Exhibit No.:
Issues: Economic Analysis for Serving Noranda Load
Witness: Michael S. Proctor
Sponsoring Party: MoPSC Staff
Type of Exhibit: Rebuttal Testimony
Case No.: EA-2005-0180
Date Testimony Prepared: January 31, 2005

MISSOURI PUBLIC SERVICE COMMISSION

UTILITY OPERATIONS DIVISION

REBUTTAL TESTIMONY

OF

MICHAEL S. PROCTOR

UNION ELECTRIC COMPANY
d/b/a AmerenUE

CASE NO. EA-2005-0180

Jefferson City, Missouri
January, 2005

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

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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 MICHAEL S. PROCTOR

STATE OF MISSOURI)
) **ss**
COUNTY OF COLE)

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

_____
Michael S. Proctor

Subscribed and sworn to before me this _____ day of January, 2005.

_____
Notary Public

My commission expires_____

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REBUTTAL TESTIMONY

OF

MICHAEL S. PROCTOR

UNION ELECTRIC COMPANY

d/b/a AmerenUE

CASE NO. EA-2005-0180

Q. What is your name and business address?

A. My name is Michael S. Proctor. My business address is 1845 Borman Court, Suite 101, St. Louis, MO 63146-4138.

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

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

Q. What is your education background and work experience?

A. I have Bachelor and Master of Arts Degrees in Economics from the University of Missouri at Columbia, and a Ph.D. degree in Economics from Texas A&M University. Prior to coming to work for the Commission, I was an Assistant Professor of Economics at Purdue University and at the University of Missouri at Columbia. Since June 1, 1977, I have been on the Staff of the Commission and have presented testimony on various issues related to weather normalized energy usage and rate design for both electric and natural gas utilities. With respect to electric issues, I have worked in the areas of load forecasting, resource planning and transmission pricing. In 1997 and 1998, I served as the Staff Vice Chair of the Market Structure and Market Power Working Group of the Commission's Task Force on Retail Competition. From December of 2000

to August of 2001, I served as chairman of the Forward Congestion Markets Subgroup of the Southwest Power Pool's (SPP's) Congestion Management Systems Working Group. I am also serving as the chairman of the Organization of Midwest ISO States (OMS) working group on congestion management and financial transmission rights allocations.

Q. What are your current duties in the Energy Department as Chief Regulatory Economist?

A. I have the responsibility of being actively involved with the development and structure of Regional Transmission Organizations (RTOs) for the purpose of increasing efficiency and reliability in the competitive supply of electricity at wholesale. From time-to-time filings regarding the resource plans of the electric utilities come before the Commission, and as the Chief Regulatory Economist I am asked to review these filings and testify regarding the economics of those resource plans. In this present filing AmerenUE has applied to the Commission requesting that it be allowed to add Noranda Aluminum, Inc. (Noranda) as a regulated customer of AmerenUE. I have reviewed the economics of this application.

PURPOSE OF REBUTTAL TESTIMONY

Q. What is the purpose of your rebuttal testimony in this proceeding?

A. My rebuttal testimony will address the economics of AmerenUE serving the Noranda Load from several perspectives. First, I will address the process that AmerenUE followed in arriving at its decision to serve the Noranda Load. Second, I will address the difference in costs on a per megawatt-hour basis from AmerenUE either serving or not serving the Noranda Load. Third, I will address the incremental cost for AmerenUE to serve the Noranda Load and compare that cost to the incremental revenues that AmerenUE will receive under its proposal to serve the Noranda Load. Fourth, I will

address the economic risks that AmerenUE's current ratepayers face if AmerenUE's application to serve the Noranda Load is approved by the Commission. Fifth, I will address the impact that AmerenUE serving the Noranda Load has on the transmission system. Finally, I will address the impact that AmerenUE serving the Noranda Load has on the resource adequacy in the region. I should also note that in a related case (Case No. EO-2004-0108), the Commission has asked the Staff to address the impact of AmerenUE serving the Noranda Load on the transfer of the Metro East properties to Central Illinois Public Service (d/b/a AmerenCIPS). My testimony in this case only treats the economics of AmerenUE serving the Noranda Load under the assumption that the Metro East transfer has taken place. I will be submitting analysis at a future date on the related case.

Q. Can you briefly summarize the results of your economic analyses of AmerenUE serving the Noranda Load?

A. Yes. First, the process followed by AmerenUE to evaluate the option of whether or not to serve the Noranda Load, was in large part driven by it first obtaining Commission approval of its proposed Metro East transfer of its Illinois retail electric and gas operations in Case No. EO-2004-0108. This situation is why AmerenUE has required approval of the Metro East transfer as a necessary condition for it to serve the Noranda Load.

Second, given that the Metro East transfer condition is met, the cost per megawatt-hour to AmerenUE will be lower with the addition of the Noranda Load than not serving the Noranda Load.

Third, the estimate of incremental cost to serving Noranda, based on the data provided by AmerenUE in its direct testimony, is less than the incremental revenues that

AmerenUE will receive under its proposed Large Transmission Service (LTS) tariff in 2005 and 2006; however, in 2007 and for the remainder of the fifteen-year contract, this situation is reversed. There are several "adjustments" to the data provided by AmerenUE that could mitigate this difference, and there is nothing in AmerenUE's filing that would prevent a rate level increase in the years beyond 2006 when AmerenUE's cost to serve the Noranda Load may increase as it is required to make significant investment in generation plant upgrades to meet more stringent environmental standards.

