule 2 restates page 1 of ICC Staff Exhibit 1 with two revisions to the additive method. First each month's basis calculation was tested for statistical significance. Second, the absolute value of the monthly percent error estimates was averaged rather than the actual value. Accordingly, Ameren does not believe that the Staff method will identify the "best" basis adjustment.

Q. Mr. Christ also outlines a multiplicative method for determining basis adjustment. Does Ameren agree with the use of this method for determining the basis adjustment?

A. In most months, the difference in basis adjustments calculated using the additive method as opposed to the multiplicative method is *de minimus*. In Mr. Christ's

Schedule 2 to ICC Exhibit 4.0, he compares the differences between the multiplicative and additive methods for the period June 2000 through February 2001 using daily price data collected from June 1999 to February 2000. Based on Mr. Christ's figures, the average difference between the methods was a $2.42 premium to the additive method, or roughly 4% of the average underlying Cinergy forward price of $60.89.

However, the additive method that Mr. Christ used for this comparison was not the same as that advocated by Ameren and therefore made no adjustments for missing data points and included no tests for statistical significance. Also, the $2.42 average which Mr. Christ calculated should have used the absolute value of the differences between the two methods rather than the actual values.

If those three adjustments are made, the difference between the two methods is $1.64 per MWh (see ~~Exhibit H~~ Schedule 2), or less than three percent of the underlying Cinergy forward price. If the summer months are excluded, the difference is less than 2%.

Therefore, Ameren sees no significant advantage to one method versus the other. Additionally, a review of any of the Altrade screen prints will demonstrate that basis spreads are quoted in dollars per MWh, rather than using a formula. For those reason Ameren would still prefer an additive method. However, if other parties to this issue were more comfortable with a multiplicative method, Ameren would be willing to adopt such a method in the interest of consistency. That being said, Ameren would continue to advocate adjustments of some kind for price spikes and missing data.

Q. Unicom Energy witness Braun contends that, for "at least three good reasons", Into ComEd should be established as the uniform base index for calculating market values in the State of Illinois. Do you agree?

A. No. Mr. Braun's first reason is that the Into ComEd market is the most liquid in Illinois. He provides no support for this assertion, but even if true it is not much of a distinction. Liquidity is still a major concern at the ComEd hub. As noted by ICC witness Zuraski, IIEC witness Bowyer, and New Energy witnesses O'Connor and Baumschriber, there is considerable concern about ComEd's ability to manipulate prices at that hub because of the lack of activity there. The liquidity at that hub might well be a good reason **not** to choose the ComEd market for a base index. Ameren will not enter that debate. However, liquidity concerns about that hub are clearly a reason not to require its use elsewhere at this time. Experience may well demonstrate in the future that the Into ComEd hub is a viable mechanism for determining market value throughout Illinois; we are not at a point where we can conclude that today.

As a second reason for choosing the ComEd hub, Mr. Braun states that "non-Illinois hubs create difficult problems in translating non-Illinois prices into Illinois prices". He suggests that use of the Into ComEd hub would eliminate the need to add a basis adjustment for customers in the ComEd service territory. That may be true, but the basis adjustment problem for the rest of the state would be no better, if not worse.

Basis adjustments for Illinois Power and Ameren markets are calculated based on daily and forward data from one of the most liquid hubs in the country (Into Cinergy) and daily data from the less liquid Southern MAIN. Mr. Braun would propose substituting Into ComEd for Into Cinergy, resulting in using three variables of lesser liquidity to calculate a fourth.

Ameren examined Price Waterhouse Coopers' Next Day PowerTrax Index, which reports daily prices and volumes for the major hubs. According to PowerTrax, for the period September 1, 1999 through August 31, 2000 an average of approximately 94 daily 50-MW contracts traded at the Cinergy hub each day. During the same period, an average of 6 daily 50-MW contracts traded at the ComEd hub each day. There were 45 days during the period when no daily Into ComEd contracts traded.

Again, the basis adjustment problem is a good reason for Ameren and Illinois Power **not** to choose ComEd as a base index.

Lastly, Mr. Braun asserts that a single base index would "lay a solid framework for competition" and "be easier for ARES and customers to interpret and plan against". That would be true only if his first two points were correct.

Again, this is not to say that Into ComEd should not be used to determine market value for the ComEd service territory. Into ComEd may prove to be adequate for market value purposes. That can only be proved by experience, however, and Ameren does not object to the Commission allowing Into ComEd to be used in the ComEd area for that purpose.

Ameren does object to being required to abandon the use of Into Cinergy, the far more liquid hub, for the purpose of joining the Into ComEd experiment.

Q. Mr. Braun expresses concern that Ameren and Illinois Power use the same Southern MAIN off-peak data but reach different results. Please respond.

