Exhibit No.:
Issue: *Depreciation*
Witness: *Arthur W. Rice, PE*
Sponsoring Party: *MoPSC Staff*
Type of Exhibit: *Rebuttal Testimony*
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MISSOURI PUBLIC SERVICE COMMISSION

UTILITY SERVICES DIVISION

REBUTTAL TESTIMONY

OF

ARTHUR W. RICE, PE

UNION ELECTRIC COMPANY
d/b/a AmerenUE

CASE NO. ER-2010-0036

Jefferson City, Missouri
February 11, 2010

REBUTTAL TESTIMONY

OF

ARTHUR W. RICE, PE

UNION ELECTRIC COMPANY
d/b/a AmerenUE

CASE NO. ER-2010-0036

Q. Please state your name and business address.

A. Arthur W. Rice, P.O. Box 360, Jefferson City, Missouri, 65102.

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

A. I am employed by the Missouri Public Service Commission (PSC or Commission) as a Utility Regulatory Engineer I in the Engineering and Management Services Department.

Q. Are you the same Arthur W. Rice who previously testimony as reflected in the Staff's Revenue Requirement Cost of Service?

A. Yes, I am.

Q. Please state the purpose of your testimony.

A. The purpose of my rebuttal testimony is to offer the Staff's position in response to the direct testimonies filed by James T. Selecky of Missouri Industry Energy Consumers ("MIEC") and Larry W. Loos, of Union Electric Company. d/b/a AmerenUE ("AmerenUE") in this case, regarding proposed depreciation rates for AmerenUE.

Q. Does Staff agree with AmerenUE's proposed steam production book depreciation rates based on the life span approach?

A. No. The Commission rejected the life span approach in Case No. ER-2007-0002, *In the Matter of Union Electric Company d/b/a AmerenUE for Authority to*

File Tariffs Increasing Rates for Electric Service Provided to Customers in the Company's Missouri Service Area. The Commission in its Order issued 05/22/07 in Case No. ER-2007-0002, rejected the life span method because the Commission did not find sufficient evidence presented to define future retirement dates for the steam production plants. ER-2007-0002 Report and Order page 84 states "Without better evidence of when these plants are likely to be retired, allowing the company to increase its depreciation expense based on what is little more than speculation about possible retirement dates would be inappropriate." AmerenUE has not presented reliable evidence of future retirement dates for its coal fired steam production plant.

Q. Did AmerenUE use estimated retirement dates for its coal fired steam production plant in developing its depreciation rates?

A. Yes. AmerenUE included a study conducted by Black and Veatch in the direct testimony of Mr. Loos. Mr. Loos used professional discretion and evaluated the physical condition of AmerenUE's steam production plant equipment and future major plant maintenance requirements, including known and probable environmental upgrades. Mr. Loos testimony also includes a database of non-Ameren retired steam production plants which he references in comparison to the AmerenUE plant lives estimated by his study.

Staff disagrees with Mr. Loos' assertion that the database of retired steam production plant units presented in his study is comparable to the AmerenUE units. The twelve AmerenUE steam production plant units in service have an average capacity of 457 MW. Of the 586 retired units presented as comparable, only three had a capacity of greater than 250 MW.[1] Thus only 0.5% of the units presented for comparable data are comparable in generating capacity to the AmerenUE units. All three of the similarly-sized units in the

database of greater than 250 MW units were retired at only 34 years, indicating an abnormal short life for these units. The reality is that there are many of these larger units in service, but they have not been in service long enough to provide a usable whole life retirement history, or have not yet been retired because they have not yet reached the ends of their service lives.

Q. Does Staff agree with MIEC's first concern in Mr. Selecky's direct testimony, at page 2, line 16, that:

> 1. AmerenUE's proposed steam production book depreciation rates are based on the life span approach. The Commission in its Order in Case No. ER-2007-0002 rejected this method for calculating coal fired steam production depreciation rates.

A. Yes, and the commission should reject the use of the life span approach in this case for the reasons stated in Case No. ER-2007-0002.

Q. Does Staff agree with MIEC's second concern in Mr. Selecky's direct testimony, at page 2, line 19, that:

> 2. The Commission should calculate the coal fired steam production depreciation rates using the whole life approach employing the life characteristics and the net salvage history contained in AmerenUE's filing. This would be consistent with the Commission's findings in Case No. ER-2007-0002

A. Staff does agree and did calculate its recommended coal fired steam plant production depreciation rates using the whole life approach employing the life characteristics and the net salvage history contained in AmerenUE's filing. Note: The production plant account referenced here is defined as Steam Production Equipment. MIEC has redefined or created an account they are calling "coal fired steam production". The prescribed accounts make no distinction between fuel source (coal, gas, oil, wood, etc).