Fourth, the risk to existing AmerenUE customers is the possibility of higher costs if and when Noranda leaves the AmerenUE system. These higher costs are found primarily in the cost of incremental capacity required to serve Noranda that is not needed to serve the existing customers until their load grows into the need for the additional capacity, which was needed by AmerenUE to serve the Noranda Load. However, it appears that the risk is in large part mitigated because of AmerenUE's opportunity to sell the energy from this excess capacity into the off-system market for electricity and the contract condition that AmerenUE must be given five years notice before Noranda can terminate the contract. The term of the contract is automatically extended in one-year increments unless or until the contract is terminated. Thus, the earliest that Noranda could terminate the contract is by giving five years notice of termination before the start of the eleventh year of the contract.

Fifth, AmerenUE will incur some additional transmission costs to serve the Noranda load related to administrative charges from the Midwest ISO and potentially some congestion charges to the extent it does not receive sufficient allocations of Financial Transmission Rights (FTRs) from the Midwest ISO to offset the congestion

charges it will incur to serve the Noranda Load. However, it does not appear that additional upgrades to the transmission system will be required if AmerenUE serves the Noranda Load.

Sixth, at this time, the Ameren system will be short of capacity if AmerenUE serves the Noranda Load commencing June 1, 2005. In order to ensure the reliability of the interconnected power system, the Commission should condition its approval of AmerenUE's Application on Ameren providing evidence prior to June 1, 2005 that it has the necessary capacity to reliably serve the Noranda Load in addition to meeting its other capacity requirements commencing on June 1, 2005.

Q. Based on the results of these economic analyses do you have a recommendation to the Commission regarding whether or not it should approve AmerenUE's request for a CNN to serve the Noranda Load?

A. Assuming that there is no restriction to Noranda being subject to future rate increases, AmerenUE serving the Noranda Load is not likely to be a detriment to the Missouri retail customers of AmerenUE other than Noranda, if Noranda has some expectation that, over the period of its fifteen-year contract that its rates will increase. Moreover, the addition of the Noranda Load has the potential to help bear some of the increased generation costs that AmerenUE is likely to incur in the future to meet more stringent environmental regulations. The only questions that remains are whether or not Ameren will have sufficient capacity to meet its reserve requirements and whether or not completion of the Metro East transfer as a necessary condition for AmerenUE serving the Noranda Load is or is not detrimental to the public interest. The condition that Ameren provide evidence prior to June 1, 2005 that it has the necessary capacity to reliably serve

the Noranda Load in addition to meeting its other capacity requirements commencing on June 1, 2005 meets the first concern. The second concern is addressed in the rebuttal testimony of Staff witness Mr. Robert E. Schallenberg.

PROCESS FOLLOWED BY AMERENUE IN ITS DECISION TO SERVE THE NORANDA LOAD

Q. Why did the Staff believe it important to review the process followed by AmerenUE in its decision to serve the Noranda Load?

A. The Staff was somewhat perplexed and surprised to first hear about the Noranda Load possibility in November 2004. It was clear that with Noranda needing a Commission decision in time to be served by June 1, 2005, the Commission and the Staff would not have much time to review AmerenUE's Application when subsequently filed in December 2004. In addition, it simply didn't make sense to the Staff that had AmerenUE been aware of the Noranda Load possibility at the time of its Metro East transfer in Case No. EO-2004-0108, it would not have at least made the Staff aware of the possibility. Taking on the Noranda Load would have changed the economic analysis of the Metro East transfer. Even though the transaction was not definite, the transaction is so material that the Staff would have included the Noranda Load in its analysis at least as a possible alternative for the Commission to take into account in its deliberations.

In addition, the Staff wanted to understand as much as possible about how AmerenUE did its "due diligence" review to determine that serving Noranda as a retail customer would be the best way to meet Noranda's needs, and, yet, not cause detriment to the Missouri retail customers of AmerenUE, other than Noranda.

Q. In your review of AmerenUE's decision-making process, what did you discover?

A. In February 2003, Mr. Paul Agathen then Senior Vice President at Ameren Corporation asked Mr. Wilbon L. Cooper, currently Manager of the Rate Engineering and Analysis Department of Regulatory Policy and Planning of Ameren Services Company, to make a calculation of what the rate would be to serve Noranda and Mr. Cooper e-mailed that information to Mr. Agathen. This is the earliest information that the Staff discovered regarding the possibility of Ameren serving the Noranda Load. However, it appears that not until November 2003 did the Corporate Planning Department of Ameren Services Company become aware of and involved in the process. AmerenUE filed its Application with respect to the Metro East transfer in late August 2003 and its prepared direct testimony in mid-September 2003, approximately two months prior to when Mr. Craig Nelson, Vice President – Corporate Planning of Ameren Services Company's Corporate Planning Department and Mr. Richard Voytas, Manager – Corporate Analysis of Ameren Services Company's Corporate Planning Department, recall their first becoming aware of the possibility of serving the Noranda Load. What Ameren told Noranda at that time was that AmerenUE could not serve the Noranda Load until the Metro East transfer was completed, and this was because AmerenUE would not have sufficient capacity to serve that load without the transfer.

