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February 18, 2005

The Honorable Dale Hardy Roberts
Secretary/Chief Regulatory Law Judge
Missouri Public Service Commission
P.O. Box 360
Jefferson City, MO 65102-0360

FILED[3]
FEB 18 2005
Missouri Public
Service Commission

Re: Case No. EA-2005-0180

Dear Judge Roberts:

Please find enclosed for filing in the referenced matter the original and five copies of the Motion to Withdraw of Missouri Joint Municipal Electric Utility Commission.

Would you please bring this filing to the attention of the appropriate Commission personnel.

Please contact me if you have any questions regarding this filing. Thank you.

Very truly yours,

NEWMAN, COMLEY & RUTH P.C.

By: Mark W. Comley

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MWC:ab
Enclosure
cc: Office of Public Counsel
General Counsel's Office
Lisa C. Langeneckert
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James B. Lowery
Joseph H. Raybuck

FILED[3]
FEB 18 2005
Missouri Public
Service Commission

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

Application of Union Electric Company for a Certificate of Public Convenience and Necessity authorizing it to construct, install own, operate control, manage and maintain electric plant as defined in 386.020(14), RSMo. to provide electric service in a portion of New Madrid County, Missouri as an extension of its existing certificated area	)	Case No. EA-2005-0180

MOTION TO WITHDRAW OF
MISSOURI JOINT MUNICIPAL ELECTRIC UTILITY COMMISSION

Comes now Missouri Joint Municipal Electric Utility Commission ("MJMEUC"), by and through their attorneys, pursuant to 4 CSR 240-2.080, and states for the Commission its Motion to Withdraw and to indicate its intent to file a Motion to Open Investigatory Docket on the Issues of Transmission Adequacy.

1. On January 6, 2005, MJMEUC filed an Application to Intervene with the Commission in this case, which was initiated by Union Electric Company ("UE") on December 20, 2004 seeking authorization to provide retail electric service to the aluminum smelting plant operated by Noranda Aluminum, Inc. in New Madrid County, Missouri ("Noranda load").

2. On January 25, 2005, the Commission issued its Order granting MJMEUC's Application to Intervene.

3. On January 31, 2005, MJMEUC submitted prepared rebuttal testimony of John E. Grotzinger. Mr. Grotzinger's testimony on behalf of MJMEUC raised concerns regarding MJMEUC's continuing difficulty securing transmission service to its wholesale customers in the region and the anticipated effects of UE's service to the Noranda load on the reliability and

availability of transmission service to all customers in the region. On February 14, 2005, MJMEUC submitted brief surrebuttal testimony of Mr. Grotzinger on the same subject.

4. On January 31, 2005, the Federal Energy Regulatory Commission ("FERC") published notice of a January 25, 2005 filing by Union Electric Company d/b/a AmerenUE pursuant to Section 205 of the Federal Power Act, seeking FERC's approval of an amendment to UE's Interchange Agreement with Associated Electric Cooperative, Inc., to add a new Noranda delivery point in order to enable UE to provide retail electric service to the Noranda load.

5. Having become aware of UE's FERC filing as a result of issuance of the January 31 notice, on February 15, 2005, MJMEUC also filed a motion to intervene and protest in the FERC proceedings (Docket No. ER05-485-000), which is attached. MJMEUC's protest in the FERC proceedings addresses the same transmission-related issues raised by MJMEUC in the instant case.

6. As MJMEUC has repeatedly indicated in its pleadings and testimony in this case and in its protest to FERC, MJMEUC does not oppose, and does not wish to delay, approval of the transaction between AmerenUE and Noranda. MJMEUC's sole interest is in ensuring that the adequate transmission service is available to all Missouri customers in the region and that transmission-related issues affecting Missouri's customers are appropriately addressed.

7. It now appears that MJMEUC's immediate Noranda-related transmission concerns will be examined at FERC, in light of UE's January filing and MJMEUC's February 15 protest Further, the testimony filed by MJMEUC, AmerenUE, and Staff in this case implicates issues regarding the adequacy and reliability of the transmission system serving all customers in Missouri that go beyond the proposed UE service to the Noranda load. In Missouri, the transmission system has become more congested because the growth in electricity demand and

investment in generation facilities have not been matched with concomitant investment in transmission facilities. Thus, MJMEUC believes that this Commission's interest in ensuring the adequacy of transmission in Missouri would be best served through exploration of such issues in a proceeding of broad scope, such as a workshop, to be initiated in the near future and including all interested stakeholders. MJMEUC further states its intention to file a motion proposing such an investigatory docket.

WHEREFORE, MJMEUC respectfully requests the Commission grant this Motion to Withdraw.

Respectfully submitted,

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CERTIFICATE OF SERVICE

A true and correct copy of the foregoing was mailed this 18th day of February, 2005, by placing same in the U.S. Mail postage paid, or e-mailed, to: General Counsel's Office at gencounsel@psc.state.mo.us; Office of Public Counsel at opcservice@ded.state.mo.us; Lisa C. Langeneckert, llangeneckert@stolarlaw.com; Diana M. Vuylsteke at mvuylsteke@bryancave.com; Stuart Conrad at stucon@fcplaw.com; James B. Lowery at jlowery@smithlewis.com; and Joseph H. Raybuck at jraybuck@ameren.com.

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Union Electric Company	Docket No. ER05-485-000

MOTION TO INTERVENE AND PROTEST OF MISSOURI JOINT MUNICIPAL ELECTRIC UTILITY COMMISSION

On January 25, 2005, Union Electric Company d/b/a/ AmerenUE ("AmerenUE") filed an amendment to its Interchange Agreement with Associated Electric Cooperative, Inc. ("AECI"). The amendment submitted by AmerenUE modifies the Interchange Agreement to add a new delivery point, for the purpose of AmerenUE adding 470 MW of new retail load — the Noranda Aluminum, Inc. smelting plant ("Noranda") — that was not previously served by AmerenUE and is physically located outside of the AmerenUE transmission system on the transmission system of AECI.[1] The Commission should approve the transaction in order to allow the Noranda load to be served in a timely fashion, but it should condition the approval on AmerenUE being required to comply (after the fact) with the study process — and possibility of constructing network upgrades — to which other load-serving entities are subject under the tariff of the Midwest Independent Transmission System Operator ("MISO"). Comparability demands no less.

Therefore, pursuant to 18 C.F.R. §§ 385.211, 385.212 and 385.214 and the Commission's January 31, 2005 notice, Missouri Joint Municipal Electric Utility Commission ("MJMEUC") moves to intervene in this proceeding and submits its protest

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[1] The amendment also adds the Midwest ISO as a party to the Interchange Agreement, at least for limited purposes. MJMEUC does not take any position at this time with respect to this aspect of the filing.

of the filing. MJMEUC wishes to emphasize that it does not wish to prevent or delay Noranda from receiving retail service from AmerenUE, its chosen supplier. As described at pages 4-5 of AmerenUE's Filing Letter, Noranda is a major employer in southeastern Missouri, and MJMEUC recognizes the significant economic benefits that Noranda's continued operations will bring to the state and in particular to certain of MJMEUC's own members. MJMEUC has no wish to stand in the way of the Commission's timely approval of the proposed transaction.

Nonetheless, in order to ensure that the addition of a new Noranda delivery point under the AmerenUE-AECI agreement is just and reasonable and consistent with the public interest, the Commission must require, as a condition of such approval, adherence to MISO's study and upgrade requirements to protect MJMEUC and others against the potential harm from the transmission impacts of the proposed transaction, which seeks to transfer nearly **500 MW** of retail load to AmerenUE.[2] AmerenUE and MISO appear to have taken the position that this very sizable transaction may be completed without MISO performing any studies of the impacts the addition of this load will have on other users of the transmission system and/or of transmission system upgrades that may be needed in conjunction with this major load addition.[3]

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[2] *See* Filing Letter at 4 (Noranda's operations comprise a load of approximately 470 MW) and 6 (the contract capacity identified in the proposed amendment is 500 MW).

[3] As noted below, MJMEUC believes that the general practice should be that studies of transactions such as this one precede commencement of service, but given MJMEUC's desire not to cause delay in the service to Noranda, it would be acceptable to MJMEUC in the narrow circumstances of this case to allow the study process to commence simultaneously with the service, and that the studies be used to formulate appropriate mitigation measures to which Ameren should be required to commit as a condition of allowing the transaction to go forward.

The absence of any study process by MISO is particularly disturbing given the evidence that AmerenUE itself recently submitted in proceedings before the Missouri Public Service Commission ("MPSC") relating to the proposed addition of the Noranda load. AmerenUE's testimony in the MPSC case indicates that service to Noranda by AmerenUE will significantly increase loadings on facilities that have long been notorious constraints. Recent requests by MJMEUC to move just five (5) MW — roughly equivalent to **one percent** of the Noranda load — in the same direction have been denied by Ameren and MISO because of the proposed requests' obviously much smaller effects on facilities that are far less identifiable as constrained flowgates.

