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Issue(s):	Transmission
Witness:	Edward C. Pfeiffer
Sponsoring Party:	Union Electric Company
Type of Exhibit:	Surrebuttal Testimony
Case No.:	EA-2005-0180
Date Testimony Prepared:	February 14, 2005

MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. EA-2005-0180

SURREBUTTAL TESTIMONY

OF

EDWARD C. PFEIFFER

ON

BEHALF OF

UNION ELECTRIC COMPANY
d/b/a AmerenUE

St. Louis, Missouri
February, 2005

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 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 Surrebuttal Testimony on behalf of Union Electric Company, d/b/a AmerenUE, consisting of 32 pages and Schedule ECP-3 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 14th day of February, 2005.

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

SURREBUTTAL 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.

Q. By whom and in what capacity are you employed?

A. I am employed by Ameren Services Company as the Manager of the Electric Planning Department.

Q. Are you the same Edward C. Pfeiffer who filed Direct Testimony in this case?

A. Yes, I am.

I. INTRODUCTION AND SUMMARY

Q. What is the purpose of your surrebuttal?

A. I will respond to the rebuttal testimony of Dr. Michael Proctor on behalf of the Commission Staff ("Staff") and Mr. John Grotzinger on behalf of the Missouri Joint Municipal Electric Utility Commission ("MJMEUC").

Q. Please summarize your testimony.

A. Regarding Dr. Proctor, I will show that his assessment and conclusions about transmission impacts are generally consistent with mine and thereby confirm that 1) there will be no adverse impact on transmission with AmerenUE serving Noranda, and 2) that there is no need for any action by this Commission on this issue.

Regarding Mr. Grotzinger I will show that his concerns are without foundation and misplaced, and that they do not require any response from the Commission.

In particular, the MJMEUC has raised several points regarding the impact of the transfer of the Noranda load into the AmerenUE service territory. MJMEUC has contended that this transfer will decrease the reliability of the load connected to the AmerenUE system. However MJMEUC has not provided any evidence to support this claim. MJMEUC has shown that it has historically and currently been unable to obtain new point-to-point service by transmission service requests. The Midwest Independent Transmission System Operator, Inc. ("MISO") has a tariff approved by the Federal Energy Regulatory Commission ("FERC") which provides a means of pursuing network upgrades to create the wholesale market access in which MJMEUC is interested. MJMEUC has not provided any indication that it has pursued network upgrades under these processes.

MJMEUC has also alleged that it will be subject to increased congestion and that it will be unable to obtain adequate Financial Transmission Rights ("FTRs") from the MISO to hedge its load as a result of this load transfer. However, it again has not shown any proof of increased congestion nor provided any indication that it will be unable to obtain adequate FTRs going forward.

Finally, the MJMEUC has proposed that AmerenUE initiate transmission projects for which it has provided no studies to support or justify these network upgrades as the least cost solution to a system requirement.

MJMEUC should pursue its concerns with the MISO or with the FERC, or with both.

II. RESPONSE TO STAFF

Q. In his rebuttal, Dr. Proctor contends that in order to properly address the impact on the transmission system from AmerenUE serving the Noranda load, there are four questions that should be addressed. These relate to 1) changes in congestion to the system, 2) transmission upgrades, 3) congestion costs to AmerenUE, and 4) the effect on the ability of other Missouri utilities to obtain long term firm transmission service. (pp. 24-25) Please respond.

A. I generally agree that these are the relevant questions to ask. I also generally agree with the way that Dr. Proctor has addressed and answered these questions. I find his analysis to be consistent with mine and to confirm the statements I made in my direct testimony that there would not be any adverse impact to the transmission system or any transmission related harm to AmerenUE or its other customers.

Dr. Proctor correctly points out that there could be some impact in terms of congestion cost to AmerenUE and in terms of the availability of transmission by others outside of the MISO footprint. Certainly, AmerenUE's service to Noranda will have some impact on transactions within, and also outside of, the MISO footprint. However, the Noranda related impact is no different from that of any other changes to supply native network load that would occur. In fact, the Noranda related impact is clearly more benign than other possible changes because Noranda does not represent new load in the region. It only represents a change in the control area in which the load resides, from Associated Electric Cooperative Inc. ("AECI") to AmerenUE.[1]

In any case, it is important to note that the MISO is now the transmission provider. On May 1, 2004, AmerenUE transferred functional control of its transmission system to the

MISO. As a result, AmerenUE is no longer the transmission provider. As transmission provider, the MISO is responsible for addressing the impacts of changes in the utilization of the system by native network load as it may affect requests for new transmission service. As I will discuss below, AmerenUE is following the MISO process and the MISO has adequately considered the effects of AmerenUE serving Noranda as bundled native network load. It would be speculative and harmful to Noranda for this Commission to prejudge in advance what the Noranda related impact will be with respect to future wholesale transmission service requests and what, if anything, needs to be done to address it. That is the role of MISO. I understand that Dr. Proctor generally agrees with this assessment.

Q. Please address the first issue concerning a change in congestion charges.

A. Dr. Proctor considers whether "the transmission system" will experience any change in congestion if AmerenUE serves Noranda, as opposed to Noranda being served by another supplier. His answer is no because "Irrespective of who serves the Noranda Load, the physics of the transmission system will remain the same." (p. 25) I agree. This is fully consistent with my direct testimony where I make the same points. Dr. Proctor contended that "Under the Midwest ISO facilitated energy market that is scheduled to start up prior to June 1, 2005, who serves the Noranda Load within the Midwest ISO footprint is strictly a financial issue". (p. 25) I agree. In other words, in what will be known as the "Day 2 market" the Noranda load and all other load within the MISO footprint will be served in a least cost manner by all of the generation resources in the MISO in a manner which recognizes the physical limitations of the transmission system. The Noranda load and the impact which it will have on loading and congestion in southeast Missouri, as an existing and

[1] A control area defines an area electrically, whereas a service area defines an area geographically.

continuing load on the system, will essentially be the same after it is transferred into the AmerenUE service territory and control area and within the MISO footprint.

Dr. Proctor also agrees with me that if Noranda were to cease operations, this could create significant amounts of congestion in the area until new generation outlet capacity is built. Finally, Dr. Proctor makes the point that it is speculative to anticipate how congestion might change if the sources of generation for serving Noranda change. I agree.

Q. Please address the second issue concerning upgrades.

A. I understand that Dr. Proctor agrees with me that AmerenUE will not be required to make any transmission upgrades to serve Noranda. He points out that this answer is consistent with the fact that transmission line loadings will not increase in the region. In contrast, as mentioned above, if Noranda ceased operations, transmission line loadings are likely to significantly increase and as a result upgrades might be needed.

