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MISSOURI PUBLIC SERVICE COMMISSION

UTILITY OPERATIONS DIVISION

REBUTTAL TESTIMONY

OF

MICHAEL S. PROCTOR

UNION ELECTRIC COMPANY

CASE NO. EO-98-413

Jefferson City, Missouri

February, 1999

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Q. WHAT IS YOUR NAME AND BUSINESS ADDRESS?

A. My name is Michael S. Proctor. My business address is 301 West High St., P.O. Box 360, Jefferson City, Mo. 65102-0360.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by the Missouri Public Service Commission as Chief Regulatory Economist in the Electric Department.

Q. WHAT IS YOUR EDUCATIONAL BACKGROUND AND WORK EXPERIENCE?

A. I have Bachelors and Masters of Arts Degrees in Economics from the University of Missouri at Columbia, and a Ph.D. degree in Economics from Texas A&M University. My previous work experience has been as an Assistant Professor of Economics at Purdue University and at the University of Missouri at Columbia. Since being on the Staff of the Missouri Public Service Commission (Commission) from June 1, 1977, I have presented testimony on weather normalization, class cost-of-service and rate design for both electric and natural gas. In addition, I have worked in the areas of load forecasting, resource planning and transmission pricing of electric systems.

KEY ELEMENTS IN THE REVIEW

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. The purpose of my testimony is to provide the Commission with a review of the key elements that make up the Midwest Independent System Operator (ISO) structure. Based on an evaluation of these elements, I will make a recommendation to the Commission regarding whether or not it should approve the March 30, 1998 Application of Union Electric Company, d/b/a AmerenUE, to join the Midwest ISO. AmerenUE's request was in response to the Commission's Report And Order of February 21, 1997 in Case No. EM-96-149, respecting the Application of Union Electric Company to merge with CIPSCO Inc.

Q. WHAT SPECFIC WORK EXPERIENCE DO YOU HAVE THAT RELATES TO THE ISSUE BEING ADDRESSED IN THIS SPECIFIC CASE?

A. Beginning in the summer of 1995, as a representative of the Commission, I started attending meetings of the Southwest Power Pool's (SPP's) Pricing Methodology Task Force (PMTF), which has become the SPP Regional Price Working Group (RPWG). The purpose of the PMTF was to develop a regional transmission tariff for the specific purpose of eliminating pancaked transmission rates. The PMTF spent over 20 months in the review and evaluation of alternative transmission rate designs. In the fall of 1997, the SPP Board of Directors approved a regional transmission rate for short-term, non-firm and firm service. The Federal Energy Regulatory Commission (FERC) approved the proposed rate to go into effect prior to the summer of 1998.

I attend meetings on a regular basis of the RPWG, which I have noted is the successor to the PMTF. The RPWG developed a long-term, point-to-point regional tariff

that was submitted to the FERC in December 1998 by SPP. Currently, the RPWG is working on a tariff that would include long-term, network service and would revise the other regional rates as part of a proposed SPP ISO.

Starting in the winter of 1997, after state regulators were invited to join in the discussions of various working groups, I began attending meetings of the Midwest ISO Pricing Work Group. The purpose of the Midwest ISO Pricing Work Group was to develop the regional transmission rates for the Midwest ISO. On January 15, 1998, the Midwest ISO participants filed, in what has been docketed as EC98-24-000, an application for FERC approval of the transfer of operational control of transmission facilities to the Midwest ISO. Concurrently, the Midwest ISO participants filed, in what has been docketed as ER98-1438-000, for FERC approval of the Midwest ISO Open Access Transmission Tariff (Midwest ISO Tariff) and an Agreement Of Transmission Facilities Owners To Organize The Midwest Transmission System Operator, Inc. (Midwest ISO Membership Agreement).

Q. AS A REPRESENTATIVE OF THE COMMISSION ON THESE PRICE WORKING GROUPS WHAT WAS YOUR PRIMARY RESPONSIBILITY?

A. My primary responsibility as a representative of the Commission on these working groups was to present on those matters where the Commission had not taken a position, the concerns and preferences that the Staff of the Commission has with various proposals for regional transmission rates. On those matters where the Commission has taken a position or expressed a view, I sought to express the Commission's position or view.

Q. WHAT WERE THE BASIC CONCERNS REGARDING REGIONAL TRANSMISSION RATES THAT YOU HAVE EXPRESSED IN THESE REGIONAL PRICING WORK GROUPS?

A. The two major concerns that I raised in these regional pricing work groups were:

1. Will the regional pricing proposals promote efficiency in the location of new generation and the operation of generation?

2. Will the regional pricing proposals impose unwarranted cost shifts onto Missouri retail ratepayers?

My rebuttal testimony in this case will focus on these two concerns.

Q. DOES YOUR TESTIMONY RECOMMEND ANY CONDITIONS THAT THE COMMISSION SHOULD UTILIZE IN ADDRESSING THESE TWO CONCERNS?

A. Yes, it does. It is my testimony that these two areas of concern are as yet unresolved for the Midwest ISO. Therefore, I am recommending that the Commission grant AmerenUE permission to join the Midwest ISO for an initial period of six years. AmerenUE should file with the Commission, no later than six months prior to the end of this initial six-year period, a request to join the Midwest ISO, or perhaps another ISO, on a permanent basis. In the context of this filing, AmerenUE should address the following two conditions:

1. An equitable resolution of the post-transition application of the Midwest ISO tariff to bundled retail load that has been approved by the FERC; and

2. Adoption of a transmission planning criterion which utilize incentives and disincentives for location of generation that has been approved by the FERC.

Q. ARE THERE OTHER AREAS OF CONCERN WHICH THE COMMISSION SHOULD CONSIDER WITH RESPECT TO APPROVAL OF AMERENUE JOINING THE MIDWEST ISO?

A. Yes, there are. Transmission pricing is only one aspect of the ISO structure that the Commission should be concerned about. In addition to pricing, the Commission should take into consideration governance, operations and planning as major components of an ISO structure before it grants approval for a Missouri jurisdictional utility to join.

Q. WHAT DO YOU MEAN BY GOVERNANCE OF AN ISO?

A. Governance of an ISO is the rules, agreements and by-laws that determine the persons who have the authority to make policy decisions within the organization.

Q. WHY IS GOVERNANCE OF AN ISO AN IMPORTANT ISSUE TO BE CONSIDERED BY THE COMMISSION?

A. The governance of an ISO is directly linked to the level of independence that the ISO will have. If the owners of transmission are corporately tied to the owners of generation, then these transmission owners are not independent from parties that have a direct economic interest in how the transmission system is used. Independence requires that transmission owners with corporate ties to generation not be allowed to dictate or otherwise impose policies that will control the use of the regional transmission grid. Thus, independence is a key to having transmission service offered to all transmission customers on a non-discriminatory basis.

Q. DOES YOUR TESTIMONY RECOMMEND ANY CHANGES IN THE GOVERENANCE OF THE MIDWEST ISO?

A. No, it does not.

Q. WHAT DO YOU MEAN BY OPERATIONS OF AN ISO?

A. Operations of an ISO are the rules, agreements and by-laws that determine how the transmission network is to be operated and who has control of these operations.

Q. WHY IS OPERATIONS OF AN ISO AN IMPORTANT ISSUE TO BE CONSIDERED BY THE COMMISSION?

A. If an ISO does not have operational control of the transmission system, then it will not be able to effectively implement the policies of its policy makers that are aimed at meeting the goal of non-discriminatory access to the transmission system. The most critical operational issues for an ISO are that it is both the scheduling and security agent for the regional transmission grid. As the scheduling agent, the ISO determines what transmission is available and whether or not a request for transmission service can be granted. As the security agent, the ISO determines what must be done when the security/reliability of the regional transmission grid is threatened.