The Commission should permit AmerenUE to serve Noranda, but at the same time the Commission must impose conditions to ensure that — in both the short term and the long run — the transaction will not impair transmission service and availability to other load-serving entities in the surrounding region, including MJMEUC and its members. As a first step to identifying the appropriate mitigation measures and in order to enforce the bedrock requirements of comparability, the Commission must require that AmerenUE and MISO follow the same rules and processes that would be applicable to any other entity that might seek to supply Noranda.

I. MOTION TO INTERVENE

A. Communications

The names and addresses of the individuals to whom communications related to these proceedings should be addressed are as follows:

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B. MJMEUC's Interest In This Proceeding

MJMEUC is a joint action agency and a political subdivision of the State of Missouri authorized by legislation to construct, operate and maintain jointly owned transmission and generation facilities for the production and transmission of electric power for its members, to purchase and sell electric power and energy, and to enter into agreements with any person for transmission of electric power. It is organized on a statewide basis to promote efficient wheeling, pooling, generation and transmission arrangements to meet the power and energy requirements of municipal utilities in the state. MJMEUC has 56 municipal utility members. In addition, Citizens Electric Corporation, a rural electric corporation providing retail electric service to more than 25,000 member-customers in southeastern Missouri, is an Advisory Member of MJMEUC. Together, MJMEUC's members serve some 347,000 retail customers, with a combined load of 2,100 MW. MJMEUC has members on the transmission systems of all of the major utilities currently doing business in Missouri, including AmerenUE.

MJMEUC members embedded within the AmerenUE transmission system who take network service under the MISO tariff have a total load of over 400 MW.

Since January 1, 2000, pursuant to its authority under state law, MJMEUC has been administering a power pool formed by some of its members. The Missouri Public Energy Pool #1 ("MoPEP") currently has 26 members, whose 2004 summer peak loads were approximately 350 MW. MoPEP is the full-requirements supplier for its members, and meets their capacity and energy requirements through generating and purchased-power resources contributed by the pool members, and through additional resources arranged for by MoPEP. Four of MoPEP's members, with load totaling more than 115 MW, as well as a number of MoPEP's resources, are located on the Ameren transmission system (which encompasses AmerenUE and AmerenCIPS). In connection with its operation of MoPEP, MJMEUC itself takes point-to-point service from MISO.

MJMEUC (in its capacity as representative of its members located on the AmerenUE transmission system, and as the operator of MoPEP) has a direct interest in the outcome of this proceeding. MJMEUC's interests will not be adequately protected by any other participant in this proceeding, and its intervention is in the public interest. MJMEUC therefore respectfully submits that it should be granted leave to intervene in this proceeding.

II. PROTEST

AmerenUE's Filing Letter skirts the central question raised by the proposal to include a new 500 MW customer as part of AmerenUE's native load, *i.e.*, what impact this load addition may have on the reliability and availability of transmission service to

other users of the regional grid. The only nod AmerenUE makes to the transmission implications of its proposal is in a single footnote, which reads in its entirety:

> The Noranda facility has been supplied by the interconnected transmission systems of AmerenUE and [AECI] for many years. Thus, the transfer of the Noranda load into the AmerenUE service territory does not represent an incremental change in the load connected to the transmission system and as such does not require any upgrades or modifications on either transmission system.

Filing Letter at 7 n.8.[4]

It is difficult to understand how AmerenUE can assert so definitively that its proposed service to Noranda does not require any transmission upgrades or modifications, given that MISO apparently has not deemed it necessary to conduct any studies of the proposed addition of this major new load. As we understand it, AmerenUE asserts, and MISO accepts, that no study is required to add Noranda as part of AmerenUE's native load, and the addition of the load can be accomplished simply by adding the new Noranda delivery point under AmerenUE's grandfathered agreement with AECI and virtually moving the non-contiguous Noranda load into the AmerenUE control area by "pseudo-tie."[5] The rationale AmerenUE has offered for the avoidance of a MISO

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[4] In contrast, as discussed below, AmerenUE has submitted testimony in the MPSC proceedings regarding the potential impacts on transmission service and availability resulting from the proposed transaction.

[5] The advantages of AmerenUE bringing load into MISO by pseudo-tie contrast with the disadvantages MJMEUC has recently encountered as a result of its long-standing arrangements to virtually move the Ameren portion of its MoPEP load into the control area of Westar, which has contractually provided control area services to MoPEP from its inception. Because of this pseudo-tie arrangement, MISO has asserted that MJMEUC could not register its MISO loads and resources as assets in the "Day 2" markets, and that MJMEUC will be limited to virtual bidding for its MISO loads, even though they are physically located within MISO. MISO's disparate treatment of loads pseudo-tied out of MISO gives Ameren and other control area operators within MISO a competitive advantage in the provision of control-area services.

study is that MISO does not study the effects of the transmission owners' load growth.[6] AmerenUE's attempt to equate nearly 500 MW of new retail load entering a control area for the first time with normal load growth should be rejected.

AmerenUE's ability to bypass MISO's study requirements, if condoned by the Commission, would constitute a significant departure from the requirements of comparability, and an enormous competitive advantage in serving loads such as Noranda's.[7] Given the Commission's well-justified concerns about the competitive advantages enjoyed by control area operators,[8] it must guard against expanding those advantages. Simply put, only if AmerenUE is required to abide by the same requirements that would apply to other would-be suppliers to Noranda can the playing field be considered level.

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[6] In a deposition taken in connection with the MPSC proceedings, Ameren's witness Mr. Pfeiffer testified that impacts of transmission owners' load growth are considered to affect only local reliability, and as such are addressed only by the transmission owners themselves. Any upgrades the transmission owner concludes are needed to accommodate such load growth would be reflected in its local expansion plan that gets "rolled up" into the MISO regional plan. Mr. Pfeiffer said that he was not aware of any exception to such procedure that would apply to the circumstances of adding a load as significant as Noranda, and that MISO therefore would not perform a specific study of the load addition, unless the "customer pursue[d] some type of transmission service over and above Network Integrated Transmission Service." Transcript of Deposition of Ed Pfeiffer in MPSC Case No. EA-2005-0180, January 25, 2005, at 15-17 (quotation at 17). This portion of Mr. Pfeiffer's deposition transcript is attached as Appendix A hereto.

[7] Indeed, it seems very likely that if a competing third-party supplier operating a control area within MISO had entered into similar arrangements to serve Noranda and had received similar dispensations from MISO's study requirements and policies, AmerenUE would be just as concerned as MJMEUC is, and would demand that MISO study the impacts and possibly require the new supplier to construct upgrades to guard against any impacts on Ameren's own use of the transmission system.

[8] *Regional Transmission Organizations*, 64 Fed. Reg. 31,389 (June 10, 1999), *reprinted in* [1999-2003 Proposed Regs.] FERC Stat. & Regs. ¶ 32,541, at 33,746-47 (1999); *Regional Transmission Organizations*, Order No. 2000, 65 Fed. Reg. 809 (Jan. 6, 2000), *reprinted in* [1996-2000 Regs. Preambles] FERC Stat. & Regs. ¶ 31,089, at 31,142 (1999), order on reh'g, Order No. 2000-A, 65 Fed. Reg. 12,088 (Mar. 8, 2000), reprinted in [1996-2000 Regs. Preambles] FERC Stat. & Regs. ¶ 31,092 (2000), *appeal dismissed for want of standing sub nom. Pub. Util. Dist. No. 1 v. FERC*, 272 F.3d 607 (D.C. Cir. 2001); *Remedying Undue Discrimination Through Open Access Transmission Service and Standard Electricity Market Design*, 67 Fed. Reg. 55,451 (Aug. 29, 2002), *reprinted in* [1999-2003 Proposed Regs.] FERC Stat. & Regs. ¶ 32,563, PP 48-49 (2002).

The question whether AmerenUE's proposed service to Noranda should be subject to the same study processes as any other supplier would be is not merely academic. AmerenUE's own study of the potential impact of this transaction, particularly viewed in the context of recent experiences of MJMEUC and others who sought similar transmission arrangements, flatly contradicts AmerenUE's blanket assertion that no upgrades would be needed to accommodate its proposed transaction.

In the MPSC proceedings, AmerenUE submitted direct testimony of Edward Pfeiffer dated December 20, 2004.[9] Similar to AmerenUE's claim in its Filing Letter in this case, Mr. Pfeiffer asserted that

> there should be little or no change in the flows in eastern Missouri as there will be no incremental change in the load or close by generation due to the transfer of Noranda into the AmerenUE service territory. The impact on the AmerenUE transmission system would be from the dispatch of additional resources to meet the increased demand on generation due to the transfer. These generating resources are dispersed across the AmerenUE system and there are no known constraints associated with full output from any of the AmerenUE generating units.