Q. Please address the third issue concerning an increase in congestion costs.

A. Dr. Proctor correctly states that in general increasing load can result in increased congestion costs. This is not necessarily because of increased congestion but because congestion costs are the product of congestion charges and load. As a result, he contends that in general if AmerenUE serves Noranda--or in the event of any increase in native network load--AmerenUE's congestion costs would increase. However, he points out that any increase in congestion costs may be fully hedged by additional candidate FTRs for which AmerenUE will be eligible as a result of Noranda. Dr. Proctor concludes that it is impossible to say whether or not this increase in FTRs allocated to AmerenUE would be sufficient to cover any increase in congestion costs. In response, I would agree that prior to gaining experience in the MISO Day 2 market there is an absence of certainty related to the

efficacy of FTRs to mitigate congestion costs. However, in light of the fact that congestion is the byproduct of constraints, and since there is an absence of apparent constraints in southeast Missouri due to the transfer of the Noranda load into the AmerenUE service territory there should not be any significant change in local congestion due to the Noranda load transfer.

Q. Please address the fourth issue concerning the effect on other Missouri utilities.

A. Dr. Proctor makes some observations that while it may be more difficult to make firm transmission reservations from east to west, it may be easier to make them for west to east transactions. However, while AmerenUE is responsible for planning its transmission system to reliably serve all load within its footprint, AmerenUE is not responsible for planning and building additional transmission capacity to insure that there is some arbitrary amount of surplus transmission capacity to provide for additional wholesale market activity. The MISO performs these activities through the following: 1) through the administration of its Open Access Transmission Tariff ("OATT"), 2) regional expansion plans developed to identify transmission expansion associated with regional economic benefits, and 3) its Regional Expansion Criteria and Benefits ("RECB") process to address cost allocation of regional expansion. As a result, the MISO is the proper entity to address transmission expansion to enable future market activity.

In any case, as stated above, it is a certainty that AmerenUE's serving Noranda will have some impact on flows on the regional transmission system. However, there is no evidence to suggest that there will be any adverse impact that would affect the reliable supply of load within the AmerenUE footprint.

III. RESPONSE TO MJMEUC

Q. What is your overall response to Mr. Grotzinger?

A. Mr. Grotzinger's concerns that AmerenUE's serving Noranda either may or will harm the MJMEUC are without justification and in any case do not require a response by this Commission. At the outset, I would note several points.

1. His concerns are overblown since the Noranda load is not new load to the region. As previously discussed, Dr. Proctor correctly characterized the situations as being a financial issue, and not a physical issue. My load flow study has shown that the flows will not result in any significant increase in the loading of any transmission line so as to require an upgrade or otherwise jeopardize reliable service to customers. Mr. Grotzinger has not demonstrated otherwise.

2. AmerenUE has properly followed MISO's rules regarding the Noranda load and will continue to do so. In particular, AmerenUE approached the MISO to determine if the transfer of the Noranda load into the AmerenUE service territory, and use of network service through the grandfathered AmerenUE/AECI Interconnection agreement, was consistent with the MISO OATT. The MISO approved this approach. Mr. Grotzinger has not shown that AmerenUE violated any rule of MISO in its treatment of Noranda.

3. MISO has adequately reviewed this transaction and its effects in as much as the existing Noranda load has been included in all of the MISO Transmission Expansion Plan ("MTEP") studies. To the extent that MJMEUC dislikes MISO's review it should complain to the MISO or to the FERC which has jurisdiction over the MISO and its tariffs and procedures, and not to this Commission.

4. Mr. Grotzinger's concerns about existing constraints on the regional transmission system are based on MISO Day 1 rules soon to be obsolete. The planned start of the MISO Day 2 energy market, scheduled for April 1, 2005, should eliminate any issues related to point-to-point service to loads connected to the AmerenUE transmission system.

5. Mr. Grotzinger raises a whole host of complaints about AmerenUE's behavior as a transmission owner, most of which do not relate to Noranda at all. Even if there were merit to these complaints—and there is not—such complaints should be taken to MISO or to the FERC.

Q. Mr. Grotzinger refers to Noranda as being "a new load" that AmerenUE has proposed to serve (p. 2). Please respond.

A. I can not tell from his testimony whether Mr. Grotzinger and I are in full agreement. I certainly agree with him that Noranda represents an addition of bundled retail load in the AmerenUE service territory. However, I do not agree that it is a new load connected to the transmission system. The transfer of the Noranda load to the AmerenUE service territory does not reflect an incremental change in the load supplied from the transmission system. The load would be the same after June 1, when AmerenUE would commence service to Noranda, as it would be before June 1. This is why I concluded in my Direct testimony that AmerenUE's serving Noranda would have no significant impact on the flows on the transmission system. From a physical standpoint, it is basically a non event. As noted above, Dr. Proctor agrees when he points out that it is a "financial" issue.

Q. Mr. Grotzinger contends that the transmission implications of AmerenUE serving Noranda at a location outside of the Company's current service

territory "are substantial in terms of both reliability and cost impacts to other parties, particularly MJMEUC and other municipal utilities" (p. 2). Please respond.

A. Mr. Grotzinger has failed to show that there will be any substantial impacts either as to reliability or as to costs. Regarding reliability, Mr. Grotzinger has not demonstrated that the changes due to transferring the Noranda load into the AmerenUE service area will in any way affect the reliability of the native network load in the region. As AmerenUE's response to *Staff DR 6* indicates, none of the lines whose loading changed by 50 MW or more are near to being over their rated capability. AmerenUE's response is attached and marked as Schedule ECP-3 to my testimony.

Regarding costs, Mr. Grotzinger points out that there is currently no Available Transmission Capability ("ATC") for new wholesale market activity today in MISO Day 1. However, to the best of my knowledge the MJMEUC has never sought to increase ATC across the AmerenUE system through network upgrades. As a result, I don't know why or how he expects new market opportunities to be created. He does suggest that AmerenUE could build tens of millions of dollars worth of network upgrades, without supporting data to indicate what constraints or congestion they might address. These upgrades arguably would increase the costs to all AmerenUE customers. In addition, he fails to consider the start of the MISO Day 2 market, scheduled to begin 60 days before the transfer of the Noranda load. The start of Day 2 markets will significantly reduce if not eliminate the need for point-to-point service requests for transactions within the MISO market. In summary, Mr. Grotzinger makes a point that should have little to no relevance in Day 2 markets.

Q. Mr. Grotzinger contends that AmerenUE is proposing to serve Noranda "in a manner that avoids the full study that would ordinarily apply to such a

transaction". (p. 2) Later in his testimony he contends that the Company's proposal could allow it "to avoid the MISO scrutiny and costs that would otherwise be applied to the transaction" (pp. 8-9). Please respond.