It appears that Noranda was somewhat confused by this statement because it did not understand the difference between AmerenUE having sufficient capacity to meet its load being different from the joint Ameren system having sufficient capacity to meet its load.

Q. In your opinion why would a distinction between AmerenUE having sufficient capacity compared to the joint Ameren system be confusing?

A. If the capacity to serve Noranda was available within the joint Ameren system, it would not have made any difference to Noranda which affiliate held that capacity. Moreover, what was important to Noranda was having its load served reliably at a reasonable cost.

Q. Do you have an opinion as to why it would make a difference to Ameren as to which of its affiliates held the capacity to serve Noranda?

A. Yes, I do. While AmerenUE is a regulated utility, Ameren Energy Generating Company (AEG) is an Exempt Wholesale Generator (EWG) that is not regulated. While a regulated utility could sell under contract at a market price to load that is not regulated, it would then face the risk that in a subsequent rate case it might be determined that the resulting price set in the contract was too low. In contrast, unless the Federal Energy Regulatory Commission (FERC) determines that an EWG has market power, the EWG sells at a market price, not at a regulated price.

Q. Wouldn't it then be less risky for AEG to serve the Noranda Load than for AmerenUE to do so?

A. Not, necessarily. If market price is expected to be higher than the regulated price, the EWG would not want to enter into a long-term contract at the lower price, and Noranda told Ameren that it needed a lower price (** HC HC **) in order to be a competitive supplier of aluminum. If Ameren were to provide power from AEG to Noranda at this lower price, it would forgo the long-term opportunity to make higher profits from selling at market prices. Thus, as a long-term supplier, Ameren believed that AEG was not a "good fit" to supply the Noranda Load.

Q. What made AmerenUE a "good fit" to serve the Noranda Load?

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A. At first, it was not clear that AmerenUE would be able to serve the Noranda Load at as low a price as Noranda had initially indicated was necessary in order for Noranda to be served by AmerenUE. Correspondence provided by AmerenUE in response to a Public Counsel data request shows that it isn't until the summer of 2004 that there is Ameren correspondence concerning the incremental cost to serve the Noranda Load, and it appears that these calculations were made because Noranda was placing pressure on Ameren to provide a letter of intent to serve Noranda. Noranda wanted a highly reliable energy source that would come close to meeting its low cost requirements, and offer a long-term contract. Starting in July 2004 through early October 2004, AmerenUE issued three letters of intent, as it sequentially made determinations that it could meet Noranda's requirements without placing a burden on its existing retail load in Missouri.

Q. From what has been discovered regarding AmerenUE's decision-making process, is any of the economic analysis that Ameren Services/AmerenUE performed included in AmerenUE's direct filing?

A. No, it is not. The economic analysis provided in the direct testimony of Mr. Richard A. Voytas does not include a comparison of the incremental cost to serve Noranda compared to revenues that AmerenUE is proposing to collect from Noranda in its proposed LTS tariff. The economics of that comparison are not found in the direct testimony of any of AmerenUE's witnesses.

Q. Based on what has been discovered regarding the AmerenUE decision-making process, do you believe that the possibility of serving the Noranda Load should have been included in the Metro East transfer case?

A. Since it appears that the Ameren Services Corporate Planning Department was not aware of the possibility until after it filed the current Metro East transfer case, it would have been appropriate for it to re-perform its Metro East economic analysis and possibly resubmit or supplement its Application and prepared direct testimony and perhaps even include as part of its filing its request in this proceeding to serve the prospective Noranda load. AmerenUE wanted a quick determination on the Metro East transfer in order to meet its reserve margin requirement for the summer of 2004, and having to re-perform and resubmit or supplement its Metro East transfer filing would not have met that objective. Also, by November 2004, AmerenUE had not yet formulated how to perform an economic evaluation of serving the Noranda Load, and it takes time to develop and run the analysis needed to make such a decision. In addition, the transfer of the generation capacity at Pinkneyville and Kinmundy from AEG to AmerenUE had not yet been approved by the FERC, and AmerenUE would need that capacity to serve the Noranda Load. Therefore, I understand why AmerenUE did not include the possibility of serving the Noranda Load as a part of the Metro East transfer. However, it was clear early on that the only way that Ameren could meet Noranda's requirements for low cost power without taking a potentially significant opportunity loss for its EWG affiliate would be with AmerenUE's generation capacity, and it should have made the Commission and Staff aware of this possibility.

Q. Does this mean that the Staff would have recommended that the Metro East transfer and serving the Noranda load be evaluated simultaneously?

A. Yes. While, it is difficult to now say precisely what the Staff would have done at the time of the Metro East transfer filing had it been aware of the possibility of

serving the Noranda Load, looking back (using hindsight), it appears to me that the Metro East transfer case would have been simplified as one in which the Metro East Load was being swapped for the Noranda Load. However, this simplification may have been mitigated as I also believe the Staff would have requested results for AmerenUE serving both the Metro East and Noranda Loads.

Q. Given the timing of the two cases, is it now possible to view the present application to serve the Noranda Load as an exchange for the Metro East Load?