Pfeiffer MPSC Direct Testimony at 7.

However, Mr. Pfeiffer's — and AmerenUE's — claim that the transaction will have no significant impact on regional power flows is belied by AmerenUE's own tabulations of loading changes attached to Mr. Pfeiffer's testimony. As reflected in Attachment 2 to Mr. Pfeiffer's testimony, the power flow study shows that changes at a level deemed by Mr. Pfeiffer to be worthy of reporting (*i.e.*, those greater than 50 MW) occurred on more than 35 lines (Attachment 2 at 3), and changes of more than 100 MW

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[9] A copy of Mr. Pfeiffer's direct testimony is provided as Appendix B to this protest.

occurred on five of these lines (*Id.* at 4). Many of these flows increase loadings from east to west.

Some of the facilities on which flows would significantly increase are key backbone facilities and, in some cases, well-known constrained flowgates. Attachment 1 to Mr. Pfeiffer's testimony states: "The Montgomery-McCredie 345 KV line section showed an increase of 94.3 MW over the base case ...." The Montgomery-McCredie line is a component of the only east-west 345 kV line in central Missouri. Further, Mr. Pfeiffer's Attachment 2 (at 3) shows a 64 MW increase in loading on the Bland-Franks 345 kV line. The Bland-Franks line is a segment of the only other east-west 345 kV line in Missouri, and this segment has been one of the most frequently identified constraints in Missouri and has triggered numerous TLR events. These events have caused MJMEUC and other entities (including Ameren and AECI) to significantly depart from economic dispatch. Ameren itself has described Bland-Franks as "one of the most prominent constraints in the Midwest."[10]

As discussed below, when MISO studies transmission service requests, it looks at *all* impacts, not just those that exceed an arbitrary threshold such as 50 MW, and can and will deny a transmission service request that causes an overload of less than one MW. It is therefore impossible to determine from the limited results reported by Mr. Pfeiffer all of the potential impacts of the proposed transaction, but it is nonetheless plain that a number of transmission facilities in Missouri will carry significantly greater flows as a result of AmerenUE serving Noranda.

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[10] Initial Brief of Ameren Energy Generating Company and Union Electric Company d/b/a AmerenUE, filed in Docket No. EC03-53, at 63 (Dec. 1, 2003).

The significance of just such increased flows is confirmed by recent denials of requests for similar transactions — of vastly smaller scale — by both Ameren and MISO. Even minimal transmission service requests have been rejected on account of their potential to overload some of the same facilities that are implicated in AmerenUE's study. In particular, MJMEUC's requested reservations to transmit just five MW of energy from Ameren generation in Illinois to load in Missouri on the Aquila transmission system were denied both in early 2004 (before Ameren joined MISO) and again by MISO in the last month. The denial of the requested transmission service — which would have imposed east-to-west flows over some of the same paths that will be used to serve Noranda's load from AmerenUE generation — required MoPEP to incur additional generation and transmission costs to supply its load from other resources.

The reasons MISO identified for denying this five MW request refute AmerenUE's claim that its service to Noranda's 500 MW load will have no adverse transmission effects. MISO claimed that MJMEUC's five MW request would cause overloads on three southeast Missouri AmerenUE facilities on a single-contingency basis.[11] The facilities identified as potentially overloading (and the contingencies that would cause the overloads) are: (1) the Fredericktown tap 161 kV line (for loss of the St. Francis to Lutesville 345 kV facility), (2) the Rivermines to Fredericktown 161 kV line (for loss of the St. Francis to Lutesville line), and (3) the Rush Island to St Francis 345 kV line (for loss of the other Rush Island to St Francis line and 345/138 Rush Island transformer).

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[11] A copy of the printout showing the bases for MISO's denial of the transmission request is provided as Appendix C to this protest.

Several of the facilities that MISO identified as potentially being overloaded as a result of MJMEUC's requested five MW reservation are also likely to be affected by AmerenUE's service to Noranda. Mr. Pfeiffer's MPSC testimony (at page 4, line 19) identifies Rush Island as the nearest AmerenUE baseload generating facility available to serve Noranda. Furthermore, the Lutesville facilities that are a key contingency underlying MISO's denial of the refused five MW request serve the Kelso substation that Mr. Pfeiffer identifies (*id.*, lines 12-13) as "the closest AmerenUE facility capable of supplying a load of this magnitude." Even though these facilities are not widely recognized as constrained flowgates (as is the Bland-Franks line), the additional flows were seen by MISO as causing sufficient potential problems that MJMEUC's service request was denied.

MJMEUC's own experience in this regard is hardly unique. The testimony of Anne Kimber before the Commission in Docket No. RM04-7-000 vividly demonstrates that even very small loads seeking to change power suppliers face "an insurmountable barrier to competition."[12] Ms. Kimber provided several examples of inadequate transmission capacity thwarting municipal utilities' efforts to receive power from willing new suppliers. For instance, she described the inability of two Iowa cities — with loads of 30 MW and only 3.5 MW — to get firm or even non-firm transmission reservations for delivery of power from Ameren (in Missouri) west to the cities in Iowa.[13] Ms. Kimber also related the experience of the City of Callender, Iowa, whose request for

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[12] "Written Statement of Anne Kimber on Behalf of MMTG and TAPS for the December 7 Technical Conference" at 1, Docket No. RM04-7-000, Accession No. 20041207-5027 (Dec. 7, 2004).

[13] Interestingly, the would-be supplier in this instance was AmerenUE's own marketing affiliate. AmerenUE is thus obviously aware of the east-to-west constraints that plague the region and of their potential to obstruct a customer's choice of a new supplier when the required study process is followed.

transmission service for its total load of just 0.6 MW was denied because of its potential impacts on flowgates within MISO. As explained by Ms. Kimber:

> If this transaction impacted only MAPP flowgates, MAPP would have allowed the transaction to proceed because the impact was miniscule (less than less than 1 MW). However, MISO will not accept even the smallest adverse impact – if a MISO flowgate is affected (even by less than 50 kW), MISO will not approve a path unless Callender undertakes a costly mitigation scheme.

Id. at 6-7.

The contrast of MJMEUC's and the Iowa cities' experiences to the ability of Noranda to switch to AmerenUE as its new power supplier could hardly be more stark. The logical explanation for the difference in result is that AmerenUE has so far been permitted, presumably by virtue of its being a transmission owner and control area operator (and through the contractual expediency of changing its grandfathered interconnection agreement with AECI to add Noranda as a new delivery point), to circumvent the strictures of studies and upgrades that MISO applies to other market participants under similar circumstances.

While they certainly do not constitute the sort of rigorous study that the situation calls for, Mr. Pfieffer's testimony and example loadflow results confirm, rather than alleviate, MJMEUC's concerns that transmission constraints are likely to become worse as a result of AmerenUE's taking Noranda on as a new customer. Contrary to AmerenUE's assertions, the loadflow study shows that there will be significant changes in loadings on a number of transmission facilities as a result of the proposed transaction. Importantly, notwithstanding the evidence from its own study that the loading changes *are* significant, neither AmerenUE nor MISO has apparently analyzed what the effects of

such changed loadings will be on available transmission capacity. The Commission cannot accept AmerenUE's attempt to cast the transaction as a non-event, and should insist that the impacts of the addition of Noranda to AmerenUE's native load be promptly and properly studied. Although in future cases the Commission should ensure that such studies are performed before the fact, under the special circumstances of this case MJMEUC is willing to accept the transaction going forward before the studies are completed.[14] Rather, the impact of the proposed transaction should be studied in order to identify the need for and to formulate mitigation measures. The Commission must condition approval of AmerenUE's proposal on its commitment to remedy whatever adverse impacts on transmission availability are demonstrated by the study.

If, as would appear to be the case given the loadflow impacts shown in AmerenUE's own study, network upgrades would be needed to prevent this transaction from diminishing transmission availability and reliability, we do not propose that AmerenUE necessarily bear the entire burden of constructing the needed facilities.[15] MJMEUC and its members, AECI, and others have expressed a willingness to partner in the construction of such projects. However, financing and/or ownership by MJMEUC and others must include the ability to receive MISO credits or other compensation commensurate with the investment in such facilities.

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[14] It should be noted, however, that Ameren itself is at least partly responsible for the Commission not having the latitude to require that studies be conducted prior to commencement of service. AmerenUE's witness Mr. Pfeiffer in his testimony filed more than a month before the instant filing made reference to the need to obtain Commission approval of the addition of the Noranda delivery point. It is not clear why AmerenUE did not make its filing well before late January.