A. As previously noted, AmerenUE sought input from the MISO regarding the addition of Noranda as bundled native network load which would be included in the MISO market. The MISO agreed that the use of the grandfathered AmerenUE/AECI Interconnection Agreement was a valid means of serving this bundled retail load. AmerenUE, as the local transmission owner, is responsible for addressing the transmission requirements to supply all native network loads connected to its system, for addressing changes in the network load connected to its system, and for addressing the transmission capacity requirements needed to honor confirmed firm transmission service sold by the MISO as the regional transmission provider. The MISO planning process does not require that any changes to network load due to load growth, new retail customers, or boundary line changes be queued on, or submitted to, the MISO Open Access Same Time Information System ("OASIS"). Rather, AmerenUE provides the MISO with a local transmission plan which the MISO then includes in its MISO Transmission Expansion Plan ("MTEP") study.

The Noranda load, which has been included in all MISO reliability models as part of the AECI control area, will be shifted into the AmerenUE service territory and treated like all other bundled retail load in the AmerenUE footprint. This is no different from the manner in which AmerenUE would treat the addition of new load by a Network Integration Transmission Service ("NITS") customer such as the addition of a new 90 MW industrial load or a 50 MW expansion of an existing industrial load. This is true whether the addition is on AmerenUE's system or on a NITS customer's system such as one of the MJMEUC's

member cities. The only difference is that the Noranda load has been in the power flow models for years. In contrast, the hypothetical new or additional loads referenced above may not have been modeled in any of the MISO planning studies to date.

Q. Mr. Grotzinger contends that MJMEUC in its role as operator for MoPEP has experienced difficulties at various times in obtaining even minimal amounts of firm transmission from Ameren or MISO (p. 5). Please respond.

A. The Ameren transmission system has traditionally been heavily subscribed. Requests for new point-to-point service were often denied when Ameren was the transmission provider. I would not be surprised if requests continue to be denied now that the MISO is the transmission provider. Point-to-point service has been denied not only to MJMEUC but also to AmerenUE's power marketing affiliate.

Q. He contends that MJMEUC was denied by both AmerenUE and by MISO a request for 5 MW of transmission to load on the Aquila system. He further contends that MJMEUC incurred additional generation and transmission costs to supply the load from different sources. He then claims that this is "pertinent" because a similar redispatch from AmerenUE generation to the AECI border was used in the load model that you used for your direct testimony. (p. 5) Please respond.

A. This is not really pertinent in this context. The analysis which AmerenUE performed was to determine if the Noranda load could be supplied in a reliable manner from available AmerenUE resources without the need to reinforce the transmission system. The results of my power flow study support this contention. In addition, the specific dispatch of AmerenUE designated resources used to supply the increased native network load are not available as a source for transmission service requests based on the MISO process. It is

difficult to refute the contention that the MJMEUC incurred additional costs because of the past inability to pursue market opportunities due to a lack of ATC. However, there are remedies for this under the MISO OATT. The MJMEUC elected not to pursue these remedies. It is not appropriate for them to use this proceeding involving Noranda to air these earlier concerns.

Q. Mr. Grotzinger contends that "the facilities considered by MISO to be limiting for 5 MW of transmission are the same facilities Ameren projects to use in serving the Noranda load". (p. 6) Please respond.

A. Mr. Grotzinger again fails to differentiate between the ability to reliably serve native network load using designated resources via network service, on the one hand, and the availability of the transmission capacity to support additional point-to-point market based transmission service, on the other. Network service to native load needs to address the ability to reliably serve the load while honoring all confirmed transmission service reservations sold by the MISO. An OASIS for ATC new wholesale market activity must also take into consideration all unresolved requests for transmission service with higher priority in the queue. As such there are different methodologies and processes in effect and one cannot use the disposition of an ATC request to assess the reliability of the system to meet firm commitments.

Q. Mr. Grotzinger nevertheless contends that there are constrained lines between AmerenUE's generation and Noranda's load. (p. 6) Please respond.

A. Mr. Grotzinger has pointed out that today there are limits to wholesale point-to-point transmission service which MJMEUC has requested prior to the transfer of the Noranda load into the AmerenUE service territory. This is in part due to issues with the

MISO ATC process which AmerenUE has attempted to address without success and due to the presence of unresolved ATC requests with higher queue priority than the MJMEUC request.

However, Mr. Grotzinger has not indicated how the transfer of the Noranda load will exacerbate this inability to obtain point-to-point service. Nor has he acknowledged how the impending MISO Day 2 market is likely to eliminate the need for such point-to-point service for loads served from the AmerenUE system and in the MISO market. As a result, he has not presented any evidence to substantiate his concerns, particularly as applied to Day 2 markets for the post June 1 time frame.

Q. Who is responsible for addressing these existing constraints, and how do they do that?

A. Under the MISO OATT any transmission customer who is denied service may initiate a system impact study to address the constraints which caused its transmission service request to be denied. The MISO would then commission a system impact study to determine what network upgrades would be required to grant the service which had been denied.

Q. Mr. Grotzinger disagrees that your power flow analysis verified that there will not be any significant change to the flows on the transmission systems of AmerenUE and AECI. (p. 7) Please respond.

A. Mr. Grotzinger incorrectly concentrates on the change in the magnitude of the flow rather than the resultant magnitude of the flow with respect to the rating of the facility. AmerenUE's response to *Staff DR 6* provides a comparison of the flows after the generation dispatch of AmerenUE resources to displace AECI resources and the facility ratings. A review of the 30 facilities which had a change in loading of 60 MW or more provide some

insight into the assessment that the resultant loading did not present any significant reliability issues. On average these lines are loaded at 25% or less of their continuous ratings. Excluding changes at or near the generators whose dispatch was changed to affect the transfer of the Noranda load, the Bland-Franks 345 kV line is the most heavily loaded of these facilities at 65% of its rated capacity. This 65% loading does not represent a reliability issue. In addition, the Callaway Franks line, scheduled for completion in late 2006, will address any historical issues related to Bland-Franks.

Q. Mr. Grotzinger contends that the effects of the redispatch of AmerenUE's Pinckneyville unit and AECI's Holden unit are very similar to the transmission system impact of the 5 MW request that MJMEUC made that was denied. (p. 7-8) Please respond.

A. I disagree. The source on the MISO OASIS request which MJMEUC provided in rebuttal testimony is "AMRN". This would effectively represent participation by all of the available Ameren generation within the AmerenUE and AmerenCIPS footprint. The sink which MJMEUC entered was "MOWR". This would effectively represent participation of all of the available generation within the Western Resources control area in the Southwest Power Pool as modeled by the MISO. As such, the transmission system would respond differently to a transfer between these two sources and sinks, which are distributed across all of the generation in the respective control areas, than it would to the point source and sink referenced.