A. No, because AmerenUE's application is for the Commission to determine the two cases separately, if not sequentially. Moreover, AmerenUE has as a necessary condition that the Metro East transfer be completed before it will serve the Noranda Load. While it is possible to interpret this condition as permitting the Metro East transfer to be considered simultaneous with serving the Noranda Load, AmerenUE has not chosen to proceed in that direction. The Staff will proceed in its testimony to make its economic evaluation as if the Metro East transfer has been completed. As stated earlier and per the Commission's request, the Staff will address the impact of AmerenUE serving the Noranda Load on the Metro East transfer in Case No. EO-2004-0108. In addition, the Staff believes that the impact of making the Metro East transfer as a necessary condition for AmerenUE to serve the Noranda Load should be included in its analysis of this current case.

COMPARING COSTS ON A PER MEGAWATT-HOUR BASIS

Q. What economic analysis to serve Noranda was performed by AmerenUE and submitted in its December 20, 2004 filing?

A. AmerenUE met with the Staff, Public Counsel and the two groups of industrials located in the AmerenUE Missouri service territory in November and December 2004 in order to receive feedback, before its filing on December 20, 2004, regarding the economic analysis it had performed in preparation for and as intended for inclusion in its filing. The Ameren analysis provided at the meeting on December 2, 2004 was a comparison of costs with and without the Noranda Load on a per megawatt-hour basis.

The Staff appreciated and appreciates the opportunity to provide feedback, and I believe that the Staff performed and provided analysis that was helpful to AmerenUE. However, at this first meeting I told AmerenUE that I would need to know the revenue side of what it was proposing. Moreover, AmerenUE's analysis was to compare costs on a per megawatt-hour (MWh) basis with and without the Noranda Load and did not include any comparisons of incremental revenues and costs for serving Noranda. The comparison of costs on a per MWh basis approach provides assurance of no detriment to non-Noranda Missouri retail customers of AmerenUE only if some portion of the lower costs per megawatt-hour resulting from serving the Noranda Load is allocated to the non-Noranda Missouri retail customers. This AmerenUE approach of comparing per MWh costs does not insure a benefit to non-Noranda Missouri retail customers of AmerenUE if the lower costs all go to Noranda, or even worse, if the revenues collected from Noranda actually result in an increase in costs per megawatt-hour to the non-Noranda Missouri retail customers. Thus, while AmerenUE's serving Noranda lowers its per MWh costs, this may not be a sufficient condition to prevent detriment to non-Noranda, Missouri retail customers of AmerenUE.

Q. Did AmerenUE agree with you at this first meeting?

A. AmerenUE didn't say, and I found that somewhat strange, as being able to cover the incremental cost of serving Noranda seemed to me to be the fundamental economic issue. Instead, AmerenUE agreed that it would provide the Staff with the information regarding the revenues to be collected from Noranda. However, Mr. Cooper was not at this meeting and that information needed to come from the Rate Engineering and Analysis Department. My impression was that Mr. Cooper had not yet finalized his determination and that information would be provided as soon as it was available.

Subsequently in the discovery process, it seemed fairly clear that AmerenUE had early on determined that it needed to recover 3.25 cents per kilowatt-hour (kWh) from Noranda in order keep from negatively impacting non-Noranda Missouri retail electric customers. In essence, what the Staff discovered in the few short weeks after AmerenUE's filling, is that the analysis to which I referred in the pre-filing meeting with AmerenUE, is exactly the type of analysis that AmerenUE used in its decision making process to serve the Noranda Load. I am perplexed that AmerenUE did not mention the results of its earlier analysis when I brought up the subject and that the Staff was required to go through a discovery process in order to find this earlier analysis. I mention this so that the Commission might better understand the difficulties the Staff faces and why the discovery process is so critical to the Staff's review of a filing. The Staff believes that in order for it to perform the review necessary for it to make a meaningful recommendation to the Commission regarding whether a proposed transaction is in the public interest that the Staff make every effort to determine as much of the facts as possible before it files with the Commission, and when the filing of a case occurs at a late stage and the utility

asks for expedited treatment, the Commission, the Staff and other parties are put under extreme time constraints to perform the work. This makes everyone's work at the Commission even more difficult and makes the Staff appear unreasonable when it requests sufficient time to perform the expected and necessary review and analysis.

Q. In early December, when you reviewed AmerenUE's work papers, did you discover some problems with its analysis of the cost per MWh for the various cases it was proposing to evaluate?

A. Yes, I did. In order to delineate those problems, I put together a power point presentation that was handed out the following week at the meeting on December 10, 2004. The focus of the power point presentation was to correct what I believed, and still believe, were the problems in the initial analysis performed in the AmerenUE work papers. It was not my intention, nor did I state, that the cost per MWh analysis was a sufficient for determining that AmerenUE serving the Noranda Load as a retail electric customer is in the public interest.

After the December 10, 2004 meeting and before AmerenUE filed its direct testimony, I had time to perform some initial calculations from AmerenUE's work papers and some tentative estimates of the revenues that would be recovered from Noranda under the proposed LTS tariff. I found that after the year 2006, there were potential problems with the revenues being adequate to cover AmerenUE's incremental costs. I called Mr. Voytas and made him aware of my analysis prior to AmerenUE's filing on December 20, 2004. I want to reiterate that these were tentative calculations, as I didn't yet have the exact revenues from Mr. Cooper, and my call was intended to alert AmerenUE to what I considered to be a potential problem.