[15] Of course, to the extent AmerenUE does make the investment in network upgrades, they could be rolled in to Ameren's zonal rate base if such costs would be rolled in for network upgrades required of other MISO network customers adding new loads.

In the meantime, until the transmission system has been expanded to accommodate the Noranda service without impairing others' access to the system, Ameren should be required to hold customers harmless from the impacts of its proposed transaction. The effects of the transaction should be appropriately modeled to compare the congestion costs that MJMEUC and its members would be exposed to with and without Noranda being an AmerenUE load, and Ameren should be required to protect MJMEUC and its members from any increase in such congestion costs. Essentially, Ameren, not the customers, would be required to take the risk that it is wrong in claiming that its transaction will not exacerbate transmission congestion. If its assertions of no transmission impact are proven correct through studies, then Ameren would not bear any additional congestion costs risk.

Respectfully submitted,

/s/ Margaret A. McGoldrick

Cynthia S. Bogorad
Margaret A. McGoldrick

Attorneys for Missouri Joint Municipal Electric Utility Commission

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February 15, 2005

APPENDIX A

INDEX OF QUESTIONERS

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

Ordering Directing Notice, Shortening Time for Response, Adding a Party, Setting Date for Submission of Intervention Requests, Adopting Protective Order, and Directing Filing

January 25, 2005
St. Louis, Missouri

In the Matter of the Application of Union Electric Company for a Certificate of Public Convenience and Necessity Authorizing It to Construct, Install, Own, Operate, Control, Manage and Maintain Electric Plant, as defined in Section 386.020(14), RSMo, to Provide Electric Service in a Portion of New Madrid County, Missouri, as an Extension of Its Existing Certificated Area.	)))))))	Case No. EA-2005-0180

DEPOSITION OF ED PFEIFFER, produced, sworn and examined on the 25th of January, 2005 at the office of AmerenUE, 1901 Chouteau, St. Louis, MO, before JACQUELYN S. WILLIAMS, a Notary Public and Registered Professional Reporter within and for the State of Missouri, in a certain cause now pending before the Missouri Public Service Commission.

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Jefferson City, MO 65102-0537
(573) 634-2266
FOR: Missouri Joint Municipal Electric Utility Commission

ALSO PRESENT:

Dave Hennen, Mike Proctor
Donald Johnstone, John Grotzinger (via phone)

Jacquelyn S. Williams, RPR, CCR, CSR (IL)
Midwest Litigation Services
711 North Eleventh Street
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IT IS HEREBY STIPULATED AND AGREED by Counsel that this deposition may be taken in shorthand by Jacquelyn S. Williams, a Notary Public and Registered Professional Reporter and afterwards transcribed into typewriting; and the signature of the witness is expressly reserved.

* * * * *

ED PFEIFFER,

Of lawful age, produced, sworn and examined on part of the Staff, testified as follows:

DIRECT-EXAMINATION

QUESTIONS BY MR. DOTTHEIM:

Q To start off, why don't we --

MR. RAYBUCK: Steve, can I interrupt? I'm sorry. This can be off the record.

(Discussion off the record)

Q (By Mr. Dottheim) Okay. Very good. Maybe we should go around the room and have the people on the call introduce themselves. This is Steve Dottheim. I'm an attorney with the staff of the Missouri Public Service Commission that has requested that Mr. Pfeiffer be available today, this afternoon for a deposition relating to the pending case EA-2005-180.

MR. PROCTOR: I'm Mike Proctor. I'm with the staff of the Missouri Public Service Commission.

Q Mr. Pfeiffer, do you know whether under AmerenUE's agreement with Noranda, must Noranda reimburse AmerenUE for any additional transmission charges from the Midwest ISO that are not offset by a higher allocation of revenues from the Midwest ISO to AmerenUE?

A I'm going to say I don't know. I'm not conversant with the agreement with respect to transmission service charges.

Q If AmerenUE serves the Noranda load, do you know whether any incremental transmission upgrades will be required to the Midwest ISO transmission system or neighboring tramission systems?

A I'm not aware of any transmission upgrades that would be necessary to supply or to move the Noranda load into the Ameren service territory.

Q If there were any upgrades that were necessary, do you know whether Noranda must reimburse Ameren for any of those transmission upgrades that would be required by AmerenUE serving the Noranda load?

A I'm not aware of any agreement by which Noranda would be directly billed for those.

Q Mr. Pfeiffer, respecting the Noranda load, would it be the Midwest ISO that would make any determination whether any transmission upgrades were needed in order for AmerenUE to serve that load?

A The MISO's transmission expansion plan is set up such that the local transmission owner is responsible for the reliability of their local transmission system and as such, that transmission owner provides to the MISO as part of their annual transmission expansion plan those facilities necessary to maintain the local reliability of their system.

The MISO has the opportunity to review that plan as part of a roll-up regional evaluation to assure that regional reliability is maintained and they can further make a determination that if there are regional economic issues which might dictate transmission expansion, they can start the process of a regional expansion project which hopefully answers your question.

Q One moment, please. When AmerenUE adds load to network integration service, does MISO customarily perform a review to determine whether in its view upgrades are needed to the transmission system?

A Typically no as Ameren load is added under Network Integrated Transmission Service every year through annual logos. The MISO has broached that subject but when impressed upon them the fact that they would be reviewing every megawatt and every distribution substation and every bulk substation in addition, every transmission owner system throughout their footprint, they decided they would allow as per the transmission owners and independent transmission owners

agreement that that would be -- that that assessment would be performed by the local transmission owner and rolled up into the transmission expansion plan.

Q Would a load as significant as Noranda be an exception to that procedure?

A I'm not aware of any exceptions to that procedure. At issue would be the local -- the reliability of the local transmission systems resides with the transmission owner. Should that customer pursue some type of transmission service over and above Network Integrated Transmission Service, then they would go to the MISO and put that into their transmission service reservation cue and seek additional verification of the adequacy of the transmission system through that venue.

Q If AmerenUE serves the Noranda load, will AmerenUE incur additional congestion charges from the Midwest ISO?

A The Noranda load will be included in Ameren's -- I forget what CP stands for. Commercial pricing load so that would be included in the overall calculation of any congestion which MISO might incur upon Ameren. However, whether or not such additional congestion charges will occur is unknown at this point in time.

Q If there were any additional congestion charges, would AmerenUE receive additional financial transmission rights to offset those additional congestion charges?

A My understanding at this point in time is that

APPENDIX B

Exhibit No.:	
Issues:	Transmission
Witness:	Edward C. Pfeiffer
Sponsoring Party:	Union Electric Company d/b/a AmerenUE
Type of Exhibit:	Direct Testimony
Case No.:	EA-2005-0180
Date Testimony Prepared:	December 20, 2004

MISSOURI PUBLIC SERVICE COMMISSION

Case No. EA-2005-0180

DIRECT TESTIMONY

OF

EDWARD C. PFEIFFER

ON

BEHALF OF

UNION ELECTRIC COMPANY
d/b/a AmerenUE

St. Louis, Missouri
December 20, 2004

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

Application of Union Electric Company for a Certificate of Public Convenience and Necessity authorizing it to construct, install, own, operate, control, manage and maintain electric plant, as defined in § 386.020(14), RSMo. to provide electric service in a portion of New Madrid, County, Missouri, as an extension of its existing certificated area	)	Case No. EA-2005-0180

AFFIDAVIT OF EDWARD C. PFEIFFER

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

Edward C. Pfeiffer, being first duly sworn on his oath, states:

1. My name is Edward C. Pfeiffer. I work in St. Louis, Missouri, and I am employed by Ameren Services Company as Manager of the Electric Planning Department.

2. Attached hereto and made a part hereof for all purposes is my Direct Testimony consisting of 12 pages, and Schedules ECP-1 through ECP-2, all of which have been prepared in written form for introduction into evidence in the above-referenced docket.

3. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded are true and correct.

Edward C. Pfeiffer

Subscribed and sworn to before me this 20th day of December, 2004.

Mary Hoyt
Notary Public

My commission expires: 4-1-2006

MARY HOYT
Notary Public - Notary Seal
STATE OF MISSOURI
Jefferson County
My Commission Expires: April 1, 2006

DIRECT TESTIMONY

OF

EDWARD C. PFEIFFER

CASE NO. EA-2005-0180

Q. Please state your name and business address.

A. My name is Edward C. Pfeiffer. My business address is One Ameren Plaza, 1901 Chouteau Avenue, St. Louis, Missouri 63103.