Q. He contends that "AmerenUE completely fails to provide what the changes in available transmission capacity will be" as a result of the changes in loadings of the lines studied in your power flow analysis. He then states that "the MoPSC should

insist on such an analysis and must ensure that any adverse impacts on transmission availability will be mitigated before approving the proposed transaction". (p. 8) Please respond.

A. He is correct, but his contention is beside the point. He is correct that AmerenUE did not address ATC in this analysis. As previously mentioned, AmerenUE, as the transmission owner, is responsible for providing adequate transmission capacity to reliably serve the native network load within its footprint and to support confirmed firm transmission service which the MISO has sold under its OATT. However, AmerenUE is not responsible for maintaining some arbitrary amount of surplus transmission capacity to facilitate new ATC requests or wholesale market access. That is the MISO's responsibility.

Q. Mr. Grotzinger suggests "That MISO be requested to analyze Ameren generation service to the Noranda load to determine the impacts to available transmission capacity from Ameren to other Missouri utilities (especially to AECI)." Please respond.

A. His suggestion is unnecessary. The MISO planning process does not consider on a regional basis the supply of native network load from designated resources using network service or changes to native network load. This is handled through the MISO MTEP roll up process. The MISO 2005 MTEP study, which is currently in draft, has studied the deliverability of the AmerenUE generators and determined that they are fully deliverable in the MISO Day 2 market. As such, the MISO has established that AmerenUE generation resources will be able to supply the Noranda load upon its transfer into the AmerenUE service territory and the MISO market.

Q. Mr. Grotzinger contends that "Only by the nature of the unusual grandfathered contract is the lower cost Ameren network zone able to be used for the benefit of this transaction". (p. 9) Please respond.

A. In the first place this is not an unusual grandfathered contract. The AmerenUE/AECI Interconnection Agreement provides for the use of Delivery Point service. The Delivery Point service agreement allows the native network load of one utility to be supplied using the transmission capacity of the other. This arrangement recognizes the fact that the AmerenUE and AECI transmission systems are intertwined and that there are opportunities to supply the native network load in such a manner as to avoid redundant transmission facilities. The transfer of retail bundled load between the cooperative and AmerenUE is also not unusual and has occurred on several occasions when there has been a boundary line agreement between the parties.

Q. If the grandfathered agreement had not been used, or if FERC will not allow it to be used, what would be the result?

A. The grandfathered agreement is the mechanism by which AmerenUE is establishing continuity between the main body of its service territory and the new bundled retail load at Noranda. In the event that the AmerenUE service territory was not allowed to include the Noranda load, and as a result the Noranda load was not moved into the MISO market, AmerenUE or the resultant supplier to the Noranda load, would have to make an OASIS request on the MISO to secure long term firm, point-to-point transmission service. Such a request could take a year or more to clear the MISO queue with little or no guarantee that service would be granted. Should point-to-point service be granted, it would be subject to "out and through" rates by the MISO which would significantly increase the transmission

charge to supply the Noranda load by as much as 45%. The resultant delay, risk, and increased transmission costs would presumably harm Noranda's ability to operate. The use of the grandfathered agreement mitigates these issues, brings the Noranda load into the MISO market, does not detract from any existing transmission service customers, and is consistent with the means by which AmerenUE has supplied its bundled native load when located in a portion of its service territory which is not contiguous with the AmerenUE transmission system.

Q. Mr. Grotzinger contends that AmerenUE has previously had an "unusual" interpretation of Network Service. Please respond.

A. He contends that FERC "ordered AmerenUE to grant network service without delay to Rolla". This is not accurate. It is true that AmerenUE and Rolla disagreed over whether it was appropriate for Rolla to be a network service customer of AmerenUE. Rolla had transferred its load into the Western Resources control area and out of the Ameren control area. AmerenUE's interpretation of its FERC approved OATT was that point-to-point service was the more appropriate service to supply a load outside of its control area. The FERC Staff basically deferred to the wishes of the transmission customer and AmerenUE modified its practice to allow NITS service for load outside of its control area.

As a side note, I find it ironic that Mr. Grotzinger uses this as an example to suggest that AmerenUE has done something unusual here with its use of Network Service for Noranda. In the Rolla case, the FERC Staff sided with Rolla's desire for Network Service to supply load external to the control area. In the present case, it is clear that Network Service is in Noranda's interest. AmerenUE is actually indifferent other than to the impact it might have on the customer. If anything, Mr. Grotzinger's reference to Rolla supports the desires

of Noranda to be included in AmerenUE's Network Service for its bundled retail load. In any case, as discussed above, this is perfectly consistent with the service that is appropriate for other native load customers in AmerenUE's service area and the MISO footprint.

Q. Mr. Grotzinger identifies loading changes on two particular lines that he feels are of concern. (p. 10). Please respond.

A. These loading changes are not cause for concern. The two lines which he refers to as having problematic changes in their loading are the Montgomery-McCredie 345 kV line section (94 MW) and the Bland-Franks 345 kV line (64 MW). He has correctly stated the change in flows on both of these lines. However, he did not indicate the magnitude of the loading on these lines, nor how the loading compares with the line ratings. The Montgomery-McCredie line section was loaded at approximately 300 MW compared to a continuous rating of 998 MVA. The Bland-Franks line was loaded at roughly 600 MW compared to a continuous rating of 1077 MVA. Even though there is a change in load of almost 100 MW, from a reliability perspective these lines are not loaded at or near their rated capability. Mr. Grotzinger states that Transmission Line Loading Relief ("TLR") events involving Bland-Franks caused MJMEUC and other entities (including Ameren and AECI) to significantly change from an economic dispatch. TLR events on Bland-Franks did result in the curtailment of non-firm transactions which forced transmission customers back on to their firm resources. However, the impact on AmerenUE was more apt to have been the loss of opportunity sales than to significantly deviate from economic dispatch.

Q. Mr. Grotzinger discusses AmerenUE's case at FERC involving Pinckneyville in Docket No. EC03-53. (p. 11) Please respond.

A. The Pinckneyville case at FERC has no relevance here in particular because of the impending start of Day 2 markets. The Pinckneyville case was predominately about the acquisition of generation assets through an RFP conducted several years ago. The pertinent issues in that case were that there were limited opportunities to contract with external resources because of the inability to secure ATC from third party transmission providers. Also, there were concerns that certain generation assets within the Ameren control area did not have adequate outlet capacity as was evident from their generation connection studies and their inability to secure firm transmission service. Further, AmerenUE had concerns about the creditworthiness of the suppliers who bid on the RFP. For all of these reasons, the FERC case has no relevance to issues relating to AmerenUE's serving Noranda, particularly since ATC related limitations have little or no relevance in Day 2 markets.