A key issue for both scheduling and security is how transmission congestion will be managed. Transmission congestion occurs when either there are more requests for transmission service than can be granted on a reliable basis (scheduling), or when an emergency condition arises that threatens the reliability of the transmission grid (security).

Q. DOES YOUR TESTIMONY RECOMMEND ANY CHANGES WITH RESPECT TO OPERATIONAL CONTROL OR CONGESTION MANAGEMENT FOR THE MIDWEST ISO?

A. With respect to operational control, there are no recommended changes. With respect to congestion management, I am not concerned with the methods proposed by the

Midwest ISO, but I am concerned about the lack of congestion pricing in the Midwest ISO proposal. I will show that this can easily be resolved by having an initial auction for firm rights to transmission across congested interfaces.

Q. WHAT DO YOU MEAN BY PLANNING OF AN ISO?

A. Planning of an ISO is the function of determining the need to expand the transmission system or relieve constraints, as well as how the determination of need to expand or relieve constraints is made. In addition, planning includes the question of who will build and own new facilities, as well as how the cost of new facilities will be recovered.

Q. WHY IS PLANNING BY AN ISO AN IMPORTANT ISSUE TO BE CONSIDERED BY THE COMMISSION?

A. Transmission planning by the ISO will determine if, and when, transmission service will be available in the event that customers request more transmission service than that which is currently available. The ISO performs planning studies that determine on a region-wide basis where, and when, the transmission system will be expanded to meet the commercial and security needs of the transmission system. As with the operation of the transmission system, if the planning function is left with transmission owners having corporate ties to generation, there will not be the appropriate assurance that regional transmission service will be available on a non-discriminatory basis.

Q. DOES YOUR TESTIMONY RECOMMEND ANY CHANGES IN THE PLANNING OF THE MIDWEST ISO?

A. Beyond the recommendation that incentives and disincentives for location of generation be implemented, no further changes are recommended in my testimony.

Q. ARE THERE ANY OTHER KEY ELEMENTS THAT THE COMMISSION NEEDS TO CONSIDER IN MAKING ITS DETERMINATION OF WHETHER OR NOT TO ALLOW AMERENUE TO JOIN THE MIDWEST ISO?

A. Yes there are. The fundamental question is what benefits are there to allowing AmerenUE to join an ISO at this time. My testimony will begin with this issue and will then proceed through each of the other key elements.

BENEFITS AND RISKS OF JOINING AN ISO

Q. WHAT ARE THE BENEFITS TO AMERENUE JOINING AN ISO AT THIS TIME?

A. In his direct testimony, AmerenUE witness R. Alan Kelley lists three advantages:

1. A more reliably operated transmission system;

2. Ultimately, lower transmission costs as a result of planning that is carried out on a larger basis; and

3. Lower cost access to a larger group of power suppliers for Missouri retail customers.

Q. DO YOU AGREE WITH MR. KELLEY THAT AN ISO WILL PROVIDE A MORE RELIABLY OPERATED TRANSMISSION SYSTEM?

A. Yes, I do. However, I would add that an ISO enhances the ability for transmission customers to have the same or better level of reliability on a non-discriminatory basis. FERC Orders 888 and 889 required open access to the transmission system for transactions occurring at the wholesale level. In order to assure non-discriminatory open access to transmission facilities, the FERC functionally separated

transmission from the power marketing (merchant) business of the vertically integrated utility, and required transmission providers to post available transfer capability (ATC) on an electronic bulletin board called OASIS (Open Access Same-time Information System). All power transactions are required to request service from the transmission providers who must provide this service if the transmission capacity is available.

In Orders 888 and 889, the FERC came short of (1) requiring owners of transmission assets to turn over the operations of their systems to an independent operator with no connection to the merchant business, or (2) requiring owners of transmission assets also involved in the merchant business to divest their transmission assets. As the wholesale exchange of electricity has grown since FERC Order 888, it has become clear that the number and frequency of transactions in the wholesale markets for electricity have significantly increased both in number and geographic scope. The current methods for approving this expanded level of transactions imposes significant restrictions on the market that affect both reliability and the commercial viability of the transmission system.

Q. WHAT ARE THE RESTRICTUIONS THAT THE CURRENT METHODS FOR APPROVING TRANSMISSION SERVICE IMPOSE ON THE MARKET?

A. First, the existing system is based on a contract path framework where the transmission customer must arrange a transaction from a point of delivery (POD) of generation into the transmission system to a point of receipt (POR) of generation into the distribution system with not only the transmission providers at each end of the transaction, but also with a chain of intermediate transmission providers connecting the two. Each transmission provider operates the transmission system in what is called its

control area, which is generally its service territory. Within that control area, each control area operator monitors on a real-time basis the flow of electricity either into or out of the control area. ATC is a measure of the amount of additional flow of power that a control area estimates that it can allow to come into its system from an adjoining control area. If ATC is greater in amount than the transmission service being requested by the transmission customer, then the transmission provider, i.e., the control area, must approve the transaction.

The problem is that power does not flow by a contract path. Instead, power flows by the laws of physics, and this will result in flows into control areas that are not on the contract path. The unintended effect may be that the transmission facilities of a control area not on the contract path become over loaded. In this case, the control area will ask for line loading relief from the security coordinator, which is the entity that provides the security assessment and emergency operations coordination for a group of control areas. This inability of separate control areas to evaluate the actual power flows on the system is a threat to the reliability of the system.

In addition, there is a concern that the functional separation of transmission operations from the merchant function does not prevent the transmission provider from making operational decisions that will favor the utility's merchant function. For example, since it is up to the transmission provider to calculate and post ATC, it is possible that lower or higher levels of ATC are posted when that favors the utility's merchant function.

Q. HOW DOES AN ISO "FIX" THESE PROBLEMS?

A. First, an ISO will have real-time information on load flows from all points of interchange between control areas, as well as loading on transmission facilities that have a high potential for congestion (i.e., transmission facilities that run at or near full capacity). This information will allow the ISO to determine the impact of any proposed transaction on the transmission system. Transmission customers need not arrange transactions on a contract path basis, rather they can request transmission service from the ISO and obtain an independent evaluation of whether or not the request for transmission service can be granted. This should reduce the problems of non-contract path power flows and thereby significantly increase the reliability of the transmission system. In addition, since the evaluation is being done by an entity that has no connections to the merchant generation function, participants should have greater assurance that transmission access is truly being provided on a non-discriminatory basis.

I will address the extent to which the Midwest ISO proposal provides additional reliability and commercial benefits in the "governance" and "operations" sections of my testimony.

Q. DO YOU AGREE WITH MR. KELLEY THAT IN THE LONG RUN, TRANSMISSION COSTS WILL BE LOWER BECAUSE THE PLANNING IS BEING CARRIED OUT ON A LARGER BASIS?

A. I agree that planning additions to the transmission system should be done on a regional basis with the overall objective of minimizing the long-run delivered cost of electricity. The objective will not necessarily be to minimize the cost of the transmission system. For example, if a transmission upgrade is not built and the opportunity cost of not building the upgrade is greater than the cost of constructing the added transmission

facilities, then the wrong decision has been made even though transmission costs have been minimized.

Q. WHAT DO YOU MEAN BY THE OPPORTUNITY COST OF NOT BUILDING THE TRANSMISSION UPGRADE?

A. In general, the opportunity cost of not doing something means measuring or estimating the costs that will be incurred when the best remaining alternative is taken. In transmission planning, the addition of facilities occurs in order to relieve transmission congestion that is occurring at some place on the system. When transmission congestion occurs, customers that are downstream from the congested facilities will pay higher prices for electricity than they would have otherwise had to pay. This is because the cheapest generation available downstream of the congested transmission facilities costs more than the cheapest generation available upstream of these facilities. This higher downstream cost to the customer for generation is the opportunity cost of not building the additional transmission facilities.