I. INTRODUCTION

Q. Please describe your background and by whom, and in what capacity, you are currently employed.

A. After receiving Bachelor of Science and Master of Science degrees in Electric Systems and Science Engineering from Southern Illinois University in Carbondale, I began my career with Union Electric Company (now d/b/a AmerenUE) in 1978. I worked for AmerenUE as an Engineer in the Transmission Planning Department for approximately 20 years. I am a registered professional engineer in the State of Missouri.

I am currently employed by Ameren Services Company ("Ameren Services") as the Manager of the Electric Planning Department. Among other responsibilities, our department is responsible for both operational and expansion planning for the AmerenUE transmission system.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to describe the transmission and distribution facilities that will be used in order for AmerenUE to provide electric service to Noranda Aluminum, Inc ("Noranda"). I also address the impact on these facilities as a result of incorporating the Noranda load into the AmerenUE service territory as requested in AmerenUE's Application. I will show that there will not be any adverse impact from a transmission or distribution perspective either to AmerenUE or to its customers as a result of AmerenUE serving Noranda.

II. DESCRIPTION OF FACILITIES USED TO SERVE NORANDA

Q. Please describe AmerenUE's transmission system.

A. The AmerenUE transmission system consists of approximately 3,000 miles of transmission facilities operated at or above 100 kV which are predominately located in the eastern one-half of the state of Missouri. The highlighted area in Missouri on the attached map of facilities in the Mid-America Interconnected Network ("MAIN") provides a good indication of AmerenUE's Missouri service territory and transmission facilities. This map is marked as Schedule ECP-1.

AmerenUE owns and operates all of these transmission facilities. However, functional control of the AmerenUE transmission system was transferred to the Midwest Independent Transmission System Operator, Inc. ("MISO") on May 1, 2004, pursuant to this Commission's approval of AmerenUE's participation in the MISO in Case No. EO-2003-0271. As a result, effective May 1, 2004, the MISO became the transmission provider under whose Open Access Transmission Tariff ("OATT") all transmission service provided over the AmerenUE transmission system, and other

transmission systems in the MISO's footprint, is administered. Transmission service under the MISO OATT is subject to the jurisdiction of the Federal Energy Regulatory Commission ("FERC").

Q. Are AmerenUE's facilities the only transmission facilities located throughout the AmerenUE service territory?

A. No. Associated Electric Cooperative, Inc. ("AECI") and its member cooperatives have service territories and transmission facilities that are interspersed throughout the AmerenUE service territory. Similarly, AmerenUE has transmission facilities which traverse the AECI service territory and which serve load that is surrounded by AECI service territory. To allow for the efficient use of their overlapping transmission systems, AmerenUE and AECI many years ago entered into an Interchange Agreement which enables each to use the other's facilities and thereby avoids the construction of duplicate and redundant facilities.

Q Does AmerenUE currently use the AECI transmission system to serve its bundled retail load in Missouri?

A. Yes. The AmerenUE service territory is not homogeneous or contiguous. In particular, certain parts of AmerenUE's service area are not directly connected to other parts. For example, AmerenUE's service area involving Excelsior Springs in western Missouri is not directly connected to its service area in central and eastern Missouri involving St. Louis County and adjacent areas. Instead, AmerenUE relies on AECI's transmission facilities to deliver power to Excelsior Springs and other similar locations.

Q. Please describe the transmission and distribution facilities that currently serve Noranda.

A. As more particularly described in AmerenUE's Application and the attachments thereto, Noranda is located in New Madrid County, Missouri. This is an area where AECI owns, operates and maintains transmission and generation facilities. Noranda owns its own distribution substation which is supplied by a series of radial 161 kV feeders which it also owns. These radial lines originate from the AECI New Madrid Substation complex. AECI's New Madrid Substation complex consists of 161 kV, 345 kV, and 500 kV substations which are connected to five 161 kV lines (in addition to the Noranda 161 kV feeders noted above), two 345 kV lines, one 500 kV line, and two AECI-owned generators each of which is greater than 600 MW. In contrast, the AmerenUE 345/161 kV substation at Kelso is the closest AmerenUE facility capable of supplying a load of this magnitude. The Kelso Substation is approximately 40 miles from New Madrid/Noranda.

Q. Please describe the electrical generation that is located in the area.

A. From an electrical standpoint, Noranda is surrounded by significant amounts of base load generation. This includes the following generation: the above-mentioned 1,200 MW of AECI generation at New Madrid; Arkansas Power & Light Company's 1,600 MW Independence Plant; AmerenUE's 1,200 MW Rush Island Plant; Electric Energy Inc's 1,000 MW Joppa Plant; and Tennessee Valley Authority's 1,500 MW Shawnee Plant.

All of this generation has been in service for a number of years, and is expected to remain in service for the foreseeable future. As mentioned, all of it is base load

generation which means that it is typically producing electricity in large quantities on a sustained basis.

Q. Is the fact that Noranda is surrounded by all of this base load generation significant for purposes of AmerenUE's Application?

A. Yes. From an electrical standpoint, the power from these existing base load generating plants is used by, and sinks in, Noranda's aluminum plant because of Noranda's close electrical proximity to these plants. Because of the laws of physics and regardless of which supplier is authorized to serve Noranda, whether by contract or regulatory order, local generation will serve local load. In other words, power will tend to flow directly from these base load units which are constantly running to Noranda which is constantly consuming power produced by them. If Noranda were to cease operations, the power from these surrounding generating sources would flow to a new sink and destination. This could create significant amounts of congestion in the area until additional outlet capacity could be built. It is unlikely that normal load growth would add new loads to substitute for that of a disappearing Noranda absent a replacement large-load customer. Thus, Noranda's continued operation is important to avoid congestion on the AmerenUE and AECI transmission systems.

Q. Have AmerenUE's and AECI's transmission systems been used to deliver power to Noranda in the past?

A. Yes. The interconnected transmission systems of AmerenUE and AECI have for many years been used to supply Noranda's electrical needs. From an electrical standpoint, not only do the laws of physics dictate that essentially the same generating plants will continue to physically supply the power Noranda consumes, but also the

same transmission system (and Noranda's own distribution assets) will continue to be used to deliver that power to Noranda.

Q. From what generation source does Noranda's current supplier obtain or purchase electrical supply?

A. To the best of my knowledge, Noranda load is not served by any designated generating resources. It is my understanding that the agent for Noranda secures energy from the market to serve the load. This affected how we analyzed the impact of AmerenUE serving the Noranda load. In power flow modeling an explicit source for each load is required. As a result, the source which has been used in regional power flow models to supply the Noranda load has been the incremental dispatch of AECI generation. Consequently, to analyze the effect on power flows of transferring the Noranda load into AmerenUE's service territory we reduced the output of the "last on/first off" AECI generation and increased the available AmerenUE generation. The results are discussed below.

Q. What overall impact, if any, is there on the AmerenUE system and on the AECI system once AmerenUE begins to serve Noranda instead of Noranda purchasing from the market?

A. As mentioned above, the inclusion of the Noranda load in the AmerenUE service territory does not represent an incremental increase in the load attached to the transmission system at the AECI New Madrid Substation and there should be little or no change in the generation dispatch of the base load units to which the Noranda load is in close electrical proximity. Therefore, the transfer of the Noranda load into the

AmerenUE service territory should result in little or no change on any of the local flows in and around Noranda.

Q. Has AmerenUE performed any modeling or analysis to verify the impact on power flows on the AmerenUE and AECI transmission systems as a result of AmerenUE beginning to serve the Noranda load?

A. Yes. We have performed a power flow analysis that verified that there will not be any significant change to the flows on the transmission systems of AECI and of AmerenUE. The results are attached as Schedule ECP-2.

Q. Is the AmerenUE transmission system capable of supplying Noranda?

A. Yes. As stated before, there should be little or no change in the flows in eastern Missouri as there will be no incremental change in the load or close by generation due to the transfer of Noranda into the AmerenUE service territory. The impact on the AmerenUE transmission system would be from the dispatch of additional resources to meet the increased demand on generation due to the transfer. These generating resources are dispersed across the AmerenUE system and there are no known constraints associated with full output from any of the AmerenUE generating units.

III. ARRANGEMENTS FOR TRANSMISSION SERVICE TO SERVE NORANDA

Q. What transmission facilities will be used in order for AmerenUE to supply electricity to Noranda?

A. If our Application is granted and Noranda becomes a native bundled load customer of AmerenUE, the Noranda load would be included in AmerenUE's Network Integration Transmission Service ("NITS") under the MISO OATT. This is the same transmission service that is used to serve all of AmerenUE's other bundled retail

native load. The fact that Noranda is not contiguous with the rest of the AmerenUE service territory does not affect the need for NITS service, nor does it affect this service in any way.