Q. He contends that since AmerenUE does not plan to ask MISO for approval to serve Noranda, that this "completely dodges having MISO analy[ze] the impact of adding this load". (p. 11) Please respond.

A. Mr. Grotzinger is mistaken. As stated previously, AmerenUE has followed, and will follow, the MISO planning process to address the transmission requirements to serve existing and future network load requirements within its footprint plus honor confirmed firm transmission reservations sold by the MISO as a transmission provider. The transfer of the bundled retail Noranda load into the AmerenUE service territory will be treated at the MISO in the same way as any other change in the AmerenUE network load including changes in forecast load growth due to economic issues, new bundled retail load, and any incremental changes in the network loads of NITS customers such as new industrial developments.

Q. He contends that AmerenUE "is hiding under 'grandfathered' agreements where the transaction would not be subject to MISO review. (p. 12)

A. Mr. Grotzinger is misinformed. AmerenUE consulted with the MISO to assure that the use of the grandfathered agreement to bring this load into the AmerenUE service territory--and into the MISO footprint and the MISO market--was consistent with the MISO OATT. Further, AmerenUE has filed the agreement at FERC. Clearly, we have not attempted to hide anything, and the agreement has been subject to MISO review and found to be acceptable by MISO.

Q. He contends that if AmerenUE is successful in its use of the grandfathered agreement, "uses by other customers relying on the Ameren transmission system may be treated as incremental or marginal and may be denied or require customers to pay for expensive upgrades". Also, he contends that in Day 2 markets other users may be exposed to greater congestion costs as a result of AmerenUE's serving Noranda. (p. 12) Please respond.

A. His contention is misplaced. All of the load connected to the AmerenUE system and within the MISO footprint will be treated in exactly the same way, both in the AmerenUE planning process and in the MISO energy market. The same can be said regarding the rights of those transmission customers who presently hold firm transmission service from the MISO. Certainly any requests for new point-to-point transmission service will be considered based on the incremental transmission capacity available after the needs of the network load and firm transmission customers have been considered. In addition, I assume that whatever treatment Mr. Grotzinger proposes to address the impact of transferring

the Noranda load into the AmerenUE service territory will be consistent with the means which new large industrial loads supplied by the MJMEUC or its members are treated

Finally, I note that AmerenUE is actively participating in the MISO RECB process to help develop a methodology of identifying not only the appropriate network upgrades to provide justifiable expansion of the system to enable economic activity but also the appropriate means of allocating the costs of such upgrades based on causation and benefits. To the extent that MJMEUC has concerns about MISO's expansion plans, it should present those concerns to MISO.

Q. Mr. Grotzinger contends that your direct testimony "dismissed the issue of transmission constraints without a clear showing that supports available transmission capacity will be adequate to supply the proposed transaction without impact [to] other parties transmission use". (p. 13) Please respond.

A. Mr Grotzinger's concerns were centered around the impact that transferring the Noranda load into the AmerenUE service territory might have on future point-to-point transmission service requests. Based on the response to *Staff DR 6* none of the lines which experienced the most significant changes in loading are at or near their ratings. This coupled with the determination in the MISO draft of the 2005 MTEP report that the load in the AmerenUE footprint is receivable, a study which included the impact on local loading to serve the Noranda load, would indicate that in the MISO Day 2 market the transmission system should be adequate to supply all of the needs of the load within the AmerenUE footprint.

Q. Mr. Grotzinger states that "Ameren has not identified planned transmission improvements that would mitigate the effects of the Noranda transaction

much less has it provided information regarding how or when such improvements will be made, including whether any improvements will be required earlier than otherwise proposed". (p. 13) Please respond.

A. Since it is AmerenUE's position that no transmission upgrades are required to reliably meet the requirements of the native network load and honor existing firm transmission service commitments, there is no information to share.

Q. Mr. Grotzinger contends that "no Ameren support of MISO proposed/planned transmission expansion nor Ameren commitment to apply its best efforts to implement the results of MISO planning in its territory is evident in its testimony". (p. 13) Please respond.

A. Contrary to his contention, AmerenUE is an active participant in numerous activities at the MISO. These activities include the following: membership on the Planning Subcommittee, serving as the chair of the MISO Expansion Planning Working Group, and serving as an active member in the MISO RECB, as well as a participant in several other MISO processes. All of this demonstrates AmerenUE's commitment to the MISO planning process.

Q. Mr. Grotzinger contends that based on discussions with Ameren that Ameren has indicated no specific support for MISO planned projects and that Ameren would not support any such approach unless Ameren believed it valuable for Ameren. (p. 14) Please respond.

A. I'm not sure precisely to which MISO planned projects Mr. Grotzinger is referring. As I stated, AmerenUE is an active participant in several MISO planning efforts.

Based on his deposition, I understand that Mr. Grotzinger was referring to the Prairie State generating plant located in Illinois. Ameren, through an Interconnection Agreement pertaining to the Prairie State plant, is committed to provide the necessary outlet capacity to connect the plant to the regional network.

In any case, AmerenUE has been an active participant in the MISO RECB which is attempting to address the selection of network upgrades to promote economic opportunities and the means to equitably allocate the costs of these projects to the resultant beneficiaries. Further, AmerenUE's position in this effort are consistent with the conditions set forth by the Commission associated with AmerenUE's entry into the MISO which require that AmerenUE seek approval for any transmission upgrades required by the MISO which are not part of the AmerenUE integrated resource plan.

Q. He states that is especially concerned "that Ameren has gone on record at FERC opposing the inclusion of certain transmission improvements as network upgrades that would be initially paid by transmission customers and would qualify those customer investments for credits from MISO for future MISO transmission service costs". (p. 14) Please respond.

A. I do not believe that the position AmerenUE took at the FERC is correctly characterized by Mr. Grotzinger's statement. AmerenUE questioned the appropriateness of socializing the costs associated with a transmission line built prior to FERC Order 888 which was built of, for, and by a transmission dependent utility, the timing and need for which was not supported by the results of a study performed by AmerenUE at the request of the transmission dependent utility.

Q. He contends that "Ameren's position of wanting to maintain control of transmission developments by opposing improvements or opposing assurance of MISO transmission credits for customer-paid transmission investments adds uncertainty to implementing these plans". (pp. 14-15) Please respond.