Q. Did AmerenUE correct the problems you presented at the December 10, 2004 pre-filing meeting?

A. Yes, in large part it made those corrections and included them in its December 20, 2004 filing. While there are still some errors in AmerenUE's December 20th filing, I found nothing that would change the basic finding that the cost per MWh of load served by AmerenUE will be lower with the addition of the Noranda Load. But, as I previously indicated in this testimony, this result is not a sufficient condition to prevent detriment to non-Noranda Missouri retail electric customers of AmerenUE from the addition of the Noranda Load.

COMPARING COSTS AND REVENUES ON AN INCREMENTAL BASIS

Q. Have you made the calculations that compare the incremental costs to the incremental revenues from serving the Noranda Load?

A. Yes, I have. In 2005 and 2006, there is little doubt that the incremental revenues from the LTS tariff proposed by AmerenUE or from the Large Power Service (LPS) tariff will more than recover the incremental costs to serve the Noranda Load. However, in 2007, when the last of the combustion turbine generator capacity is added to meet AmerenUE's short-term 15% reserve margin requirement for summer peak load that includes the Noranda Load, it is no longer clear that the revenues recovered from the LTS tariff proposed in this filing (alternatively, from the LPS tariff) will continue to cover the incremental cost of serving the Noranda Load if Noranda operates at a 99% load factor.

Q. What is the importance of the addition of combustion turbine generator capacity to AmerenUE serving the Noranda Load?

A. The Noranda Load is 470 megawatts (MW) at its meter. If this load is added, in order for AmerenUE to meet its 15% reserve requirement Ameren will need to add approximately 375 megawatts of capacity in the summer of 2006 and an additional 225 megawatts in the summer of 2007. As noted later in my testimony, these numbers are rounded to the standard size of the combustion generator turbines assumed in AmerenUE's analysis. Any proper analysis of the incremental cost to serve Noranda should include the full incremental cost of capacity additions required by Noranda's Load.

Q. What is your understanding of the revenue recovery in the proposed LTS tariff?

A. Revenue recovery respecting the Noranda Load is shown at line 24 on Schedule WLC-2 attached to Mr. Cooper's direct testimony. It is approximately 3.00 cents per kWh if Noranda operates at a 99% load factor. However, the proposed tariff also includes an Annual Contribution Factor (ACF) that will increase the revenue recovery equivalent to what it would be on the LPS tariff. This is shown at line 22 on Schedule WLC-3 attached to Mr. Cooper's direct testimony. It is approximately 3.228 cents per kilowatt-hour if Noranda operates at a 99% load factor. For purposes of my comparison, I will use the 3.228 cents per kilowatt-hour (i.e., $32.28/MWh). In essence, AmerenUE is requesting that Noranda be charged a higher rate ($32,28/MWh) than what it has estimated will be the cost to serve Noranda ($30/MWh). In part, this is because the higher rate reflects the existing Large Power Service rate that has been approved by the Commission as just and reasonable, and it appears that AmerenUE wants to avoid (in this filing) having to perform a full class cost-of-service study to serve Noranda. Staff

witness Mr. James C. Watkins will more fully address this issue in his rebuttal testimony. For purposes of my rebuttal testimony, I will assume that the $32.28/MWh rate level is operable, but would note that my interpretation of the LTS tariff filed by AmerenUE in this case is that in its cost of service submittal to the signatories in Case No. EC-2002-1 no later than January 1, 2006, under the revenue recovery that is currently in AmerenUE's rates, the Commission can expect to see a rate level closer to $30/MWh being proposed by AmerenUE to serve the Noranda Load.

Q. Please define what you mean by the incremental cost to serve the Noranda Load?

A. There are four major components included in the incremental or additional cost to serve Noranda: 1) incremental variable production costs; 2) incremental fixed production costs; 3) incremental other fixed costs; and 4) incremental opportunity costs.

Q. What is included in incremental variable production costs?

A. Incremental variable production costs include the additional fuel and environmental costs required to serve the AmerenUE Native Load when that load includes Noranda as a Native Load customer. AmerenUE Native Load includes the load of both AmerenUE's Missouri retail customers and its six Missouri wholesale customers, which all are municipal utilities.

Q. What is included in incremental fixed production costs?

A. Incremental fixed production costs include the additional cost of capacity and fixed operations and maintenance expenses required to meet the 15% reserve margin requirement for AmerenUE's Native Load summer peak demand when the Noranda Load is added to the existing AmerenUE Native Load.

Q. What is included in incremental other fixed costs?

A. Incremental other fixed costs include the increased allocation to AmerenUE of Ameren Administrative and General expenses. AmerenUE provided the Staff with an estimate of this increase of approximately $218,000 annually.

Q. What is included in incremental opportunity costs?

A. Incremental opportunity costs include the loss of profits incurred by AmerenUE in the off-system wholesale market when it dispatches electricity to serve the Noranda Load in addition to its Native Load rather than sell the electricity serving the Noranda Load in the off-system wholesale market.

Q. Why is the loss of profits from off-system sales included as an incremental cost to serve the Noranda Load?

A. In traditional ratemaking, since the retail customers are paying a rate of return for all the generation capacity, profits from off-system sales from the use of that generation capacity by the utility are applied as a revenue offset to the production costs to serve retail customers. If those off-system sales profits are reduced, then the cost to serve retail customers is increased.