A. The data submitted by both Ameren and IP were intended primarily to demonstrate calculation methods. No attempt was made to verify that the same data was being used to demonstrate these methods. In this case, Ameren was using data for the twelve months ended December 31, 1999. Illinois Power used data for the twelve months ended approximately May 1, 2000. This explains the differences for the months of January through April. Differences in the remaining months are the result of minor variations in the Southern MAIN prices provided by the data sources used by Ameren and Illinois Power.

Ameren would agree with Mr. Braun that to the extent possible the utilities should cooperate to ensure that data sources, which are supposed to be identical, actually are identical.

Q. New Energy witness Kagan recommends that Ameren use Black's model to reflect an optionality component in the market value. Please respond.

A. As mentioned earlier, Ameren agrees in principle with the concept of including an load-uncertainty adder in market values. However, Mr. Kagan's suggestion to use Black's model would require significant revision.

First, As Mr. Kagan notes, Black's model assumes that the holder would only exercise the option when it was "in the money", that is, when the strike price is lower than the market price for a call or when the strike price is higher than the

market price for a put. However, in this case, the option will be exercised only when the customer's actual useage in an hour varied from that which was forecast. This reduces the value of the option, but Mr. Kagan provides no support for his proposal to recognize this reduction in value by discounting the Black's Model result by 25% to 50%.

Second, again as Mr. Kagan notes, electricity price distributions are not consistent with the assumptions behind Black's model.

Third, Mr. Kagan describes the inputs necessary to use Black's Model as readily available. However, the attempt here is to calculate an hourly option. What is the time to expiration of an hourly option? What is the forward price for a given hour a year in the future? What is the hourly price volatility?

Lastly, the value of such an option will depend on load volatility as well as price volatility and the correlation between the two. Mr. Kagan does not address how Black's model would be modified to address these issues.

Q. Does this conclude your rebuttal testimony?

A. Yes, it does.

Schedule 1

A. scenario: spot market prices collected in January 2000
and there is a three month period between transaction month and first subsequent month for which forward market prices are estimated

I. Additive Basis Adjustment which a difference between spot prices added to forward prices — the difference calculated for each month

	percent estimation errors					
	into-Entergy/ into-Cinergy	into-TVA into-Cinergy	Mid-Columbia/ COB*	alo Verde/ COB*		
March 2000 transaction month**	-1.61%	-0.83%	1.00%	-9.56%	overall average	range
June 2000 transaction month**	-22.12%	2.11%	-8.27%	-0.26%	-4.94%	24.23%
	eastern ave	-5.61%	western ave	-4.27%		
	June overall ave exc for into-TVA/into-cinergy			-10.21%		
	June ave in western markets			-4.26%		

II. Multiplicative Basis Adjustment which is a monthly ratio of spot prices multiplying forward prices — the ratio calculated for each month

	percent estimation errors					
	into-Entergy/ into-Cinergy	into-TVA into-Cinergy	Mid-Columbia/ COB*	alo Verde/ COB*		
March 2000 transaction month**	7.96%	1.57%	-4.67%	-6.78%	overall average	range
June 2000 transaction month**	-18.65%	4.52%	-15.21%	2.70%	-3.57%	26.61%
	eastern ave	-1.15%	western ave	-5.99%		
	June overall ave exc for into-TVA/into-cinergy			-10.38%		
	June ave in western markets			-6.25%		

Scenario is same as above (A scenario), but the averages are calculated after taking the absolute values of the monthly errors for different market pairs
Significance adjustment made for Additive basis method

I. Additive Basis Adjustment which a difference between spot prices added to forward prices — the difference calculated for each month

	percent estimation errors					
	into-Entergy/ into-Cinergy	into-TVA into-Cinergy	Mid-Columbia/ COB*	alo Verde/ COB*		
March 2000 transaction month**	6.06%	1.68%	5.55%	11.54%	overall average	range
June 2000 transaction month**	22.13%	1.83%	9.15%	7.72%	8.15%	20.80%
	eastern ave	7.81%	western ave	8.49%		
	June overall ave exc for into-TVA/into-cinergy			13.00%		
	June ave in western markets			8.49%		

II. Multiplicative Basis Adjustment which is a monthly ratio of spot prices multiplying forward prices — the ratio calculated for each month

	percent estimation errors					
	into-Entergy/ into-Cinergy	into-TVA into-Cinergy	Mid-Columbia/ COB*	alo Verde/ COB*		
March 2000 transaction month**	9.60%	4.90%	6.27%	9.36%	overall average	range

June 2000 transaction month	16.65%	4.62%	[illegible]	[illegible]%	9.65%	13.63%
	eastern ave	9.49%	[illegible]	10.31%		
	June overall ave exc of inc TVA/no charge			14.62%		
	June ave in western markets			10.21%		