As previously noted, the AmerenUE service territory is currently not contiguous or homogenous. As a result, AmerenUE has other bundled retail native load customers (the Excelsior Springs example noted earlier) who use NITS service under the MISO OATT in the same fashion. Because of the lack of contiguity and homogeneity, AmerenUE and AECI have over time developed the Interchange Agreement I mentioned earlier which addresses the fact that each has pockets of load in isolated service territories that are not contiguous to their respective transmission systems. This physical relationship has resulted in the creation of Delivery Points. A Delivery Point is a connection at which the load of one party is directly connected to the transmission of the other. This arrangement allows for the load to be served reliably without the need to build duplicate transmission facilities.

In the case of Noranda, a new Delivery Point will be defined as the point at which the customer owned substation will be directly connected to the AECI New Madrid Substation via a series of 161 kV feeders. The Delivery Point for Noranda will include notice and termination provisions which will be consistent with the notice and termination provisions in the Agreement between AmerenUE and Noranda, which is attached as an exhibit to Mr. Craig Nelson's testimony.

Q. Has AmerenUE contacted the MISO about Delivery Point arrangements for Noranda?

A. Yes. AmerenUE contacted the MISO to determine how this Delivery Point would be treated under the MISO OATT. The MISO took the position that, since this Delivery Point connection was being established under the terms of a grandfathered agreement (namely, the AmerenUE-AECI Interchange Agreement), that the Noranda load would be supplied via NITS service under the MISO OATT and would not be subject to the MISO's regional through and out rates. Further, the use of a Delivery Point under the AmerenUE-AECI Interchange Agreement brings the Noranda load into the MISO energy market consistent with the policy of MISO and the FERC for the development of regional energy markets. In summary, the MISO has verified that it will provide NITS service to the Noranda load via a Delivery Point under the AmerenUE-AECI Interchange Agreement.

Q. Is the Noranda Delivery Point provision between AmerenUE and AECI subject to regulatory approval?

A. Yes. The new Delivery Point is being filed with the FERC and is subject to FERC approval.

Q. What would happen if FERC did not approve the Delivery Point service for Noranda?

A. In the event that AmerenUE and AECI were, for whatever reason, not allowed by FERC to use the Interchange Agreement to serve Noranda, the Midwest ISO has indicated that AmerenUE would have to secure additional Point to Point transmission service to deliver the power outside of the MISO footprint to the Noranda load. (MISO's tariff does not allow NITS service to be used for power that is transmitted

outside of its footprint.) This Point to Point service also is likely to include a charge under the MISO's regional through and out rates.

Q. Who would be responsible for the additional transmission costs if FERC does not allow the use of Delivery Point service for Noranda?

A. Noranda would be responsible for the costs of any alternate transmission arrangements. In particular, Noranda would be responsible for the costs of any Point to Point transmission service that AmerenUE would have to secure from the MISO to take the power outside of the MISO footprint. As a result, the LTS tariff provides that if MISO imposes charges based on the fact that Noranda is not connected to AmerenUE's system, such charges are the responsibility of Noranda.

Q. Would Noranda pay for transmission service on the AECI system?

A. Yes. It is my understanding that Noranda will pay AECI for transmission service on the AECI system for the power delivered by AmerenUE when AmerenUE starts serving Noranda as of June 1, 2005. As a result, the LTS tariff provides that it is Noranda's responsibility to secure and pay for firm transmission service if necessary for service outside of AmerenUE's control area (that is, on AECI's system).

IV. EFFECT ON THE AMERENUE SYSTEM

A. UPGRADES

Q. Are any upgrades required to the AmerenUE system in order for AmerenUE to serve Noranda?

A. No. The transfer of the Noranda load into the AmerenUE service territory does not represent an incremental change in the load connected to the transmission system and as such does not require any upgrades.

B. OPERATIONS

Q. What is the effect of serving Noranda on AmerenUE's transmission operations?

A. The transfer of the Noranda load to the AmerenUE service territory would not create any significant change in system operations. AmerenUE and AECI have each added Delivery Points over the last several years so the addition of a Noranda Delivery Point would not be a major change to the operation of the system. The 470 MW Noranda load has a very high load factor and as such is not a difficult load to follow as compared to an arc furnace or other highly variable load which would introduce operational issues. The inclusion of the Noranda load in the AmerenUE control area can also be an operational benefit with respect to minimum generation dispatch requirements during off peak conditions.

Q. Would loss of the Noranda load affect transmission operations?

A. Yes, from a reliability perspective, it is in the overall best interest of the transmission system that the load at Noranda remain in service. If for example, Noranda were to cease operations, the net effect of the removal of the Noranda load from the transmission system would be the rough equivalent of adding a 470 MW generating unit at New Madrid. Although not explicitly studied, the addition of the equivalent of a 470 MW unit at New Madrid without some additional generation transmission outlet capacity could result in congestion along the AmerenUE interface to TVA and Entergy

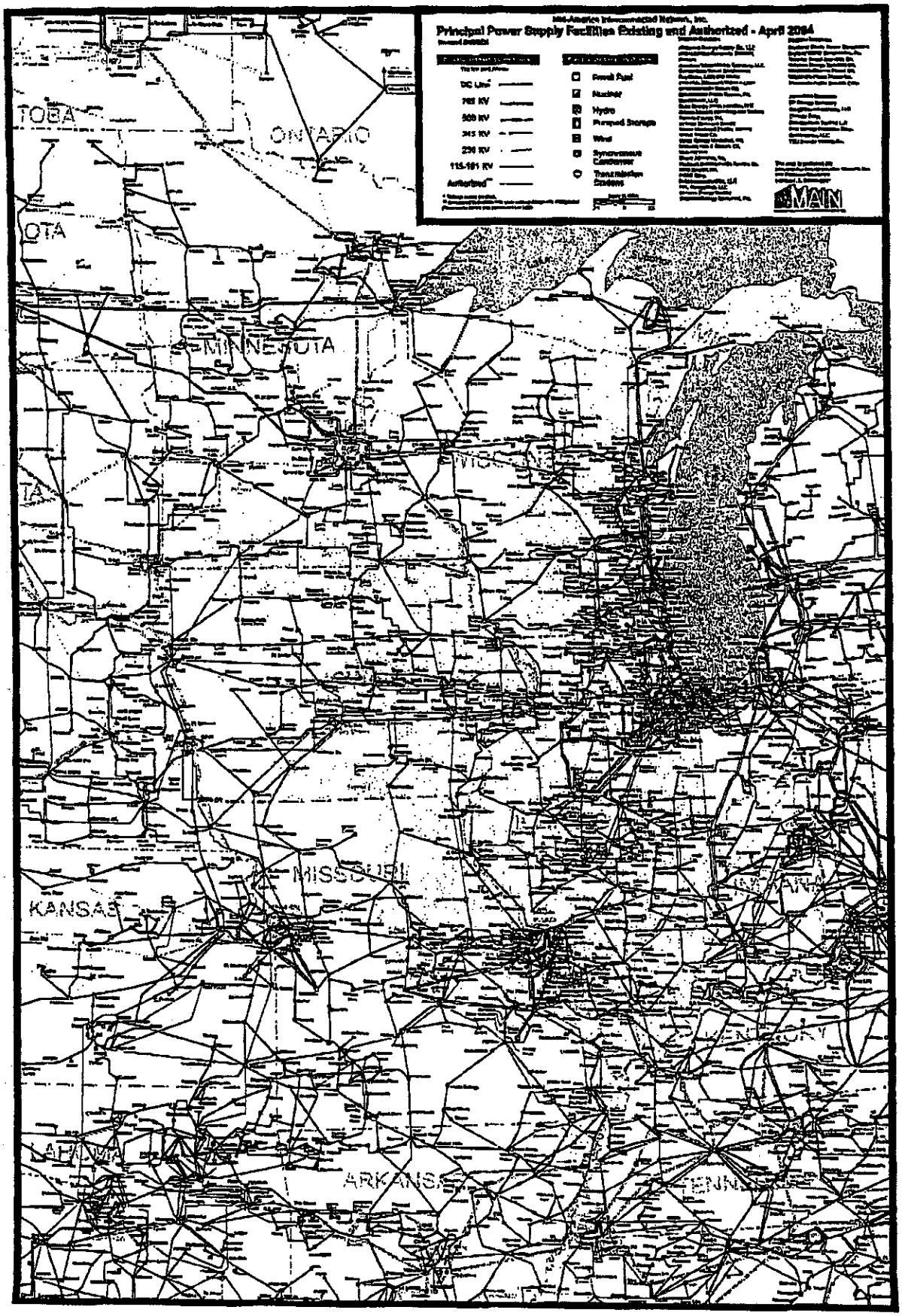
V. CONCLUSION

Q. Please summarize your testimony.

A. The AmerenUE transmission system is fully capable of allowing AmerenUE to supply Noranda's electrical needs in a reliable manner for the foreseeable future. AmerenUE would do so under the MISO OATT for delivery of the power from AmerenUE's generators to Noranda as part of AmerenUE's bundled retail native load in conjunction with the Delivery Point provisions of the AmerenUE-AECI Interchange Agreement. No network upgrades are required due to the transfer of the Noranda load to the AmerenUE service territory. Further, there would be no adverse impact to the transmission system or any transmission related harm to AmerenUE or its other customers. No AmerenUE distribution facilities will be involved in serving Noranda, and so there could be no adverse impact to such facilities.