[1] See Loos Direct Appendix A2.

Q. Does Staff agree with MIEC's third concern in Mr. Selecky's direct testimony, at page 2, line 23, that:

> 3. The estimated remaining life and net salvage ratio for nuclear plant Account 322 Reactor Plant Equipment should be adjusted to exclude the impacts of the significant retirements that occurred in 2005. This retirement impacts the development of the remaining life and net salvage ratio used to develop the depreciation rate. This retirement should be considered atypical and should be excluded from the life and net salvage analysis.

A. No, Staff does not agree that the retirements of the steam generators in 2005 from the Reactor Equipment Account 322 should be excluded from the life analysis. Staff's initial comment is that because the remaining life of this nuclear plant is based on a fixed date, there is no impact on recommended depreciation rates. Staff does not find sufficient reason to exclude these plant items from the life analysis. Retirements are removed from the life analysis if they are found to be reimbursed retirements (insurance proceeds or third party payments), or when there is evidence or legal action showing fraud or misconduct. Staff is not aware of any insurance proceeds, third party payments, or legal action showing fraud or misconduct associated with the replacement of the steam generators.

Staff does agree that the steam generator replacement should be removed from the net salvage analysis, on the basis that a replacement of this type is not expected to occur again within the life of the plant, and the nuclear plant has a separate decommissioning fund for final removal. The negative 10% net salvage recommended by Staff, (which is consistent with AmerenUE's proposal), is the result obtained from the net salvage analysis when the steam generator retirement, cost of removal, and salvage are removed from the net salvage analysis. Without this removal the net salvage analysis yields at a negative 18%.

Q. Does Staff agree with MIEC's fourth concern in Mr. Selecky's direct testimony at page 3, line 4, that:

> 4. For the other production plant accounts, the net salvage ratio should be adjusted to reflect AmerenUE's actual net salvage experience. AmerenUE's proposed net salvage ratio contains a component for eventual dismantling of the other production plants. However, AmerenUE has not provided any support for this adjustment.

A. No, Staff does not agree with the statements in this concern. On page 10 of the MIEC direct testimony, MIEC agrees that the net salvage ratios developed by AmerenUE in their life span analysis do not reflect any net salvage associated with final retirements (dismantlement). AmerenUE used life span for the steam, nuclear, and hydraulic production plant accounts. For "other production plant" accounts, which consist mainly of the combustion turbines, Staff did not find any final retirements recorded in the database. Staff studies all steam production plant retirement data as one database for estimating survivor curves and net salvage ratios, without distinguishing between plant units or unit location. Thus, it is not clear to Staff as to what Mr. Selecky is referring to as "other production plants accounts".

Q. Does Staff agree with MIEC's fifth concern in Mr. Selecky's direct testimony at page 3, line 6, that:

> 5. My changes to AmerenUE's production depreciation rates reduce AmerenUE's production depreciation expense by $44.485 million based on plant balances at December 31, 2008.

A. Staff does not agree with the analysis used by MIEC to compute whole life depreciation rates for production plant accounts. Staff believes MIEC used interim survivor curves generated for the use in life span treatment from a compilation of all production unit data for each account, but failed to truncate these curves at an estimated retirement date. Truncation is required to account for the retirement (depreciation expense) associated with equipment that was recently installed to keep the plants running until the retirement date.

Q. Does Staff agree with MIEC's statement on page 13 of Mr. Selecky's direct testimony that:

In case number ER-2008-0318, AmerenUE witness John Wiedmayer stated in his rebuttal testimony that interim survivor curves, that both he and Staff estimated in Case No. ER-2007-0002, were developed from interim retirement activity and that final retirement of plants were not reflected in the analysis.

A. Not entirely. While this is a true statement regarding the use of final retirement data in the historical database, the statement is being used out of context and is misleading. In Case ER-2007-0002 AmerenUE used the life span method of analysis for steam production plant equipment. The life span method by definition includes the "final" retirements. That is, all remaining plant of the unit being retired is automatically included as retired by the truncation of the survivor curve at that date. The act of truncating the interim retirement curve is the recognition of the retirement of all remaining property in that production unit.

Under the life span method, an interim retirement curve is used to account for property that was retired (replaced) prior to the final shut down date, and the average service life is computed from the final retirement date modified (shortened) to include interim retirements.