The key element with regard to transmission planning is that an ISO can evaluate the need for transmission expansion from two different perspectives than what can be done in a system in which each control area is evaluating transmission expansion. First, transmission congestion needs to be evaluated at a regional level rather than at a local control area level. For example, congestion may occur because of requests for "wheeling through" a control area, with the opportunity costs occurring to customers outside of the control area experiencing the congestion. Second, the ISO can conduct an independent evaluation of the need for transmission, thereby eliminating concerns that the transmission provider is giving deference in its decisions to an affiliate involved in the

merchant generation function. In this context, the objective of the ISO is to minimize overall costs rather than to maximize the profits of a specific utility.

I will address the extent to which the Midwest ISO maximizes the benefits from regional transmission planning in the "planning" section of my testimony.

Q. DO YOU AGREE WITH MR. KELLEY THAT WITH AN ISO MORE SUPPLY OPTIONS AT A LOWER COST WILL BE AVAILABLE TO RETAIL CUSTOMERS OF AMERENUE?

A. Yes, this will likely be the case. The reason for this is that ISOs eliminate pancaked transmission rates. I will address the extent to which the Midwest ISO proposal provides greater opportunities for lower cost supply options in the "pricing" section of my testimony.

Q. ARE THERE ANY OTHER BENEFITS TO AMERENUE JOINING AN ISO?

A. Yes, there are. An additional benefit of an ISO is that it provides a framework in which issues of market power can be addressed. At the present, the primary focus of market power is in the wholesale markets for electricity. Both the Missouri and Illinois state regulatory commissions reviewed market power before allowing Union Electric and Central Illinois Public Service Company to merge. In addition, the FERC reviewed market power in its approval process. The Missouri Commission determined that as a condition of approving the merger, the merger applicant would have to agree to join an ISO.

There are two reasons that an ISO is important relative to the question of market power. First, having the transmission system operated by an independent entity

eliminates the opportunity for the utility to exert vertical market power by restricting access to markets. Second, horizontal market power (the ability to profitably increase price in a given market) is very much a regional issue. This is because, at least in the next five to ten years, competition to the incumbent utility's generation will primarily come from utilities located within the same region, but not necessarily within the same state. For example, the primary competitors in the generation market to Ameren will come from utilities to which Ameren is interconnected. According to the February 27, 1998 Report of Ameren to the Public Service Commission of Missouri on Market Power Issues, in Case No. EO-98-261, this list includes:

American Electric Power;
Associated Electric Cooperative, Inc.;
Basin Electric Power Cooperative;
Central & Southwest Corporation;
Central Illinois Light Company;
Cinergy Corp;
Commonwealth Edison Company;
Dairyland Power Cooperative;
Entergy Corporation;
IES Utilities Inc.;
Illinois Power Company;
Interstate Power Company;
Kansas City Power & Light Company;
Kentucky Utilities Company;
Mid-American Energy;
Minnesota Power & Light Company;
Minnkota Power Cooperative Inc.;
Nebraska Public Power District;
Northern Indiana Public Service;
Northern States Power Company;
Omaha Public Power District;
Otter Tail Power Company;
Southern Illinois Power Company;
Springfield, IL;
St. Joseph Light & Power Company;
Tennessee Valley Authority;
United Power Association;
UtiliCorp United, Inc.;
Western Resources, Inc.;

The geographic region covered by this list of utilities includes Ohio, Pennsylvania and Virginia to the east; Kentucky, Tennessee, Arkansas, Mississippi and Louisiana to the south; Oklahoma, Kansas and Nebraska to the west; Iowa, Minnesota and Wisconsin to the north; as well as Missouri, Illinois and Indiana in the middle. The majority of the utilities proposing to join the Midwest ISO are from these middle states.

Q. IN YOUR OPINION IS THE MIDWEST ISO LARGE ENOUGH TO PROVIDE A FRAMEWORK FOR MONITORING AND MITIGATING POTENTIAL MARKET POWER PROBLEMS?

A. In my opinion, the Midwest ISO is on the margin of being too small to effectively monitor and mitigate potential market power problems. However, it is a good start in the right direction. ISOs are forming that are adjacent to the Midwest ISO – the Southwest Power Pool ISO to the west, the MAPP ISO to the north and the Alliance ISO to the east. The FERC will need to carefully consider whether or not these ISOs can monitor and mitigate potential market power problems on a coordinated basis or will they need to merge. I should note that the largest deficiency in ISO formation is to the south of the Midwest ISO, involving utilities located in the Southeastern Electric Reliability Council (SERC).

Q. WHAT ARE THE RISKS OF AMERENUE JOINING AN ISO?

A. There are two primary risks for Missouri retail ratepayers associated with AmerenUE joining an ISO.

First, if the ISO is too small, the fixed costs of starting up the ISO could become substantial for the utilities making up the ISO. These costs would ultimately be passed on to retail ratepayers

Second, retail customers from utilities with lower than average transmission costs face the risk of having to pay higher transmission rates than are currently included in their bundled rates. This occurs when and if the ISO prices all end-use loads within the region on a single transmission rate calculated as the average of region-wide costs.

Q. HOW DOES THE MIDWEST ISO INTEND TO RECOVER ITS COSTS?

A. Initially, the transmission owners will contribute to the start-up costs of the Midwest ISO. However, as soon as the Midwest ISO obtains financing, it will repay those contributions. The start-up cost for the Midwest ISO will then be included in cost recovery through a charge for use of the transmission system. The Midwest ISO intends to recover its costs through a 15 cents per MWH rate adder during the transition period (first six years of operation). In addition, the Midwest ISO will have a separate charge for scheduling that will be a per schedule charge that does not vary with the MWHs involved in the scheduled transaction. Any ISO costs in excess of the 15 cents per MWH will be deferred and recovered after the transition period amortized over five years.

Q. GIVEN THIS SYSTEM OF COST RECOVERY, WHAT IS THE RISK TO AMERENUE'S MISSOURI RETAIL CUSTOMERS?

A. During the transition period, the rate adder is capped at 15 cents per MWH. In response to a Staff data information request, Mr. Kelley states that the Midwest ISO estimates its start up cost to be $50 million. If these costs are high compared to the MWHs of transactions over which they can be recovered, then subsequent to the transition period, there could be a significant increase in the rate adder designed to collect the ISO's unrecovered costs from the transition period. In order for a 15 cents per MWH adder to collect $50 million would require over 333,000,000 MWH. Assuming these cost are spread over a ten-year period, this would require thirty three million megawatt-hours in transactions per year.

Q. DOES THE MIDWEST ISO INTEND TO PRICE ALL CUSTOMERS ON A SINGLE, AVERAGE TRANSMISSION RATE?

A. Section II, sub-section B of Appendix C[1] to the Midwest ISO Membership Agreement[2] indicates that rates set for zones (individual control areas of the transmission providers) would stay in effect. Nevertheless, the intent is to ultimately combine zones to the greatest extent possible and to average the transmission costs for these combined zones. The FERC, in its September 16, 1998 Order conditionally approving the Midwest ISO, directed the Midwest ISO to "establish procedures to ensure that a superseding proposal can be negotiated and filed with the Commission at least six months before the end of the minimum six-year transition period." [FERC Order in Docket Nos. ER98-1438-000 and EC98-24-000 at pages 63-64 (copies filed with the Commission by AmerenUE on October 15, 1998)]. This directive from the FERC is based on its opinion that "the post-transition rate process it too open-ended and left, in large degree, to the discretion of the Transmission Owners." [Ibid., at page 63]. The FERC goes on to say that "[w]e shall not preclude, at this time, a request to extend that initial rate method for more than six years, but we will insist that this issue be revisited formally at that time." [Ibid., at pages 63-64].

Q. WHAT ARE THE RISKS THAT BUNDLED RETAIL CUSTOMERS OF AMERENUE WILL BE PLACED ON AN AVERAGE SYSTEM TRANSMISSION RATE FOR THE MIDWEST ISO?