Q. Does that conclude your testimony?

A. Yes, it does.


Mid-America Interconnected Network, Inc.
Principal Power Supply Facilities Existing and Authorized - April 2004
MAIN
TOBA
ONTARIO
OTA
MINNESOTA
KANSAS
MISSOURI
ARKANS

Sullivan, John E

Attachment 1

From: Sullivan, John E
Sent: Monday, November 29, 2004 9:31 AM
To: Pfeiffer, Edward C
Subject: Flow Changes with Change in Noranda Supply

Sensitivity: Private

comparison.doc (40 KB)

The attached Word document contains PTI PSS/E output comparing two powerflow cases. One case, shown as the 'working case', is a 2005 Summer model, with Ameren and Associated Electric generation shifted to show Ameren generation supplying the Noranda load. The second case, shown as the 'saved case', is the same 2005 Summer model, but without the generation shift between Ameren and Associated Electric for the Noranda load.

The Ameren generation shift was made by increasing generation at Pinckneyville and Venice, with the Associated Electric generation shift coming from the following facilities:

St. Francis Unit 1	31 MW	Missouri bootheel
St. Francis Unit 2	31 MW	Missouri bootheel
Holden Unit 1	90 MW	near Kansas City, Missouri
Holden Unit 2	90 MW	near Kansas City, Missouri
Nodaway Unit 1	70 MW	Northwest Missouri
Essex	80 MW	Southeast Missouri
Chouteau Unit 1	22 MW	eastern Oklahoma
Chouteau Unit 2	22 MW	eastern Oklahoma
Chouteau Unit 3	24 MW	eastern Oklahoma
Total:	460 MW	

Two tabulations of line flow comparisons are included in the attachment. One covers flow changes between the cases where branch flows changed by 50 MW or greater. The second covers flow changes where branch flows changed by 100 MW or greater.

In comparing the two powerflow cases, the greatest flow changes were on facilities near the Pinckneyville and Venice Plants, where the Ameren generation shift was modeled for this comparison. Other facilities with appearing in the 50 MW flow change tabulation, such as the Montgomery-McCredie-Overton 345 kV line (Montgomery-Overton-5) would appear to be in the list because of the generation pattern change, rather than having anything specific to do with Noranda load. The Montgomery-McCredie 345 kV line section showed an increase of 94.3 MW over the base case because of a generation reduction at Holden, in the Kansas City area, of 180 MW, and a 70 MW reduction at Nodaway in northwest Missouri. The Lutesville-Essex 345 kV flow increased 59.8 MW because of the reduction of generation at Essex by 80 MW.

****
John E. Sullivan, Engineer
Ameren Services
JSullivan@ameren.com
(314) 554-3833
****

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     PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E      WED, NOV 24 2004  16:28
COMPARISON OF THE WORKING CASE AND THE SAVED CASE C:\AECI\05s-final.sav

WORKING CASE:
        2004 MMWG, 2005 SUMMER - GEN SHIFT FOR NORANDA
        AMEREN AND AMERENCILCO DETAIL

SAVED CASE C:\AECI\05s-final.sav:
        2004 MMWG, 2005 SUMMER
        AMEREN AND AMERENCILCO DETAIL

BUSES FROM THE TWO CASES ARE CONSIDERED TO BE THE
SAME BUS WHEN THEY HAVE THE SAME BUS NUMBER AND NAME

WORKING CASE SUBSYSTEM BUSES OMITTED FROM BUS COMPARISON LIST:
BUS # X-NAME-X  BASE KV
STAR POINT BUSES OF  733 THREE-WINDING TRANSFORMERS


C:\AECI\05s-final.sav SUBSYSTEM BUSES OMITTED FROM BUS COMPARISON LIST:
BUS # X-NAME-X  BASE KV
STAR POINT BUSES OF  733 THREE-WINDING TRANSFORMERS