Q. Have you estimated the amount of the shortfall in revenues that the LTS tariff proposed in this filing will result in from covering the incremental cost of serving the Noranda Load?

A. Yes, I have made several different calculations, using results from different analyses performed by AmerenUE. First, in Mr. Voytas' analysis, the difference between the incremental cost to serve Noranda and the revenues for serving Noranda for 2007 were $5.68/MWh or 0.568 cents/kWh, where this is measured in

kilowatt-hours of sales to Noranda at the Noranda meter. Next, I averaged the incremental costs to serve Noranda over the thirteen-year period 2007 through 2019. I chose this period because it represented all but six months of the remaining fifteen-year AmerenUE contract to serve Noranda. In this calculation, the difference between the incremental cost to serve Noranda and the revenues for serving Noranda actually fell to $4.92/MWh or 0.492 cents/kWh.

To make clear what this means, in order to cover the incremental cost to serve Noranda, the rate charged to Noranda would have to increase from 3.228 cents/kWh to 3.720 cents/kWh, and this high of a rate does not appear to be one that is currently acceptable to Noranda. Moreover, when AmerenUE files its class cost of service on January 2006, the ACF component of the tariff will not be included and, absent an increase in overall revenue requirements to serve Missouri retail customers, the rate that Noranda would anticipate would actually fall to 3.002 cents/kWh.

Q. What was your initial reaction to the size of these differences?

A. I was surprised, and immediately reviewed in greater detail the assumptions that were included in Mr. Voytas' analysis. The reason I was surprised is that Ameren's calculations appear in what it called its "Noranda-Status Reports" and in the Noranda Status Reports it is indicated that the incremental cost to serve Noranda was much closer to 3.25 cents/kWh. As I further reviewed the assumptions made in Mr. Votas' analysis, I discovered four areas that could have caused the calculation of incremental cost to serve Noranda to be too high. First, while 600 MW of combustion turbine capacity is added because of AmerenUE serving the Noranda Load, the exact amount to meet the Noranda Load, including AmerenUE supplying AECI with Noranda

losses is 560 MW rather than 600 MW. Second, AmerenUE makes a profit from supplying AECI with Noranda losses. Third, AmerenUE's calculations include a variable O&M calculation that is not appropriate to include in the calculation of incremental cost to serve Noranda. Instead, the incremental fixed O&M costs associated with the added combustion turbine generator capacity should have been used. Fourth, the opportunity cost to serve Noranda includes lost profit from lower levels of off-system sales, but Mr. Voytas' analysis did not include the impact of the Joint Dispatch Agreement on this loss of profits.

Q. Taking into account all of the factors you have just discussed, what is your conclusion?

A. On Schedule 1, attached to my rebuttal testimony is a summary of the adjustments I made to account for the factors related above. (A more detailed explanation of each adjustment is provided in my work papers.) These adjustments were made in a very short period of time and are my best current estimates of the incremental cost to serve Norada at $30.39/MWh or 3.039 cents/kWh. The largest adjustment is to reduce the lost profit margins from off-system sales per the allocation of these profit margins between AmerenUE and AEG/Ameren Energy Marketing (AEM) according to the Joint Dispatch Agreement (JDA). This estimate assumes that the profit margins in AmerenUE's analysis are comparable to those that would occur under the operation of the JDA, and is supported by the analysis performed by Mr. Tim Finnell, a Supervising Engineer in the Corporate Planning Department of Ameren Services Company, in September 2004 as a part of AmerenUE's evaluation of the incremental cost to serve

Noranda. However, Mr. Finnell made his calculation for 2005 and for a more accurate estimate, his calculations would need to be updated for the 2007 through 2019 period.

Q. Why did you make the adjustment for profits from off-system sales in your calculation of the incremental cost to serve the Noranda Load?

A. At this time, the JDA requires that these profits be shared between AmerenUE and AEG/AEM. The JDA is an agreement among suppliers of generation that was initially Union Electric Company (UE) and Central Illinois Public Service Company (CIPS). As part of the Illinois retail electric jurisdiction moving to retail competition, the generation owned by CIPS was transferred to AEG as an exempt wholesale generator (EWG), but AEG continues to serve the CIPS load through an agreement with AEM. Thus, AEG now represents the generation owning entity and AEM represents the company responsible for the CIPS load.

While I do not agree with the operation of the terms of the JDA, this is a matter that could be taken up with the FERC by the Commission in addition to being dealt with by the Commission as an adjustment to the revenue requirement to serve Missouri retail electric customers. Moreover, I do not believe that it is fair to, in effect, require the Noranda Load to bear the incremental cost of an adjustment to the JDA that is not in effect at this time.

Q. How important is it to more accurately calculate an estimate of the adjustments for profits from off-system sales?

A. I don't think it is critical to a Commission decision in this case because AmerenUE's data filed in this case indicates that all AmerenUE customers, including Noranda, may face higher rates in the 2007 to 2019 time frame. In this respect, it is

important to keep in mind that any rate level set for revenue recovery from the Noranda Load should only be temporary and should be subject to the possibility of material increases in the future, as AmerenUE's other Missouri retail electric customers are. In addition to what AmerenUE filed in this case, AmerenUE faces significant cost increases related to more stringent environmental regulations being imposed on its existing fleet of generation units. These cost increases may require future rate increases and Noranda should be subject to those rate increases along with all of AmerenUE's other Missouri retail electric customers.