A. In my opinion it is very difficult to determine at this time whether, by the end of the six year transition period, Missouri retail customers of AmerenUE will still be served on bundled rates or will be offered access to purchase generation from competitive

[1] Pricing and Revenue Distribution, Return of Start-Up Costs and Renegotiation Procedures for Grandfathered Agreements.
[2] Agreement of Transmission Facilities Owners to Organize the Midwest Independent System Operator, Inc.

suppliers of electricity. From the FERC Order it is also difficult to determine the likelihood that Midwest ISO utilities will be forced to pay an average system rate for their bundled retail customers. In the past it appeared that the FERC promoted a single, average ISO rate. However, the September 16, 1998 FERC Order is hopeful in that it recognizes that this is a difficult issue that should not be left to a negotiated settlement process in which transmission owners have too much discretion, and that it, i.e., the FERC, is open to "novel" or "alternative" rate methods.

MIDWEST ISO GOVERNANCE

Q. WHAT IS THE GOVERNANCE STRUCTURE FOR THE PROPOSED MIDWEST ISO?

A. Members of the Midwest ISO elect the Board of Directors (Board). Each member is entitled to cast one vote for each of the seven Board positions. Of the seven directors, four must have corporate leadership experience. The other three directors must have experience in either electric transmission or commercial markets. Directors are prohibited from having any material business relationship or other affiliation with any member or user or affiliate of a member or user of the Midwest ISO. In addition, all directors, agents, officers and employees of the Midwest ISO are prohibited from having a direct financial interest in, or standing to financially benefit from, any transaction with any of the Owners, Members or Users of the Midwest ISO.

The governance structure includes two committees: a Transmission Owners' Committee (TOC) and an Advisory Committee. The TOC is composed of one representative from each transmission owner whose company is a signatory to the

Midwest ISO Membership Agreement. As originally filed with the FERC, the TOC was vested with some very specific authority:

1. Unanimous vote of the TOC may unseat the ISO Board;

2. Unanimous approval of the TOC is required before changes can be made to transmission pricing;

3. Unanimous approval of the TOC is required before changes can be made to the number of directors or their qualifications; and

4. Unanimous approval of the TOC is required before the ISO can deviate from the requirements of the North American Electric Reliability Council (NERC) and all regional reliability councils associated with the Midwest ISO region.

The Advisory Committee consists of 14 representatives from various stakeholder groups, including the transmission owners (2 representatives), transmission dependent utilities (2 representatives), non-utility generators (2 representatives), power marketers/brokers (2 representatives), eligible end-use customers (2 representatives), state utility regulators (2 representatives), public consumer advocates (1 representative) and environmental groups (1 representative). The Board may revise or expand the stakeholder groups. The Advisory Committee is a forum for its members to be apprised of Midwest ISO activities and to provide information and advice to the Board on policy matters. The Advisory Committee does not exercise any authority over the Board or the Midwest ISO.

Q. ARE THERE ANY SPECIFIC PROBLEMS WITH THIS GOVERNANCE STRUCTURE THAT WOULD CAUSE YOU TO RECOMMEND AGAINST AMEREN'S JOINING THE MIDWEST ISO?

A. In its September 16, 1998 Order, the FERC required the applicants to revise the Midwest ISO Membership Agreement to place any action to unseat the Board before

the entire ISO membership, not just the transmission owners. While the FERC did not specifically remove the condition of unanimous TOC approval before transmission pricing could be changed, it limited this right to the six-year transition period. The FERC also required a condition in the Midwest ISO Membership Agreement giving the TOC exclusive control over the Midwest ISO's Bylaws to be removed because the Bylaws will be a part of a rate schedule on file at the FERC, and therefore subject to the FERC's approval.

Given these changes, I have no concerns about governance that would cause me to recommend against Ameren joining the Midwest ISO, nor do I have any proposed changes in governance that should be required before Ameren is allowed to join the Midwest ISO.

MIDWEST ISO OPERATIONS

Q. TO WHAT EXTENT WILL THE MIDWEST ISO HAVE CONTROL OF THE TRANMISSION SYSTEMS OF ITS MEMBER TRANSMISSION OWNERS?

A. The Midwest ISO will have functional control over the operations of the transmission systems of its member transmission owners. The exercise of this functional control includes directing employees of the transmission owners to perform certain actions, including taking transmission facilities in and out of service. The transmission owners will physically operate and maintain the transmission facilities.

Q. WHAT ARE THE OPERATIONAL DUTIES OF THE MIDWEST ISO?

A. The Midwest ISO will perform the functions of scheduler, controller and security coordinator. In its function as scheduler, the Midwest ISO will:

1. Calculate ATC on the transmission system;
2. Maintain OASIS information;
3. Provide or arrange for ancillary services under the tariff; and
4. Receive, approve, schedule and confirm requests for transmission services.

In its function as controller, the Midwest ISO will:

1. Monitor loading and voltages in real time;
2. Approve scheduled transmission outages;
3. Approve switching operations; and
4. Approve planned maintenance requests.

In its role as security coordinator, the Midwest ISO will:

1. Perform load flow studies to identify security problems;
2. Monitor real-time data to determine whether any control areas are experiencing generation capacity deficiencies;
3. Redispatch generation and shed load when the security of the system is threatened;
4. Develop regional security plans and emergency operating procedures; and
5. Assess penalties to ensure compliance with ISO directives.

In all three of these operating functions, the Midwest ISO must coordinate with non-member control areas, other ISOs and regional reliability councils. In all three of these functions, the Midwest ISO must evaluate information on the status of the transmission system on a real-time basis.

Q. DOES THE MIDWEST ISO PROPOSAL ELIMINATE THE NEED FOR INDIVIDUAL CONTROL AREAS?

A. No, it does not. The Midwest ISO will take over the two major control area functions that relate to the competitive generation market; i.e., (1) determining the availability of transmission and (2) scheduling transactions. The function that will remain with the individual control area operators will be that of balancing load and generation within their control areas. This involves load forecasting and generation unit commitment to control the net of power into and out of their control areas. This

balancing of load and generation is done through setting the output levels of the utility's generation in such a way that what is scheduled as either net imports or exports is what is being metered at the control area's points of interconnection with the outside world. Because the moment-to-moment load within the region cannot be predicted with total accuracy, the control area operator will have specified units on automatic generation control. If for example net imports are 500 MWs and measured imports are 501 MWs, then the unit on automatic generation control will increase output thereby lowering net imports.

Q. WHAT CHANGE WILL OCCUR IN THE TRANSMISSION PROVIDERS CONTROL AREA BALANCING FUNCTION?

A. A significant change will occur in that control area operators will no longer have knowledge of the specific sources of generation related to the imports and exports for their control areas. They will only have knowledge of the net value to which they must balance. However, the control area operator will have knowledge of schedules and transactions involving all generation located within their control area, including any generation units not owned and/or operated by the utility.

Q. WHY DID THE MIDWEST ISO DECIDE TO LEAVE THE BALANCING FUNCTION WITH THE INDIVIDUAL CONTROL AREAS?

A. In order for the Midwest ISO to take over the balancing function, each utility would schedule generation to meet its forecasted load, but would need to turn over the control of that generation to the ISO. Currently, utilities serving bundled retail and wholesale (native) load customers dispatch the generation to balance the net imports/exports into their control areas. Moreover, the utilities do not know the exact

levels of their native load on a moment-to-moment basis, except that native load is the load they serve net of the scheduled imports and exports into the control area. Differences between actual and forecasted loads can at times be significant and require the adjustment of the generation dispatch by the control area operator. In order for the ISO to take over this balancing function would require the real-time control of generation facilities to adjust for the differences between actual loads and scheduled generation. The costs to achieve this level of generation control would add significantly to the costs of starting up the Midwest ISO, with few additional transmission benefits being added.