In Case No. ER-2007-0002 Staff did not use the life span method. Staff used the whole life method. The whole life method should be viewed as exactly what it says, whole life, (cradle to grave), which includes retirements when a unit shuts down for the last time. Staff has historically treated the steam production plant equipment accounts as mass property. For mass property whole life treatment, there is no distinction between individual

physical production units, or interim versus final retirements. The context of John Wiedmayer's statement given above was that Staff *made an error* by using the same interim curves as AmerenUE used for life span analysis. Staff has reviewed in this case of the testimony of John Wiedmayer in Case No ER-2008-0318, and finds it clear that Mr. Wiedmayer was stating that Staff had made an error in not including "code 7s" in the whole life analysis.

Staff's review of the method MIEC used to evaluate depreciation rates for steam production plant equipment demonstrates a continuation of this error because Mr. Selecky stated he relied on the results of the Case No. ER-2007-0002 interim survivor curves for his estimating of whole life depreciation rates.

Staff's proposed steam production plant depreciation rate of 2.55% in this case is higher than the current ordered rate of 2.00% from Case No. ER-2007-0002. This relatively large difference prompted an investigated by Staff into the depreciation study for the 2007 case. Staff's review in this case of the depreciation study, conducted by Staff for Case No. ER-2007-0002, indicates that the whole life mass property analysis failed to use all of the retirement data which should have been included in the whole life method of depreciation analysis.

Q. What caused the Staff's error in Case No. ER-2007-0002?

A. While the Staff person that conducted the depreciation study for the ER-2007-0002 case is no longer with Staff, there are several possible reasons for this error.

There is possible confusion stemming from the data code definitions contained within the Gannett Fleming software use instructions and the use of these codes in the AmerenUE database. Retirements occurring when a plant is shutdown are included in the data given to

Staff as "code 7s". A review of the data files for Case Nos. ER-2007-0002 and ER-2010-0036 shows only final retirements recorded in the "code 7s". But, in the Gannett Fleming depreciation software use instructions, the definition of "code 7s" is "Outlier Retirements: A retirement that occurs under unusual circumstances such that the analyst deem it appropriate that it be excluded from the retirements used for service life or salvage study". There is no mention in the definition of final retirements, or that it is appropriate to exclude final retirements when constructing interim survivor curves for a **lifespan** study of individual plant units, but not to exclude final retirements when constructing survivor curves for a **whole life** study in a **mass property account**. Further confusion may have originated from the answers to data requests submitted by Staff to AmerenUE. AmerenUE's responses to Staff's data requests 0114 an 0115 in Case No. ER-2007-0002 regarding final *dismantlement* data for the Venice, Mound, and Cahokia facilities was that the data was not available. Comments found indicate Staff confused this with *retirement* data, thus assuming retirement data was not available when in fact Staff had already been provided retirement data as "code 7s" in the retirement data file, but not in the salvage data file. Investigation into the actual computer runs used in the Case No. ER-2007-0002 show that the "code 7s" were omitted from the study to derive the survivor curves.

It is possible that when Staff was conducting the depreciation study in the Case No. ER-2007-0002, that Staff was unaware that the "Outlier Retirements" contained within the retirement data file, but not contained in the salvage data file, were the final retirements.

Q. Does Staff consider the results of its depreciation study in Case No. ER-2007-0002 reliable for these accounts?

A. No. Further, Staff's review of the method MIEC used to evaluate depreciation rates for steam production plant equipment is a continuation of the error in Case No. ER-2007-0002 of confusing life span interim survivor curves with whole life survivor curves. MIEC is using only interim retirement data to estimate whole life depreciation rates.

Q. Does Staff agree with MIEC's sixth concern in Mr. Selecky's direct testimony, at page 3, line 14, that:

> 6b. The net salvage ratio for Account 312 Boiler Plant Equipment should be adjusted to reflect a reasonable estimate of the net salvage expense that AmerenUE could expect to incur over the remaining lives of its steam production plants.

A. Yes, when using the life span method, Staff agrees that an adjustment for estimated net salvage expense is appropriate. Staff has reviewed net salvage estimates proposed by AmerenUE for accounts where AmerenUE used life span analysis methods. Staff found that AmerenUE did adjust net salvage rates to reflect salvage expense expected to occur over the remaining life, and Staff is in agreement with the adjustments made.

Q. Does Staff agree with MIEC's seventh concern in Mr. Selecky's direct testimony, at page 3, line 18, that:

> 7. If the Commission develops the coal fired steam production depreciation rates using the life span method, my proposed revisions to the life and net salvage parameters would reduce AmerenUE's proposed production depreciation expense by $19.668 million based on December 31, 2008 plant balances.

A. Yes. As previously discussed, incorporating an adjustment for estimated net salvage expense is appropriate under the life span method.