Q. Does your testimony regarding more accurate estimates of the impact of the JDA on opportunity costs for AmerenUE imply that the rates recovered from Noranda should stay constant over the fifteen-year contract?

A. No. My testimony that a more accurate calculation of an estimate of the JDA impact on opportunity costs to serve Noranda may result in the revenue recovery proposed in the LTS tariff covering the incremental cost to serve Noranda over the fifteen-year contract should not be interpreted to mean that the rate level to serve Noranda should be fixed over that same period. Moreover, after Noranda becomes a Missouri retail rate customer of AmerenUE, it should be subject to rate increases and decreases just like all other AmerenUE Missouri retail rate electric customers.

RISK EVALUATION FOR AMERENUE SERVING THE NORANDA LOAD

Q. Have you performed a risk evaluation for AmerenUE serving the Noranda Load?

A. Yes, I have. There are three risks that AmerenUE faces that relate to length of contract, length of termination notification and the possibility of Noranda going out of business prior to the fifteen-year term in its contract.

Q. What was your evaluation of risk concerning the length of the contract with Noranda?

A. The risk faced by AmerenUE is related to its capacity expansion plan for the year 2011 when it plans to add a large 750 MW coal-fired unit. AmerenUE's Missouri retail peak load grows at a rate of approximately 100 MWs per year. Thus, after the addition of this large plant, AmerenUE will have excess capacity over the next five years, from 2011 through 2015. It the Noranda contract were to terminate during this period, this would put a burden on the other Missouri retail customers of AmerenUE. The contract negotiated with Noranda is for fifteen years starting on June 1, 2005, and thus is beyond the critical 2015 growing into load date.

Q. What was your evaluation of risk concerning the length of termination notification for the Noranda contract?

A. With the load growth, and past the period where AmerenUE has excess capacity for its planned 750 MW addition, AmerenUE's load is likely to grow into the additional capacity built for Noranda over a five-year period. Thus, the requirement that Noranda give AmerenUE notice at least five years before termination of the contract mitigates this risk.

Q. Why have you performed a risk analysis of Noranda going out of business?

A. First, it is not because I consider this a likely outcome in the case of Noranda. Moreover, it would be a significant economic loss to the state of Missouri if Noranda did go out of business. However, because of the size of the Noranda Load and the competitive nature of the aluminum business, I believe that it is prudent to make such

an evaluation. Because of the size of load and commitment of capacity, when these large customers go out of business, it can have a significant impact on the cost to serve the remaining customers of the utility. In the past, the Staff has faced a similar type situation where a business that was highly dependent on electricity to produce its product in a highly competitive industry has gone out of business – GST Steel in Kansas City, Missouri.

Q. What was you evaluation of risk concerning Noranda going out of business?

A. The worst case scenario is one in which Noranda goes out of business at the same time or a few years before AmerenUE adds its 750 MW coal unit in 2011. Under the scenario that Noranda goes out of business in 2011, I have calculated an estimate of the increase in capacity cost that would be placed on the remaining AmerenUE Missouri retail customers and made an adjustment for profits for an increase in off-system sales from the excess capacity, assuming that AmerenUE would retain one hundred percent of such profits. The results are that over the period 2011 to 2015, electric costs may be higher for the remaining Missouri retail customers, but the costs actually decrease over the next five years. The net present value of these differences shows that the cost decrease in the out years more than offsets the cost increase in the early years. Thus, I believe that while this is a short-term risk, in the long-term it is mitigated.

TRANSMISSION EVALUATION FOR AMERENUE SERVING THE NORANDA LOAD

Q. Did you evaluate the transmission aspects of AmerenUE serving the Noranda Load?

A. Yes. 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:

1) Will the transmission system experience any change in congestion from AmerenUE serving the Noranda Load versus Noranda being served by another supplier?
2) Will AmerenUE be required to make any transmission upgrades in order to serve the Noranda Load?
3) Will AmerenUE experience a net increase in congestion costs from the Midwest ISO if it serves the Noranda Load?
4) Will other Missouri utilities find it more difficult to obtain long-term firm transmission service if AmerenUE serves the Noranda Load?

Q. Will the transmission system experience any change in congestion from AmerenUE serving the Noranda Load versus Noranda being served by another supplier?

A. No. Irrespective of who serves the Noranda Load, the physics of the transmission system will remain the same. 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. Mr. Edward C. Pfeiffer, Manager of the Electric Planning Department of the Ameren Services Company states in his direct testimony that "[i]f 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." [Pfeiffer Direct, page 5, lines 12-14.] This testimony recognizes the close proximity of Noranda to several base-load generation facilities of AECI and the physics of the system is such that these base-load facilities do in fact serve Noranda irrespective of what entity has the contract to provide capacity and energy for Noranda's Load. This does not mean that with AmerenUE serving Noranda's Load that future locations of generation capacity might not change, but to attempt to anticipate what these changes might be would be a fairly speculative exercise.