As States deregulate generation at the retail level, these costs will be incurred because competitive providers of generation will need to schedule generation to serve their customers, and incumbent utility providers will need to provide generation services on the same basis as their competitors. In addition, true-up procedures will need to be developed since scheduled generation will be based on load forecasts that cannot be 100 percent accurate. These are costs that I believe are associated with retail deregulation and are not necessary to incur until States have decided to go forward with the competitive supply of generation. Thus, I believe the decision to allow utilities to maintain their generation dispatch and control area balancing function to be a wise one. In addition, until a significant amount of retail load is unbundled throughout the region, it is not clear that there is a need for the Midwest ISO to become a single control area.

Q. WHAT WAS THE FERC'S RESPONSE TO THE MIDWEST ISO'S PROPOSAL TO LEAVE THE GENERATION DISPATCH AND LOAD BALANCING FUNCTION WITHIN THE EXISTING CONTROL AREAS?

A. In its September 16, 1998 Order, the FERC noted that "the dividing line between transmission control and generation control is not always clear because both sets of functions are ultimately required for reliable operation of the overall system. The entity that controls the transmission system, in this case, the proposed ISO, must also have some degree of control over generation." [Ibid., page 45]. Moreover, the FERC could not determine a specific "bright line" between generation and transmission with respect to the issue of the degree of control over generation. Therefore, the FERC required as a condition of approval that the Midwest ISO file no later than 60 days prior to the Transfer Date, a highly detailed and specific summary of procedures that tells how the scheduling function will be divided between the Midwest ISO and the local control areas. In addition, the FERC required the Midwest ISO to file 18 months after the Transfer Date, as a part of its monitoring plan, "the competitive and reliability effects of allowing current control area operators to perform some control area functions." [Ibid., page 47].

Q. RELATED TO ITS ROLE AS SECURITY COORDINATOR, WHAT DO YOU MEAN THAT THE MIDWEST ISO WOULD HAVE AUTHORITY OVER GENERATION REDISPATCH AND CURTAILMENT OF LOAD?

A. This function is related to situations in which something unexpected occurs on the system; e.g., a transmission facility goes out of service, or a generation unit is forced out of service, and the impact of this unexpected event threatens the security of the transmission system; i.e., the ability of the system to withstand disturbances and remain in operation. In these cases, the Midwest ISO has the authority to reconfigure the generation on the system (redispatch). In order to do this, the Midwest ISO is authorized

to contract with generators "in a manner that minimizes costs to the greatest extent practicable to effectively relieve the constraint." [Midwest ISO Tariff, Attachment K, Section I]. The objective of redispatch is to take actions that will prevent already scheduled firm service from being curtailed. This regional service is expected to be a significant improvement over the current system which calls for line loading relief and will likely involve the curtailment of already scheduled firm service. In the current system, when line loading relief is requested, it is up to the load serving entity to find alternative generation sources or curtail its load.

In addition to security threats caused by unexpected conditions, in the current system, firm transactions can be approved that result in overloading transmission facilities in a control area not on the contract path. Having an ISO that includes all transmission facilities within a large contiguous area should help eliminate a significant portion of these problems.

Q. IN ADDITION TO HANDLING EMERGENCY CONDITIONS, HOW DOES THE MIDWEST ISO PROPOSE TO MANAGE TRANSMISSION CONGESTION?

A. Transmission congestion is defined as a situation in which the granting of a request for new firm service would result in a transmission facility being overloaded; i.e., a transmission constraint being violated. In such a situation, the Midwest ISO would facilitate transmission capacity reassignment and generation redispatch. In concept, capacity reassignment is a market for firm transmission rights in which existing holders of capacity can sell their rights to firm transmission across a constrained transmission interface. The Midwest ISO will facilitate that market. In addition, the Midwest ISO will

facilitate a market for redispatch of generation by first identifying generators that could help relieve the transmission congestion by either decreasing or increasing their output. In addition the Midwest ISO would determine the impact on available transfer capability for these various redispatch options, and post this information electronically on a real-time basis. This information would allow the requestor of service to directly contract with the generators. In this way, the requestor of new transmission service can choose between capacity reassignment and redispatch, or can decide not to do any transactions if both options result in an overall economic loss.

CONGESTION PRICING OF TRANSMISSION

Q. IS THIS PROPOSAL FOR MANAGING TRANSMISSION CONGESTION A FORM OF CONGESTION PRICING OF TRANSMISSION?

A. Without some modification, the Midwest ISO proposal for congestion management does not include certain necessary elements for congestion pricing. There is a significant difference between the Midwest ISO's approach to congestion management and that used by other ISOs that charge the difference in locational marginal costs for the use of the congested interface. I will use a simplified numerical example to explain the difference.

In this example, assume there are just two control areas, each having generation of 1,000 MW. Also assume the load within each control area is 500 MW. The cost of generation in control area A is from $13/MWH up to $16/MWH (e.g., 250 MW at $13/MWH, 250 MW at $14/MWH, 250 MW at $15/MWH and 250 MW at $16/MWH). The cost of generation in control area B is from $18/MWH up to $21/MWH (e.g., 250

MW at $18/MWH, 250 MW at $19/MWH, 250 MW at $20/MWH and 250 MW at $21/MWH). The efficient solution to this example is for all the load to be served from generation in control area A, resulting in a market clearing price of $16/MWH (the marginal cost of generation = the highest incremental cost of generation).

Suppose however, that the transmission system connecting the two control areas cannot transfer more than 250 MWH of power. In this case, a truly competitive market would result in the cheapest 750 MWH of generation in control area A and the cheapest 250 MWH of generation in control area B being dispatched to serve the customers. This means that the marginal cost in control area A is $15/MWH and the marginal cost in control area B is $18/MWH. In a truly competitive market, these marginal cost would become the market clearing prices in each control area; i.e., $15/MWH in control area A and $18/MWH in control area B.

In the case of congestion pricing that is based on locational marginal cost pricing, all the generation in each area would be paid the marginal cost in its control area, and all the load would pay the marginal cost in its control area. Since 250 MWH of generation is from control area A, where generation is all paid $15/MWH, but is sold in control area B for $18/MWH, there is an unaccounted for amount of money equal to the differences in these two marginal costs times the 250 MWH. It is this difference of $3/MWH that is the transmission congestion price paid to the ISO for the 250 MWH use of the congested transmission facilities.

In the case of the Midwest ISO's congestion management proposal, a first-come, first-serve basis is used to determine who has the initial firm transmission rights. For purpose of illustration, assume that those rights belong to a 250 MW generator in control

area A with a marginal cost of $16/MWH. With the market clearing price of $18/MWH in control area B, this generator can make a profit of $2/MWH. Notice however, that if this generator actually serves the load in control area B, the generator with lower marginal costs of $15/MWH will not operate in control area A. Since there is only 750 MWH of load that can be served from generators in control area A, the generators with marginal costs of $13/MWH and $14/MWH will under bid the generator with marginal costs of $15/MWH. However, if this $15/MWH generator in control area A were to sell its power in control area B, it could make a profit of $3/MWH minus the cost of transmission.

Suppose the Midwest ISO market for transmission capacity reassignment were in place. The owner of the 250 MW of firm transmission capacity from control area A to control area B would be willing to sell that capacity for any amount over his profit margin of $2/MWH. Notice that at a price of $2/MWH, there is now competition among the three remaining generators in control area A to buy this capacity. Each of them can make more money by purchasing the transmission rights at $2/MWH and selling in control area B at $18/MWH than by selling in control area A at $14/MWH to $15/MWH.

The equilibrium solution to this competition is the same as in the case of congestion pricing. The market clearing price in control area A is $15/MWH, the market clearing price in control area B is $18/MWH, and the difference of $3/MWH is the payment for use of the transmission path between control area A and control area B. Notice at these prices, the three low cost producers in region A are indifferent about whether to sell in control area A or control area B because the difference in market prices in the two control areas is exactly equal to the price of transmission.