Q. Does Staff agree with MIEC's eighth concern in Mr. Selecky's direct testimony, at page 3, line 22, that:

> 8. AmerenUE's current transmission and distribution accumulated depreciation reserve currently contains a provision for approximately

> $582 million for future net salvage costs. In addition, AmerenUE's proposed depreciation rates contain an annual component of net salvage expense that exceeds AmerenUE's actual experience by approximate $59 million. As a result, over the next five years, AmerenUE's accrued net salvage in its transmission and distribution plant accounts may approach $900 million.

A. No, Staff disagrees with MIEC's conclusions. In the Report and Order for the Empire District Electric Company Case No. ER-2004-0570 at 54 the Commission states "It is the policy of this Commission to return to traditional accounting methods for Net Salvage"

Staff has reviewed the accounting methods used in this case, and the traditional net salvage accounting methods have been applied by AmerenUE and Staff. Staff has also reviewed the accumulation of net salvage expense accruals, and found that for all plant accounts, the annual average net salvage expenditure over the past ten years, (1999 through 2008) is approximately $22 million per year. Staff estimates projected annual expenditures for net salvage to average $36 million per year over the next ten years. The Staff's proposed depreciation rates include a net salvage portion that would collect approximately $70 million per year for future net salvage cost in all plant accounts. Of this $70 million, $36 million is related to the transmission and distribution accounts, mainly just distribution, ($34 million). Staff believes the MIEC's estimate of $59 million for transmission and distribution is too high.

Also, no excess of reserves were found in Staff's comparison of theoretical reserves to book reserves for the distribution accounts. For the depreciation rates proposed in this case, and using end of year balances for 2008, the theoretical reserves for the distribution accounts was found to be $1,755 million, while the Company reported book reserves is $1,757 million. There does not appear to be any accumulation of excess reserves in the

distribution accounts when using the method of computation ordered by the Commission in Case No. ER-0004-0570.

Q. Does Staff agree with MIEC's ninth concern in Mr. Selecky's direct testimony at page 3, line 29, that:

> 9. AmerenUE's transmission and distribution net salvage component of its proposed depreciation rates reflects estimates of future net salvage costs which include estimates of future inflation. Therefore, on an annual basis, AmerenUE accrues net salvage expense significantly in excess of its actual requirement.

A. Staff agrees that its proposed depreciation rates reflects estimates of future net salvage costs which include estimates of future inflation. The future inflation is an inherent result of the computation method used and estimates that inflation in the future will be equivalent to inflation of the past.

Q. Does Staff agree with MIEC's tenth concern in Mr. Selecky's direct testimony at page 3, line 33, that:

> 10. The Commission should create an offset of $35 million to reduce AmerenUE's proposed transmission and distribution depreciation expense. This offset would reduce the transmission depreciation expense by $1.972 million and distribution expense by $33.028 million. Even with this offset, AmerenUE's depreciation rates will accrue net salvage that is approximately $20 to $25 million in excess of their actual needs.

A. No, similar to Staff's rationale regarding MIEC's eighth concern, Staff disagrees with this concern.

Also, Staff's proposed deprecation rates for this case maintains the depreciation expense within $2 million of the current rates. The current deprecation rates were ordered in Case No. ER-2007-0002 case and became effective June 1, 2007, only about 18 months prior to the current depreciation study date. The change in depreciation expense, using end of year 2008 plant balances, associated with the change in rates which took effect in mid 2007

resulted in a depreciation expense reduction approximately $57 million, (from $382 million to $325 million). Staff does not agree that additional offsets to reduce depreciation expense in the transmission and distribution accounts are warranted in this case.

Q. Does Staff recommend depreciation offsets to compensate for excess depreciation reserves in any other accounts?

A. Yes, in Staff's direct testimony, Staff recommends a negative amortization of $7,199.461 for AmerenUEs' Nuclear Plant accounts, and a negative $5,000,000 for AmerenUEs combustion turbine generators in Generator account (344).

Q. Does this conclude your written rebuttal testimony?

A. Yes.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a AmerenUE's Tariffs to Increase its Annual Revenues for Electric Service.	)))	Case No. ER-2010-0036

AFFIDAVIT OF ARTHUR W. RICE, PE

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

Arthur W. Rice, PE, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Rebuttal Testimony in question and answer form, consisting of 12 pages to be presented in the above case; that the answers in the foregoing Rebuttal Testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true and correct to the best of his knowledge and belief.

Arthur W Rice PE
ARTHUR W. RICE, PE

Subscribed and sworn to before me this 10th day of February, 2010.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 08, 2012
Commission Number: 08412071

D Suzie Mankin
Notary Public