A. Again, I'm not aware of any transmission improvements which Ameren has opposed since its entry into the MISO. We have voiced concerns that the current MISO OATT does not adequately address the method by which MISO transmission credits should be financed. Ameren's concern is that the allocation of costs for network upgrades (or the financing of credits) should consider the causation and benefits derived from the upgrades. The current MISO OATT has the potential to force the costs of network upgrades onto bundled retail load connected to the system that is upgraded which may realize little if any benefit from the upgrades.

Q. Mr. Grotzinger contends that the potential AmerenUE to AECI impacts associated with the service to Noranda may exacerbate existing problems and will lower the odds that MJMEUC and its members will be able to fully hedge their existing power-supply and transmission arrangement much less any new arrangements. (p. 15) Please respond.

A. First, the study performed to assess the impact of transferring the Noranda load into the AmerenUE service territory did not indicate that there would be any new constraints. As such it is unclear what, if any impact transferring the load would have on future congestion costs. The MJMEUC load in the MISO is either in the same Commercial Pricing Node ("CPN") as AmerenUE, or is essentially surrounded by the same CPN. As a result, any congestion exposure incurred by MJMEUC would likely be incurred to the same

extent by AmerenUE load. Therefore it is certainly in AmerenUE's best interest to address the cost of service impact from congestion charges in its planning efforts. However, before constructing expensive transmission upgrades, it must be determined that the reduction in congestion costs outweigh the increase in transmission costs that will result from the upgrades.

Q. Mr. Grotzinger contends that "neither MJMEUC nor retail customers are protected from any adverse impacts upon system reliability caused by the Ameren/Noranda transaction". (p. 17) Please respond.

A. Mr. Grotzinger has failed to identify any adverse impact that the transfer of the Noranda load into the AmerenUE service territory will cause. Absent any harm there should be no protection that the MJMEUC should require with respect to the maintenance of system reliability.

Q. Mr. Grotzinger contends that "it is apparent that the transaction will result in 'significant' changes on a system that is already constrained, as demonstrated by MJMEUC experience with recent MISO transmission requests". (pp. 17-18) Please respond.

A. In the first place, the changes modeled in the AmerenUE analysis are only a proxy intended to determine if the transfer of the Noranda load into the AmerenUE service territory would require network upgrades to serve the native network load in a reliable manner. The result of this analysis did not indicate that there were any loading issues which would compromise system reliability or require network upgrades to affect the transfer of the load. The inability of the MJMEUC to pursue new wholesale market activities and the

means to remedy this are items which should be addressed under the MISO OATT. In other words, the MJMEUC should take their concerns to the MISO.

Q. Mr. Grotzinger contends that the Company "has not clearly delineated any such facilities that it is committed to build or shown their construction will mitigate the effects of the transaction". (p. 18) Please respond.

A. As I previously stated, the transfer of the Noranda load into the AmerenUE service territory will not have any negative effect on the ability to reliably supply the network loads connected to the AmerenUE transmission system and/or the ability to honor the existing transmission service which has been sold by the MISO. Therefore, no such commitment is needed

Q. Mr. Grotzinger contends that "Ameren has resisted MJMEUC's interest in investing in transmission". (p. 18) Please respond.

A. I am not aware of which projects Mr. Grotzinger is referencing here. I am not aware of any System Impact Studies or Facilities Upgrade Studies initiated by MJMEUC to address constraints which may have led to MJMEUC being denied transmission service prior to AmerenUE's entry into the MISO or since.

Q. Mr. Grotzinger contends that "Ameren is openly resisting MISO efforts for regional planning and improvement that include proposals for customer funded upgrades that would then receive credits on MISO transmission bills". (p. 18) Please respond.

A. As previously stated AmerenUE is very active in MISO planning efforts including chairing of the Expansion Planning working group and participation in the RECB task force. I do not believe that anyone at the MISO would classify our participation as one

which resists transmission expansion in any manner. I would note, however, that AmerenUE has been concerned that under the current MISO OATT there is the possibility of cost shifting to incumbent native network load for network upgrades which benefit load in other pricing zones. The current MISO OATT might not provide for any increased transmission revenue to offset the revenue requirements of these upgrades. Ameren has been working with the MISO to reach an equitable solution to this issue. To the extent that MJMEUC has concerns about any proposed solutions, they should present those to MISO.

Q. He contends that "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". (p. 18) Please respond.

A. In the first place, no transmission upgrades are required to reliably meet the obligations of the AmerenUE transmission system while moving the Noranda load into the AmerenUE service territory. Secondly, Mr. Grotzinger's rebuttal testimony indicates that both historically, when AmerenUE was a transmission provider, and currently, in the MISO Day 1 environment, that the MJMEUC has been unable to obtain additional point-to-point transmission service to address its wholesale market intentions. I would not equate network upgrades to create such new opportunities with the concept of being held harmless. Finally, under the MISO Day 2 energy market, the MJMEUC should see new opportunities to access resources within the MISO footprint without the need to make transmission service requests on the OASIS.

Q. He contends that "Ameren should be required to protect MJMEUC and its members from any increase in congestion costs". (p. 19) Please respond.

A. Since some MJMEUC members in the MISO are imbedded in the AmerenUE CPN they would only be exposed to a pro-rata share of AmerenUE congestion charges, As a result, through managing its own congestion exposure, AmerenUE is in fact addressing the congestion charges of those MJMEUC members. Going forward, the MJMEUC has the opportunity to manage its own congestion exposure through the nomination and acquisition of candidate FTRs. It is not incumbent on AmerenUE to represent the MJMEUC in this process. Certainly MJMEUC has not offered to hold AmerenUE and its bundled retail customers in Missouri harmless against future congestion that may occur should one of their members add any significant industrial loads supplied from the AmerenUE transmission system. By the same token, neither should AmerenUE hold MJMEUC harmless.

Q. He contends that his long term transmission expansion concerns can be mitigated if Ameren starts "immediately and regularly sharing its proposed improvements with MJMEUC as a part of sending the list of improvements to MISO". (p. 19) Please respond.

A. AmerenUE, through its participation in the MISO MTEP process, provides information on network upgrades to the MISO, which then makes that information public. MJMEUC and its members, if eligible, may participate in the MTEP process and have access to the same information. Providing this information in a non-public manner with any market participant could be construed as a violation of the FERC standards of conduct

Q. He contends that "Ameren should drop opposition to the MISO plan to allow complete crediting of customer funded transmission network upgrades". (p. 19) Please respond.

A. As previously stated, our issue is not with the use of credits to fund network upgrades, but with the funding of those credits so as to allocate costs according to causation and benefits and to avoid cost shifting to the native network load.

Q. He contends that "Ameren must abandon its past objections to MJMEUC or its members building or owning transmission". (p 20) Please respond.