Q. ARE THERE ANY DIFFERENCES BETWEEN THE MIDWEST ISO AND LOCATIONAL MARGINAL COST PRICING OF TRANSMISSION CONGESTION?

A. The difference between this Midwest ISO and locational marginal cost pricing of congestion is only in who receives the payment of the $3/MWH transmission charge. In the Midwest ISO, the payment goes to the initial holder of the transmission rights. In the previous example, the initial holder of the transmission rights was the $16/MWH generator who is no longer generating because $3/MWH is greater than the profit it would make by using its transmission rights to sell its generation in control area B for $18/MWH.

Q. IT APPEARS THAT BOTH APPROACHES ARRIVE AT THE SAME COMPETITIVE MARKET PRICES?

A. Yes, that is correct. The issue here is not the short-run efficiency of generation. Instead, the issue is related to price signals that the ISO will need in building transmission facilities to relieve transmission congestion.

Q. HOW DOES TRANSMISSION CONGESTION PRICING SEND PRICE SIGNALS RELATING TO THE NEED TO BUILD ADDITIONAL TRANSMISSION FACILITIES?

A. Since the payments for transmission congestion reflect the differences in market prices on either side of a constrained interface, they represent the loss in generation efficiency that is the result of the transmission congestion. If these payments are added up over the entire year they can be compared to the annualized cost of upgrading the facilities to eliminate the congestion. If the cost of upgrading the

transmission facilities is less than the loss in generation efficiency caused by the congestion, then the ISO should have the system upgraded to relieve the congestion.

If the ISO is collecting the transmission congestion payments, then there will be a clear record of losses in generation efficiencies, and the ISO can make a fairly straightforward decision. If the payments go to holders of firm transmission rights, then there needs to be a mechanism by which the ISO can obtain this same information.

Q. HOW CAN THE ISO INCORPORATE TRANSMISSION CONGESTION PRICING INTO ITS PROPOSED CONGESTION MANAGEMENT MECHANISM?

A. A congestion management mechanism that endows holders of firm transmission rights with the ability to receive the congestion payments imputes additional value to those rights. In order to allocate those rights to market participants in a way that is efficient, the Midwest ISO should incorporate as a part of its congestion management mechanism an auction of those rights whenever the requests for firm transmission service exceed the transmission constraints across an interface. Otherwise, the Midwest ISO will either have to allocate the scarce transmission capacity on a first-come/first-serve or prorated share basis. By auctioning the scarce transmission capacity, the Midwest ISO will directly derive a measure of the most valued use for constrained interfaces and will be able to directly compare that value to the cost of upgrading the transmission system. In addition, the auction results in allocating the use of congested transmission facilities to those transmission customers that place the highest value on the use of those facilities.

EMBEDDED COST PRICING OF TRANSMISSION

Q. WHAT FORM OF EMBEDDED COST PRICING IS BEING PROPOSED BY THE MIDWEST ISO?

A. It is first important to note that a primary goal of embedded cost pricing is the recovery of the fixed costs of the transmission system. (The only variable operating costs on the transmission system are line and transformer losses.) As such, a major portion of these fixed costs are collected from customers wanting long-term (one year or greater) service through access charges that do not vary with the megawatt-hour usage of the system. Instead, these access charges vary with the size or maximum hourly demand of the customer; i.e., a demand charge that gives the customer firm transmission rights to use the system. In addition to long-term service, the Midwest ISO has developed rates for short-term service, both firm and non-firm. Pricing of short-term service is based on usage of the system; i.e., a dollar per megawatt-hour charge with a limit on the megawatt-hours that can be transacted over any given hour. The revenues collected from the sale of short-term service are difficult to project because they depend on transactions that can vary from day-to-day and hour-to-hour. Thus, billing units for these sales are typically not developed for purposes of calculating rates. Instead, the revenues from short-term sales are estimated and then used to offset the total amount of fixed costs collected in rates from long-term service.

Q. WHO ARE THE TRANSMISSION CUSTOMERS?

A. For wholesale generation markets, the transmission customers are not end-use customers. Instead, a transmission customer is either a utility buying power for its end-

use customers, a utility selling power to another utility or a power marketer, or a power marketer that is selling electricity to either another power marketer or to a utility.

Q. DO THE MIDWEST ISO TRANSMISSION RATES ULTIMATELY APPLY TO THE BUNDLED RETAIL CUSTOMERS OF AMERENUE?

A. During the six-year transition period, the Midwest ISO transmission rates will not be applied to AmerenUE for its bundled retail load. After the six-year transmission period, the Midwest ISO transmission rates will be applied to AmerenUE for its bundled retail load. Whether and when those rates would ultimately be applied to bundled retail customers of AmerenUE is in part a decision of the Commission.

Q. WHAT IS THE STRUCTURE OF THE LONG-TERM FIRM TRANSMISSION RATES?

A. The only rate structure which has been approved by the FERC is what the Midwest ISO is calling "zonal rates," which I have touched upon on prior pages. In essence, the zones are the control areas of the utilities that have agreed to join the Midwest ISO. The zonal rates generally represent the transmission costs of these control areas, and in concept, do not differ from the transmission costs that are included in bundled rates for retail customers. Long-term firm transmission rates are determined for both network and point-to-point service. For example, a municipal distribution utility buying power from a generator located outside of the transmission utility's control area in which the municipal utility is located would likely take network service from the Midwest ISO. This would mean that it could receive firm service at any one of the several delivery points at which it is connected to the transmission utility's transmission system. In addition, the municipal utility could designate points of receipt wherever its

contracted for generation is connected to the transmission utility's transmission system. However, once these points of receipt are designated, they cannot be changed.

Point-to-point service in the past has typically involved a contract path from a specific point of receipt for a generator to a specific point of delivery on the transmission utility's transmission system. With the Midwest ISO, the contract path concept will be eliminated, but point-to-point service will still be scheduled from a specific point to a specific point.

Q. WHAT RATE STRUCTURE WAS PROPOSED BY THE MIDWEST ISO TO APPLY AFTER THE SIX -YEAR TRANSITION PERIOD?

A. The Midwest ISO proposed to continue the zonal rate structure unless the utilities with retail customers remaining on bundled rates agreed to combine zones or chose to move to a system-wide transmission rate. Utilities whose retail rates were unbundled (retail customers given choice of generation supplier) would not have the option of causing the zonal rate structure to continue; e.g., if all retail rates were unbundled by the end of the transition period, the Midwest ISO would go to a system-wide transmission rate.

In either event (zonal rates vs. system-wide rate), the Midwest ISO proposed to put all load under its tariff, including bundled retail load at the end of the six-year transition period. Thus, if a utility were serving bundled retail load, it would have to pay to the Midwest ISO the Midwest ISO tariffed rate for transmission service. Each utility would then be paid its embedded cost of service for transmission service as a part of the distribution of revenues by the Midwest ISO back to the transmission owners. Notice that if the transmission rate were the zonal rate that reflects the utility's transmission cost

of service, then the utility with bundled load would be paid back the same amount that it is charged. However, if the rate were a system-wide average rate, then the utility would pay at the average system cost of service for transmission service and receive back its cost of service. Thus, for utilities whose cost of service is below the system-wide average, there would be a revenue shortfall. In order for the utility to prevent this revenue shortfall from occurring, it would need to ask for an increase in its transmission cost of service for serving its bundled retail load customers. To the extent that these bundled retail load customers continue to be served by local generation, they would not receive the full benefits of the regional transmission network, and thus, there would be an equity problem.

The proposal of the Midwest ISO to continue the zonal rates allows the utilities a somewhat imperfect way of dealing with this equity problem. For example, if the utility is serving its bundled retail customers with 75% local generation and 25% non-local generation, then continuation of the zonal rate allows the utility to pay the lower zonal rate for 100% of its transmission even though it is obtaining regional transmission benefits for 25% of its bundled load.