Q. Will AmerenUE be required to make any transmission upgrades in order to serve the Noranda Load?

A. In the Staff's deposition of Mr. Pfeiffer, his answer was that he did not anticipate any such upgrades would be required. This is consistent with the fact that transmission congestion will not increase in the region. In addition, I understand Mr. Pfeiffer's testimony to be that upgrades might be necessary if Noranda were to cease operation.

Q. Will AmerenUE experience a net increase in congestion costs from the Midwest ISO if it serves the Noranda Load?

A. Except in the instance where serving a new load results in a lower price at the new load than at the provider's generation sources, increasing load will result in the utility accounting for higher congestion costs, not because of increased congestion in the region, but because the utility has increased the load to serve from its generation sources. If the prices at the generation sources are lower than the prices at the load, these differences represent the congestion prices. When load is added, if the price at that load is higher than the price at the generation sources, the congestion costs will increase.

However, AmerenUE will be entitled to additional candidate FTRs from the Midwest ISO starting in September 2005. In effect, FTRs provide a refund of congestion costs to the holder. It is almost certain that an increase in candidate FTRs will result in AmerenUE being allocated more FTRs, but it is impossible to say whether or not this increase in FTRs allocated to AmerenUE will or will not cover the higher congestion costs AmerenUE is likely to incur from serving the Noranda Load.

Q. Are there any other incremental transmission costs that AmerenUE will incur from the Midwest ISO to serve the Noranda Load?

A. Yes, there are. AmerenUE will incur additional administrative charges from serving the Noranda Load. The exact amount of these charges may change, but they will likely be in the range of twenty-five cents per megawatt-hour (i.e., 0.025 cents per kilowatt-hour). This incremental cost should be added to the estimate shown on Schedule 1, bringing the estimate to $30.64/MWh or 3.064 cents per kWh.

Q. Will other Missouri utilities find it more difficult to obtain long-term firm transmission service if AmerenUE serves the Noranda Load?

A. Availability of long-term transmission service is calculated using power flow models similar to the one discussed by Mr. Pfeiffer in his direct testimony. The results shown in Schedule EPC-2 attached to Mr. Pfeiffer's direct testimony indicate that with AmerenUE serving the Noranda Load, the power flows on several facilities will increase, but will decrease on other facilities. It seems clear from that analysis that modeled power flows increased in the east to west direction and decreased in the west to east direction. This would generally indicate that making firm transmission reservations for east to west transactions would be more difficult, but for west to east transactions

would be less difficult. This is a generalization that may not apply to every request for firm transmission. Moreover, the implication of this generalization is that it will become more difficult for utilities located west of AmerenUE to enter into contracts for power with providers located to their east.

RESOURCE ADEQUACY FOR AMERENUE SERVING THE NORANDA LOAD

Q. What is generally meant by the term "resource adequacy"?

A. Resource adequacy addresses the question of whether or not there is adequate generation capacity within the region to provide reliable electricity supply to customers under a variety of contingency conditions. These contingencies primarily involve forced outages on generation units during peak load periods.

Q. What is the resource adequacy requirement to be met by the Ameren generation system?

A. Ameren states that it must meet a 15% short-term reserve requirement as a member of the Mid-America Interconnected Network, Inc. (MAIN) reliability council. This means that going into the summer peak season, Ameren should have 15% more capacity than its forecasted summer peak load.

Q. With AmerenUE serving the Noranda Load, does the Ameren system meet its 15% reserve requirement?

A. According to the response of AmerenUE in it's filing of January 18, 2005 in Case No. EA-2005-0180, the Ameren system is ** HC ** MW short of meeting its 15% reserve requirement. AmerenUE has provided Staff with additional data documenting this current shortage. However, AEM is in the process of addressing this situation.

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Q. Do you have a recommended condition for approval by the Commission for AmerenUE to serve the Noranda load related to the resource adequacy of the Ameren system?

A. Yes, I do. Because the reliability of the region is determined not only by the resource adequacy of AmerenUE, but also by the resource adequacy of neighboring systems, it is important that the Commission not approve AmerenUE serving the Noranda Load if it knows that the interconnected power system is not reliable. Therefore, I recommend that as a condition for Commission approval for AmerenUE to serve the Noranda Load that Ameren submit documentation to the Commission prior to June 1, 2005 showing that it has the capacity needed to meet its 15% reserve requirement.

Q. Does this complete your rebuttal testimony?

A. Yes, at this time, given the AmerenUE information presently available to the Staff.

CALCULATION OF INCREMENTAL COST TO SERVE NORANDA LOAD

1.	Incremental Cost from AmerenUE Filing	$37.20 /MWh
Subtract		
2.	Capacity Cost Adjustments	-$0.41 /MWh
3.	Profit from AECI Losses	-$0.21 /MWh
4.	Removal of Variable O&M	-$3.07 /MWh
5.	Account for JDA on Off-System Sales Profits	-$3.12 /MWh
Revised Estimate		
	Incremental Cosr to serve Noranda	$30.39 /MWh

Explanations:

1. Direct calculation from Voytas' workpapers.
2. 560 MW instead of 600.
   10.5% return on equity instead of 13.5%.
   $3.00 in fixed operations and maintenance costs.
3. Difference between revenues received and incremental costs for AmerenUE to provide Noranda losses to AECI.
4. Double counts O&M costs attributable to Noranda.
5. Allocates 65.5% of profits from Off-System Sales to AmerenUE.

Schedule 1