WORKING CASE CONTAINS 45210 BUSES AND 60228 BRANCHES
 1703 BUSES IN SELECTED SUBSYSTEM

C:\AECI\05s-final.sav CONTAINS 45210 BUSES AND 60228 BRANCHES
 1703 BUSES IN SELECTED SUBSYSTEM

 1598 BUSES TO BE COMPARED

 1752 BRANCHES IN COMPARE LIST

    0 MULTI-SECTION LINES IN COMPARE LIST
```

Attachment 2
Page 1

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E WED, NOV 24 2004 16:34
COMPARISON OF THE WORKING CASE AND THE SAVED CASE C:\AECI\05s-final.sav

BUSES WITH MW GENERATION DIFFERING BY MORE THAN 0.0 MW:

		IN WORKING CASE		IN C:\AECI\05s-final.sav					
X------ BUS --------X		MW	MVAR	MW	MVAR	DELTA MW	%	MVAR	%
31400	[OSAGE 138]	140.0	117.9	189.4	99.6	49.4	35.3	-18.2	15.5
31504	[PICKVL 413.8]	44.0	-0.4	0.0	0.0	-44.0	100.0	0.4	100.0
31505	[PICKVL 513.8]	72.0	-0.5	0.0	0.0	-72.0	100.0	0.5	100.0
31506	[PICKVL 613.8]	72.0	-0.5	0.0	0.0	-72.0	100.0	0.5	100.0
31882	[VENICE3 15.0]	165.0	75.0	0.0	0.0	-165.0	100.0	-75.0	100.0
31883	[VENICE4 15.0]	165.0	75.0	0.0	0.0	-165.0	100.0	-75.0	100.0
96002	[1THLG2 22.0]	187.6	44.8	189.8	46.8	2.2	1.2	2.1	4.6
96010	[1STFRG1 16.0]	189.0	80.8	220.0	77.9	31.0	16.4	-2.9	3.6
96011	[1STFRG2 16.0]	189.0	19.1	220.0	22.8	31.0	16.4	3.7	19.6
96012	[1HOLDEN1 13.8]	0.0	0.0	90.0	8.4	90.0	999.9	8.4	999.9
96013	[1HOLDEN2 13.8]	0.0	0.0	90.0	8.4	90.0	999.9	8.4	999.9
96025	[1NDWYG1 13.8]	0.0	0.0	70.0	43.6	70.0	999.9	43.6	999.9
96029	[1ESSEXG 13.8]	0.0	0.0	80.0	37.3	80.0	999.9	37.3	999.9
96031	[1CHOTCT1 13.8]	138.0	14.0	160.0	17.5	22.0	15.9	3.5	25.4
96032	[1CHOTCT2 13.8]	138.0	14.0	160.0	17.5	22.0	15.9	3.5	25.4
96033	[1CHOTST3 13.8]	144.0	14.0	168.0	17.5	24.0	16.7	3.5	25.4

Attachment 2
Page 2

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E WED, NOV 24 2004 16:28
COMPARISON OF THE WORKING CASE AND THE SAVED CASE C:\AECI\05s-final.sav

BRANCHES WITH FROM BUS END FLOWS DIFFERING BY MORE THAN 50.0 MW OR MVAR:

					IN WORKING CASE		IN C:\AECI\05s-final.sav					
X---- FROM BUS ----X	X----- TO BUS -----X	CKT	MW	MVAR	MW	MVAR	DELTA MW	%	MVAR	%
30045 [ASHLEY 2 138]	30046 [ASHLEY 3 138]	1	6.8	28.6	-75.1	-3.9	-81.9	999.9	-32.5	113.8
30045 [ASHLEY 2 138]	31825 [TRIGENMO 138]	1	-59.4	-20.2	7.7	5.4	67.1	113.0	25.7	126.9
30046 [ASHLEY 3 138]	30215 [CAHOK 1 138]	1	-5.1	29.1	-87.2	-3.6	-82.1	999.9	-32.7	112.3
30102 [BELLEAU 345]	30535 [ENON 345]	1	40.9	-90.7	-34.5	-85.8	-75.4	184.5	4.9	5.4
30102 [BELLEAU 345]	31747 [SIOUX 345]	1	-324.9	14.3	-251.8	11.2	73.1	22.5	-3.1	21.8
30154 [BLAND 345]	30886 [LABADIE 345]	1	-309.5	-33.7	-246.1	-36.1	63.3	20.5	-2.4	7.2
30154 [BLAND 345]	96041 [7FRANKS 345]	1	594.5	96.7	530.2	89.8	-64.2	10.8	-6.8	7.1
30216 [CAHOK 3 138]	31592 [RIDGE 138]	1	28.7	-3.1	83.1	9.1	54.4	189.5	12.2	396.4
30249 [CAMBZL T 345]	30265 [CAMPBELL 345]	1	254.3	36.9	314.1	63.7	59.8	23.5	26.8	72.6
30249 [CAMBZL T 345]	31651 [ROXFORD 345]	1	-83.0	-86.7	-181.7	-114.3	-98.7	118.8	-27.7	32.0
30265 [CAMPBELL 345]	30266 [CAMPBELL 138]	1	254.2	37.8	314.0	64.3	59.8	23.5	26.5	70.1
30266 [CAMPBELL 138]	31273 [NSD 138]	1	-3.7	18.4	75.5	42.7	79.2	999.9	24.3	132.1
30266 [CAMPBELL 138]	31877 [VENICE 2 138]	1	-20.3	6.1	31.2	25.9	51.5	253.6	19.7	323.5
30535 [ENON 345]	31230 [MONTGMRY 345]	1	-253.2	-98.7	-318.5	-92.9	-65.3	25.8	5.8	5.9
30886 [LABADIE 345]	31230 [MONTGMRY 345]	1	263.4	7.5	213.3	8.7	-50.2	19.0	1.2	15.8
30974 [LUTESVIL 345]	96038 [7ESSEX 345]	1	307.4	-5.2	247.6	-3.5	-59.8	19.5	1.7	33.6
31051 [NASON 13 345]	31747 [SIOUX 345]	1	38.1	58.3	88.5	57.9	50.4	132.1	-0.4	0.7
31088 [MCCREDIE 345]	31230 [MONTGMRY 345]	1	-292.5	-39.6	-198.2	-49.2	94.3	32.2	-9.6	24.3
31088 [MCCREDIE 345]	31408 [OVERTON 345]	1	340.8	39.6	275.7	41.8	-65.1	19.1	2.2	5.7
31273 [NSD 138]	31876 [VENICE 1 138]	1	-102.5	-0.8	-8.3	28.7	94.0	91.7	29.5	999.9
31320 [N COULTR 230]	31500 [PICKNYVL 230]	1	-233.1	5.6	-153.4	-6.2	79.7	34.2	-11.8	211.1
31500 [PICKNYVL 230]	31505 [PICKVL 513.8]	1	-71.9	6.1	0.0	0.0	71.9	100.0	-6.1	100.0
31500 [PICKNYVL 230]	31506 [PICKVL 613.8]	1	-71.9	6.1	0.0	0.0	71.9	100.0	-6.1	100.0
31500 [PICKNYVL 230]	31785 [STJOHNAM 230]	1	84.6	-33.3	-22.5	-20.2	-107.1	126.6	13.1	39.2
31592 [RIDGE 138]	31877 [VENICE 2 138]	1	-56.0	-20.3	0.5	-1.5	56.5	100.9	18.8	92.8
31651 [ROXFORD 345]	31747 [SIOUX 345]	1	412.3	-82.3	302.6	-93.8	-109.7	26.6	-11.1	13.5
31785 [STJOHNAM 230]	31924 [W.FRKFT 230]	1	14.3	-16.4	-82.4	-3.5	-96.7	675.5	12.9	78.5
31825 [TRIGENMO 138]	31877 [VENICE 2 138]	1	-52.4	-20.4	14.7	5.3	67.1	128.1	25.7	125.7
31876 [VENICE 1 138]	31877 [VENICE 2 138]	1	-201.2	-82.5	-46.4	-30.5	154.8	76.9	51.9	63.0
31877 [VENICE 2 138]	31882 [VENICE3 15.0]	1	-165.0	-58.4	0.0	0.0	165.0	100.0	58.4	100.0
31877 [VENICE 2 138]	31883 [VENICE4 15.0]	1	-165.0	-58.4	0.0	0.0	165.0	100.0	58.4	100.0
31924 [W.FRKFT 230]	31925 [W.FRKFT 138]	1	153.7	31.9	91.2	34.8	-62.5	40.7	2.9	9.0
96012 [1HOLDEN113.8]	96124 [5HOLDEN 161]	1	0.0	0.0	90.0	8.4	90.0	999.9	8.4	999.9
96013 [1HOLDEN213.8]	96124 [5HOLDEN 161]	1	0.0	0.0	90.0	8.4	90.0	999.9	8.4	999.9
96025 [1NDWYGI 13.8]	96104 [5NODWAY 161]	1	0.0	0.0	70.0	43.6	70.0	999.9	43.6	999.9
96029 [1ESSEXG 13.8]	96075 [5ESSEX 161]	1	0.0	0.0	80.0	37.3	80.0	999.9	37.3	999.9
96071 [5CLINTN 161]	96124 [5HOLDEN 161]	1	0.1	6.2	-82.2	9.2	-82.3	999.9	3.0	48.6
96110 [5PITTSV 161]	96124 [5HOLDEN 161]	1	17.1	-14.5	-64.6	-9.2	-81.7	477.0	5.2	36.0

Attachment 2
Page 3

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E WED, NOV 24 2004 16:28
COMPARISON OF THE WORKING CASE AND THE SAVED CASE C:\AECI\05a-final.sav

BRANCHES WITH FROM BUS END FLOWS DIFFERING BY MORE THAN 100.0 MW OR MVAR:

					IN WORKING CASE		IN C:\AECI\05a-final.sav					
X---- FROM BUS ----X		X----- TO BUS -----X		CKT	MW	MVAR	MW	MVAR	DELTA MW	%	MVAR	%
31500	[VICKNYVL 230]	31785	[STJOHNAM 230]	1	84.6	-33.3	-22.5	-20.2	-107.1	126.6	13.1	39.2
31651	[ROXFORD 345]	31747	[SIOUX 345]	1	412.3	-82.3	302.6	-93.4	-109.7	26.6	-11.1	13.5
31876	[VENICE 1 138]	31877	[VENICE 2 138]	1	-201.2	-82.5	-46.4	-30.5	154.8	76.9	51.9	63.0
31877	[VENICE 2 138]	31882	[VENICE3 15.0]	1	-165.0	-58.4	0.0	0.0	165.0	100.0	58.4	100.0
31877	[VENICE 2 138]	31883	[VENICE4 15.0]	1	-165.0	-58.4	0.0	0.0	165.0	100.0	58.4	100.0

Attachment 2
Page 4

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing was served via e-mail, to the following parties on the 20th day of December, 2004.

Office of the General Counsel
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/s/James B. Lowery
James B. Lowery

APPENDIX C

Attachment 1

Transmission Reservation Detail 76138671 REFUSED

Create New TSR | Back

Seller	Source Sink	POR POD	Service	Request Type	Start (CS)	Stop (CS)	MW Req	MW Grant	Bid Price	Offer Price	Ceiling Price	Price Unit
MISO	AMRN MOWR	AMRN MPS	MONTHLY FIRM POINT_TO_POINT FULL_PERIOD FIXED	ORIGINAL	2005-01-31 23:00	2005-02-28 23:00	5				9999.0000	$/MW-Month

Path:	OASIS Account:	Preconfirmed: Yes	Competing: No	Negotiated: No	Nerc Priority: 7	Affiliate: No
_/MISO/AMRN-MPS//	WRGS	☑	☐	☐	☑	☐

	Comments		Times (CS)	References
Status		Queued	2004-12-02 14:13:07	Deal
Seller	Insufficient ATC on FRE-RTST-FLUTER-MREUTS-TID-RESETRUSSTF [illegible]	Updated	2004-12-30 02:24:47	Sale
Provider		Response		Posting
Customer		Re-Start		Request
Impacted		Re-Stop		Reassigned
				Seller
				Related

Status Notification

Anc-Service-Link: SC:(MISO AR 74978898.5); RF:; EI:; TL:; SP:; BS:; DT:; SU:; RV:(MISO AR 74978898.5);

Anc-Required: SC:M RV:M RF:O EI:U SP:O SU:O DT:U TL:U BS:U

Customer: WRGS		Seller: MISO	
Name	Marie Rogers	Name	MISO_TA
Phone	785-575-6477	Phone	317-249-5523
Fax	785-575-6010	Fax	317-249-5860
E-mail	marie_rogers@wr.com	E-mail	tariffadministration@midwestiso.org

CERTIFICATE OF SERVICE

CERTIFICATE OF SERVICE

I hereby certify that I have on this 15th day of February, 2005, caused the foregoing document to be sent by first-class mail to all parties on the list compiled by the Secretary of the Commission in this proceeding.

/s/ Margaret A. McGoldrick
Margaret A. McGoldrick

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