Q. DO YOU HAVE A PROPOSAL THAT WOULD BETTER ADDRESS THE EQUITY QUESTION REGARDING COST SHARING WITHIN THE MIDWEST ISO?

A. Yes, I do. I have presented this proposal to the RPWG of the SPPP. I would propose that for bundled retail customers, the utility would be allowed to pay the zonal rate for generation located within its control area, but pay the system-wide rate for generation located outside its control area. In essence, each utility serving bundled retail customers would specify the generation for which it has reserved firm transmission

capacity to serve bundled retail customers as well as the location or point of receipt for each source of generation capacity. The percentage of generation capacity located within the utility's control area times the utility's embedded cost of service for transmission would determine the rate charged for zonal service to bundled retail load. The remainder of the utility's embedded transmission cost would go into a pool for calculating the system-wide rate. The billing units for calculating the rate would be allocated to zonal and system-wide service on the same basis. In addition, I would allow any utility the right to forego the calculation of zonal service by taking the option of pricing its bundled load on the system-wide average rate. In this way, bundled retail customers of utilities having higher than average transmission costs are allowed to get lower rates as others are making use of their transmission facilities on a regional basis.

Q. COULD YOU ILLUSTRATE THIS CONCEPT WITH AN EXAMPLE?

A. Yes, I can. Assume there are only four utilities with control areas and transmission facilities within the ISO. The two higher transmission cost utilities have embedded costs of $2.00/kW/Month and $1.75/kW/Month, while the two lower cost transmission utilities have costs of $1.00/kW/Month and $1.25/kW/Month. To keep the example simple, assume that each utility has the same load of 10,000,000 kW/Month (10MkW/Month).

Assume that the lowest and highest transmission cost utilities are located in states that have unbundled retail load. Thus, all of their transmission costs would go into the system-wide average rate, giving an average rate of $1.50/kW/Month. The two utilities with bundled retail loads have transmission costs of $1.25/kW/Month and $1.75/kW/Month. They both have the choice of applying for zonal rates based on the

percentage of capacity located within their control areas that is required to serve the bundled retail load. Since this would result in higher rates for the higher transmission cost utility, it would not apply for zonal rates and include all of its load on a system-wide rate. Suppose the low transmission cost utility has 80% of its generation located within the control area. Then 80% of its costs and 80% of its load are used to calculate the zonal rate, which would be $1.25/kW/Month. In addition, 20% of its cost and 20% of its load is added to the calculation of the system-wide rate. Note that the cost of any one of the utilities is equal to the cost/kW/Month times the load times 12 months. Thus, the system-wide rate would be calculated as:

$$\frac{12*\{[(\$1.00)*(10MkW)]+[(\$1.25)*(2MkW)]+[(\$1.75)*(10MkW)]+[(\$2.00)*(10MkW)]\}}{12*[10MkW+2MkW+10MkW+10MkW]}$$

where 12 is the twelve months. The system-wide rate in this example would be $1.5625/kW/Month.

The low transmission cost utility with bundled retail load would pay the ISO for 80% of its load at the zonal rate and for 20% of its load at the system-wide rate. The average rate for this utility is (.8)($1.25) + (.2)($1.5625) = $1.3125/kW/Month.

Q. WHAT IS THE STATUS OF THIS PROPOSAL AT THE SOUTHWEST POWER POOL?

A. Currently, the RPWG is in the process of developing the tariff language that will incorporate this proposal into the SPP's ISO tariff. The tariff will then be reviewed by the SPP's ISO Task Force in March. Final approval of the tariff will be taken up by the SPP Board of Directors in May.

Q. WOULD YOU REQUIRE THIS SOLUTION TO THE EQUITY PROBLEM AS A CONDITION FOR AMERENUE TO JOIN THE MIDWEST ISO?

A. No, I would not make Midwest ISO approval of this specific rate proposal a condition for AmerenUE to join the Midwest ISO. The reason that I put this proposal before the Commission is to illustrate that there are solutions to the equity problem. Moreover, the FERC rejected the Midwest ISO proposal as being too vague and is requiring the Midwest ISO to bring forth specific proposals six months prior to the end of the transition period. At that time, everyone will have a much better understanding of who does and does not have bundled retail load, and this information will help in determining how to solve this equity problem. I should point out that the equity problem is two-sided. For the low transmission cost utility not using the regional transmission system for all of its bundled retail load, charging a system-wide transmission rate places an unfair cost on that utility's customers. However, for the high transmission cost utility, whose transmission system is being used by unbundled load customers, allowing those customers to use that system at zonal (low cost) rates is also not fair.

PLANNING ADDITIONS OR UPGRADES TO THE TRANSMISSION SYSTEM

Q. WHAT IS THE BASIS FOR PLANNING ADDITIONS OR UPGRADES TO THE TRANSMISSION SYSTEM IN THE MIDWEST ISO?

A. The determination of the need for additions or upgrades to the transmission system are detailed in to the Membership Agreement of the Midwest ISO. The objective of the Midwest ISO planning is to "minimize cost, consistent with the reliability and other requirements" of the Midwest ISO. [Midwest ISO Membership Agreement, Article Three, Section 1, Paragraph C].

The Midwest ISO will have a Planning Staff that will collaborate with transmission owners, transmission users and other interested parties in the planning process. The Midwest ISO Planning Staff will develop comprehensive Midwest ISO-wide transmission plans that are to be "cost-effective plans to resolve transmission constraints that would otherwise preclude requested transmission service." [Midwest ISO Membership Agreement, Appendix B – Planning Framework, Section II].

The Midwest ISO Membership Agreement establishes a "Planning Advisory Committee consisting of one (1) representative from each of the constituent groups represented on the Advisory Committee." [Midwest ISO Membership Agreement, Appendix B – Planning Framework, Section II]. This Planning Advisory Committee is a "source of input" to the Midwest ISO Planning Staff, which "shall exercise its discretion in how it utilizes this advise in carrying out its responsibilities." [Midwest ISO Membership Agreement, Appendix B – Planning Framework, Section II].

The planning time horizon for the Midwest ISO involves requests for transmission service that fall into a period of two weeks and beyond. In this regard, the Midwest ISO Planning Staff has four primary responsibilities:

1. Calculation of ATC;
2. Evaluation of Transmission Service Requests;
3. Resolution of Transmission Constraints; and
4. Development of the Midwest ISO Transmission Plan.

The first three responsibilities fall into the area of short-range planning responsibilities. In effect, the Midwest ISO Planning Staff will run system impact and facilities studies for these short-range requests for transmission service.

Q. WHAT ELEMENTS WILL THE MIDWEST ISO PLANNING STAFF TAKE INTO ACCOUNT IN DEVELOPING A LONG-RANGE TRANSMISSION PLAN?

A. As regional reliability councils do today, the Midwest ISO Planning Staff will use expected use patterns to model the flows over the system under a variety of contingency conditions. These studies help to determine the limits of the existing transmission system. In its long-range plans, the Midwest ISO Planning Staff will need to forecast the levels for generators and loads by location throughout the interconnected system. To the extent that retail load remains bundled, utilities serving those customers will submit to the Midwest ISO their generation and transmission expansion plans, including the locations of new generators and added load growth. It appears that the expectation is that most retail loads will remain bundled during the transition period, or that if retail load is unbundled, as is the case in Illinois, the utilities will continue to provide this information.

Q. DO YOU AGREE WITH THE ASSUMPTION THAT UTILITIES WILL CONTINUE TO PROVIDE INFORMATION NEEDED TO DO LONG-RANGE TRANSMISSION PLANNING?

A. No, not completely. Under retail competition, the utilities will be corporately unbundled, with separate generation, transmission, distribution and customer service business units. Either the transmission or distribution business unit will take over the load forecasting duties and will be able to provide the load forecasts necessary for the Midwest ISO to do long-range planning. But when deregulation of generation occurs, the

utility will no longer be able to do forecasts of the location of generation within its control area and the subsequent need for additional transmission facilities and upgrades.