A. This issue is not germane to the transfer of the Noranda load into the AmerenUE service territory. In addition, AmerenUE does not object to the expansion of the transmission system in a least cost manner that addresses overall network reliability or which creates economic opportunities, if the cost allocation is consistent with causation and benefits.

Q. He contends that consideration of MISO selected improvements "should receive a priority consideration in the 1300 MW of transmission import improvements included in the stipulation" in case no. EC-2002-1. (p. 20) Please respond.

A. First, it should be noted that the Callaway-Franks line, referenced in this context by Mr. Grotzinger, was a project initiated by AmerenUE in cooperation with AECI to address reliability issues in the mid-Missouri area. Callaway-Franks was not the result of the MISO 2003 MTEP Vision Plan. Secondly, the MISO Vision Plan was a high level look at potential costs and benefits associated with an aggressive and hypothetical expansion of the transmission system in the MISO footprint based on interregional economic benefits. The MISO has not sought to actively promote any of the projects from the MTEP Vision Plan which were within the Ameren footprint. Finally, AmerenUE has committed to a series of local transmission upgrades intended to satisfy the terms of the stipulated settlement in case number EC-2002-1. These projects have been included in the MISO MTEP process.

Q. He contends that "the addition of a Grand Towers to Trail of Tears 161 kV line should be included in planned Ameren improvements". (p. 20) Please respond.

A. I am not aware of any planning studies which would suggest that the addition of a line from Grand Tower power plant to Trail of Tears substation would be part of a plan to increase AmerenUE import capability. Planning studies have indicated that such a line could result in operating problems, including depressed local area voltages and potential local voltage collapse, for a single contingency event if additional load is added in and around Trail of Tears and the Grand Tower gas fired combined cycle plant is off line.

Q. He contends that a 345 kV line from the Baldwin plant area in Illinois to the AmerenUE Rush Island-St. Francis area and then on to the AECI Fletcher substation area has been identified in past studies by MISO and others studies. "These projects should be included as a part of mandated 1300 MW of improvements mentioned above in order to mitigate the impacts of the Ameren/Noranda transaction on transmission constraints over the long term". (p. 20) Please respond.

A. Again, I am not aware of any study that would justify the completion of a 345 kV line from Dynegy's Baldwin Plant to the Rush Island plant as part of a plan to increase incremental transfer capability into AmerenUE associated with case EC-2002-1. AmerenIP is in the process of modifying an Interconnection Agreement involving the MISO and Peabody Coal associated with the proposed Prairie State Campus power plant which includes the construction of such a line. AmerenUE has agreed to terminate the line at the AmerenUE Rush Island power plant substation. AmerenUE has proposed a 345 kV line from the St. Francois substation to AECI's Fletcher substation as a possible long term

network expansion option. However, at this time there are no reliability issues which would justify this project. Moreover, I am not aware of any System Impact Study or Facility Upgrade Study at the MISO associated with any transmission customer requests for service that would support this line, and the MISO has not identified this line as a project justified to advance any economic opportunities. As such, I am not aware of any reason to justify at this time the addition of a line from St. Francois to Fletcher.

Q. He contends that "it is adequate that Ameren commits to include these projects in their planned network upgrades and implements the interim measures I outlined earlier in my testimony for the period before construction of the upgrades is completed. In addition, Ameren's commitment to use 'best efforts' to achieve completion within approximately three years should be made to assure reasonable progress is made". (p. 21) Please respond.

A. I do not agree that any of the projects identified by MJMEUC are necessarily justified. Therefore, it is not appropriate to specify a timeline, let alone a three year timeline which is extremely aggressive, for any network upgrades.

AmerenUE, through the agreements under which it joined the MISO, does commit to maintain and/or expand its transmission system to meet the reliability needs of the network load connected to its transmission system and to pursue any network upgrades identified by the MISO for which local state regulatory approval has been obtained. In as much as there is no evidence that the transfer of the Noranda load into the AmerenUE service territory will affect future congestion, the MJMEUC load connected to the AmerenUE system in the Ameren CPN is exposed to the same congestion as is AmerenUE on a pro-rata basis. In any case, there is adequate opportunity for MJMEUC to hedge its loads against congestion in the

MISO process. Based on the lack of experience or historical data regarding MISO Day 2 congestion, it is unreasonable to require that AmerenUE take on any additional responsibility with respect to MJMEUC in the MISO Day 2 market.

Q. Does this conclude your surrebuttal testimony?

A. Yes, it does.

AmerenUE's Response to
MPSC Staff Data Request
MPSC Case No. EA-2005-0180
AmerenUE's Application for a Certificate of Public Convenience
To Provide Electric Service to Noranda Aluminum

Data Request No. 0006:
Request From: Mike Proctor

Background: On page 6 of Mr. Pfeiffer's direct testimony the states that "the agent for Noranda secures energy from the market to serve load." Also, Mr. Pfeiffer states the "the source which has been used in regional power flow models to supply the Noranda load has been the incremental dispatch of AECI generation."

Questions:

1. If the supply to serve the Noranda load comes from the market, why is it assumed that the source for that supply is restricted to AECI incremental generation?
    a. Would it be as reasonable to assume that it comes from incremental generation in the region that is available to serve that load at time of peak?
    b. Do you expect that the base case for the Midwest ISO power flow model will also assume that Noranda is served from AECI generation?
2. Some of the incremental AECI generation appears to be located west of AmerenUE and the incremental generation in the "working case" appears to be located east of AmerenUE – i.e., Venice and Pinckneyville.
    a. Is the result of the power flow model an increase in east to west power flows for Ameren and other transmission providers in the region?
    b. Does the change case give a true picture of what will happen in the region?
3. For each of the branches shown on page 3 of Attachment 2,
    a. Please provide a list of limits to MWs and MVARs; i.e., the maximum loadings allowed.
    b. Will the change in loadings shown on page 3 of Attachment 2 violate any limits?
    c. In your judgement, where and in what ways will the change in loadings improve and/or worsen the available capability of the transmission system to provide new/additional transmission service? For example, the Bland to Labadie branch has an increased loading, but the Bland to Franks branch has a decreased loading.
    d. Do these changes give a reasonable picture of what will happen in the region when AmerenUE begins to serve the Noranda load?

Response:

1. a. The power flow model which was used as the foundation for this assessment was a NERC Multiregional Modeling Working Group base case. Under the rules used to build these regional power flow models, all interchange transactions must be mutually agreed to before they can be scheduled in the case. Absent a known, explicit market resource upon which to base such a schedule to Noranda load, no interchange has been included in the MMWG models to supply the Noranda load. As a result, the Noranda load, which is modeled in the AECI control area in the MMWG power flow models, has been supplied by AECI generation to provide the necessary resources.

b. The MISO typically uses the NERC MMWG base case models as the starting point for their power flow models. Absent better information regarding explicit sources to cover the Noranda load I would expect their models to contain the same assumption.

2. a. The Venice Plant is located on the Mississippi River near downtown St. Louis. The Pinckneyville Plant is connected at 230kV to the Cahokia Substation which is also adjacent to the Mississippi River near downtown St. Louis. The result of the power flow shift modeled would be to increase the East to West flows through the AmerenUE and AECI systems. Based on the modeling I would not expect there to be a significant change on other systems in the Midwest.

b. It provides a reasonable picture of the means by which AmerenUE could dispatch additional resources to cover the load. It provides a conservative, largest impact, picture of the impact on the system based on the resources which have been displaced. The close proximity of many of these resources to the AmerenUE border with AECI would tend to increase the flows on the AmerenUE system the most. It is possible that on any given day the resources which might be displaced could be in AECI but could also be in Arkansas, Oklahoma, Ohio or Manitoba or any combination of locations. The impact on regional flows would be lower the more diverse and/or distant the resources actually displaced.

3. a. The attached table contains the flows following the resource shift from AECI to AmerenUE, the continuous summer rating of the facility (RATE A), the emergency summer rating of the facility (RATE B) and the difference between each rating and the MVA loading of the facility.

b. No, see attached table.

c. I have made a practice of not speculating on how system changes might affect the availability of transmission service. Changes in load and generation, the impending startup of the MISO energy market, and the completion of the Rush Island-St. Francois 2 line and the Callaway-Franks line all will affect the future availability of transmission service. For transactions within the MISO it is unclear that classic transmission service will carry forward after the market startup. All of these factors make it difficult to speculate on how transmission service might be affected by the changes resulting from the transfer of the Noranda load into the AmerenUE control area.

d. The changes show a reasonable picture of how AmerenUE would serve the Noranda load for the conditions modeled and the impact on the AmerenUE system that would be expected.

Prepared By: Edward C. Pfeiffer
Title: Manager Electric Planning
Date: January 19, 2005

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	RATEA	RATEB	RATE A - FLOW	RATE B - FLOW
30045	[ASHLEY 2	138]	30046	[ASHLEY 3	138]	1	6.8	28.6	382	382	353	353
30045	[ASHLEY 2	138]	31825	[TRIGENMO	138]	1	-59.4	-20.2	351	477	288	414
30046	[ASHLEY 3	138]	30215	[CAHOK 1	138]	1	-5.1	29.1	283	348	253	318
30102	[BELLEAU	345]	30535	[ENON	345]	1	40.9	-90.7	1206	1432	1107	1333
30102	[BELLEAU	345]	31747	[SIOUX	345]	1	-324.9	14.3	1195	1432	870	1107
30154	[BLAND	345]	30886	[LABADIE	345]	1	-309.5	-33.7	1200	1251	889	940
30154	[BLAND	345]	96041	[7FRANKS	345]	1	594.5	96.7	1077	1279	475	677
30216	[CAHOK 3	138]	31592	[RIDGE	138]	1	28.7	-3.1	212	285	183	256
30249	[CAMBEL T	345]	30265	[CAMPBELL	345]	1	254.3	36.9	1200	1399	943	1142
30249	[CAMBEL T	345]	31651	[ROXFORD	345]	1	-83	-86.7	998	1126	878	1006
30265	[CAMPBELL	345]	30266	[CAMPBELL	138]	1	254.2	37.8	560	560	303	303
30266	[CAMPBELL	138]	31273	[MSD	138]	1	-3.7	18.4	212	285	193	266
30266	[CAMPBELL	138]	31877	[VENICE 2	138]	1	-20.3	6.1	212	285	191	264
30535	[ENON	345]	31230	[MONTGMRY	345]	1	-253.2	-98.7	878	1100	606	828
30886	[LABADIE	345]	31230	[MONTGMRY	345]	1	263.4	7.5	1195	1195	931	931
30974	[LUTESVIL	345]	96038	[7ESSEX	345]	1	307.4	-5.2	1195	1195	888	888
31051	[MASON 13	345]	31747	[SIOUX	345]	1	38.1	58.3	1195	1195	1125	1125
31088	[MCCREDIE	345]	31230	[MONTGMRY	345]	1	-292.5	-39.6	998	1193	703	898
31088	[MCCREDIE	345]	31408	[OVERTON	345]	1	340.8	39.6	921	921	578	578
31273	[MSD	138]	31876	[VENICE 1	138]	1	-102.5	-0.8	283	348	180	245
31320	[N COULTR	230]	31500	[PICKNYVL	230]	1	-233.1	5.6	353	475	120	242
31500	[PICKNYVL	230]	31505	[PICKVL 51	3.8]	1	-71.9	6.1	78	78	6	6
31500	[PICKNYVL	230]	31506	[PICKVL 61	3.8]	1	-71.9	6.1	78	78	6	6
31500	[PICKNYVL	230]	31785	[STJOHNAM	230]	1	84.6	-33.3	353	475	262	384
31592	[RIDGE	138]	31877	[VENICE 2	138]	1	-56	-20.3	212	285	152	225
31651	[ROXFORD	345]	31747	[SIOUX	345]	1	412.3	-82.3	1195	1426	775	1006
31785	[STJOHNAM	230]	31924	[W.FRKFT	230]	1	14.3	-16.4	353	475	331	453
31825	[TRIGENMO	138]	31877	[VENICE 2	138]	1	-52.4	-20.4	283	287	227	231
31876	[VENICE 1	138]	31877	[VENICE 2	138]	1	-201.2	-82.5	478	478	261	261
31877	[VENICE 2	138]	31882	[VENICE3 1	5.0]	1	-165	-58.4	250	250	75	75
31877	[VENICE 2	138]	31883	[VENICE4 1	5.0]	1	-165	-58.4	250	250	75	75
31924	[W.FRKFT	230]	31925	[W.FRKFT	138]	1	153.7	31.9	600	600	443	443
96012	[1HOLDEN1	13.8]	96124	[5HOLDEN	161]	1	0	0	133	133	133	133
96013	[1HOLDEN2	13.8]	96124	[5HOLDEN	161]	1	0	0	133	133	133	133
96025	[1NDWYG1	13.8]	96104	[5NODWAY	161]	1	0	0	133	133	133	133
96029	[1ESSEXG	13.8]	96075	[5ESSEX	161]	1	0	0	133	133	133	133
96071	[5CLINTN	161]	96124	[5HOLDEN	161]	1	0.1	6.2	227	227	221	221
96110	[5PITTSV	161]	96124	[5HOLDEN	161]	1	17.1	-14.5	227	227	205	205