I searched the Midwest ISO Membership Agreement and the Midwest ISO Tariff and it appears that a generator desiring to locate in the control area of a utility would request a System Impact Study be done by the affected control area and the Midwest ISO. [Midwest ISO Open Access Transmission Tariff, Section 19 (Additional Study Procedures for Firm Point-To-Point Transmission Service Requests)]. Specifically, Appendix B (Planning Framework) to the Midwest ISO Membership Agreement does not include any discussion of how the Midwest ISO intends to deal with non-utility generation that would be built within the control areas of the transmission owners. The only discussion related to this issue that I could find in the Midwest ISO Membership Agreement appears in Article Three (Rights, Powers, and Obligations of the Midwest ISO), Section IV (Additional Obligations), Paragraph H (Incentives Regarding Location of Generation) of the Midwest ISO Membership Agreement:

> "The Midwest ISO shall consider whether incentives are necessary to ensure that new generators are located in areas that better facilitate transmission and do not detrimentally affect Available Transmission Capability, as defined in the Transmission Tariff. If it determines that such incentives are necessary, the Midwest ISO shall develop and file with the FERC any such incentives. Any such filing must comply with the requirements of Article Two, Section IX of this Agreement, if applicable."

The clear implication of this section from the use of the word "incentives" is that the Midwest ISO does not view itself as asking the FERC for any authority regarding where generation is to be located, even if the location of a generator unnecessarily places higher costs on the transmission system. On the other hand, this section recognizes that the Midwest ISO may face this issue at a future date.

Q. WHAT PROBLEMS DO YOU HAVE WITH THE LONG-RANGE TRANSMISSION PLANNING AS DETAILED IN THE MIDWEST ISO MEMBERSHIP AGREEMENT?

A. I believe that Appendix B (Planning Framework) needs to be amended to give specific recognition to the fact that the location of new generation within the Midwest ISO will involve information from non-utility generators regarding their plans to locate generation within the Midwest ISO. In addition, I believe that the Midwest ISO needs to have this information within a reasonable time in advance of when a non-utility generator is connected to the Midwest ISO transmission network. Attachment J (Scheduling Table) to the Midwest ISO Tariff appears to give the Transmission Provider (in coordination with the relevant Transmission Owners) 60 days in which to perform a System Impact Study for a request for long-term (one year or greater) transmission service. Also, Section 19.4 of the tariff gives the Transmission Provider (in coordination with the relevant Transmission Owners) another 60 days to complete a Facilities Study if additions or upgrades to the transmission system are required. The Facilities Study will include a "good faith estimate" of:

1. The cost of direct assignment facilities to be charged to the transmission customer;

2. The transmission customer's appropriate share of the cost of any required network upgrades as determined pursuant to the provisions of Part II of the Tariff;

3. The time required to complete such construction and initiate the requested service.

[Midwest ISO Open Access Transmission Tariff, Section 19.4 (Facilities Study Procedure)]. While these time tables and procedures appear to be reasonable for an

unexpected request for long-term (one year or more in duration) firm transmission service, it is unclear as to how they relate to the Transmission Plans for which the Midwest ISO Staff is responsible. In essence, these procedures are clearly reactive in design, when the concept of a Transmission Plan is proactive.

I also am concerned with the section of the Midwest ISO Membership Agreement respecting giving incentives to generators regarding their choice of location. Specifically of concern is the perspective conveyed that such incentives with respect to the location of generation within the Midwest ISO might not be necessary. One would expect generation to locate wherever it is least expensive, and this is clearly enough to know that some type of incentive is needed.

Q. WHAT IS THE CONNECTION BETWEEN THE TRANSMISSION PLAN AND THE INCENTIVES FOR THE LOCATION OF GENERATION?

A. First, if generators can locate anywhere within the Midwest ISO at no cost except perhaps a delay in having firm transmission available, then a likely outcome will be that generation will locate as close as possible to fuel sources regardless of the location of load. This can result in an imbalance of generation and load within the various control areas (zones) with a resulting requirement that additional transmission be built. A proactive Transmission Plan will have a planning criterion with respect to the balance of generation and load within each control area or zone; e.g., a zone is out of balance when the ratio of generation to load exceeds 125% or is less than 80%. Given this type of planning criterion, the Midwest ISO can then design a Transmission Plan that meets this criterion. This Transmission Plan would indicate generation abundant zones in which generators should not locate (e.g., where the addition of the generator in a zone

would exceed the 125% criteria), and generation deficient zones in which generators should locate (e.g., zones that are currently below the 80% criteria).

The Transmission Plan could then be used to provide disincentives for locating in generation abundant zones and incentives for locating in generation deficient zones. For example, in generation abundant zones, generators locating in these zones might be made to pay for the transmission costs incurred that are above those included in the Transmission Plan. In generation deficient zones, a possible incentive would be a credit to transmission rates corresponding to the transmission costs that are avoided because of the decision to locate within that zone.

RECOMMENDATIONS

Q. DO YOU RECOMMEND THAT THE COMMISSION SHOULD ALLOW AMERENUE TO JOIN THE MIDWEST ISO?

A. I recommend that the Commission grant AmerenUE permission to join the Midwest ISO for a period of six years; i.e., for the transition period. Within six months of the end of that six year period, AmerenUE should file with the Commission a request to join the Midwest ISO, or perhaps another ISO, on a permanent basis. In AmerenUE's request for permanent membership, the following three conditions should be addressed:

1. Implementation of congestion pricing that allows the Midwest ISO to measure the most valued use of scarce transmission capacity;

2. An equitable resolution of the post-transition application of the Midwest ISO tariff to bundled retail load that has been approved by the FERC; and

3. Resolution of a transmission planning criterion with respect to incentives and disincentives for location of generation that has been approved by the FERC.

If by six months prior to the end of the transition period, these issues have not been addressed in an FERC Order, AmerenUE may file a petition with the Commission

requesting an extension of its membership in the Midwest ISO. However, AmerenUE and the Midwest ISO should make a commitment to have their positions on these issues filed with the FERC at least one year before the end of the transition period. While the FERC has given the Midwest ISO up to six months before the end of the transition period to address the issue of post-transition rate structure, this will not give the Missouri Commission sufficient time to address the FERC Order prior to the end of the transition period.

Q. ARE THERE ANY OTHER RECOMMENDATIONS THAT YOU WOULD MAKE TO THE COMMISSION?

A. Yes, there is one. If the Commission approves AmerenUE's joining the Midwest ISO, in its Order the Commission should indicate that this approval is not meant in any way to imply that the Commission is relinquishing its jurisdiction or authority regarding the determination of the transmission component of cost to serve bundled retail rate customers of AmerenUE in Missouri. One reason for limiting the Commission's approval to the six year transition period is that during this period, bundled retail load is not priced on the Midwest ISO regional transmission rate. Beyond the six year transition period, the Midwest ISO proposal is to price bundled retail load at the Midwest ISO rate. Approval of post-transition membership by AmerenUE in the Midwest ISO could be interpreted as the Missouri Commission turning over jurisdiction of transmission costs for bundled retail customers to the FERC. The Staff is not suggesting that this is what should occur.

Q. DOES THIS COMPLETE YOUR REBUTTAL TESTIMONY?

A. Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the Application of Union Electric Company for an Order Authorizing It to Participate in the Midwest ISO.	))))	CASE NO. EO-98-413

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 foregoing written testimony in question and answer form, consisting of 44 pages of testimony to be presented in the above case, that the answers in the attached 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 25th day of February, 1999.

Joyce C. Neuner
Notary Public

My commission expires

Joyce C. Neuner
Notary Public, State of Missouri
County of Osage
My Commission Exp. 06/18/2001