

*Exhibit No.:*  
*Issue:* Depreciation  
*Witness:* Arthur W. Rice, PE  
*Sponsoring Party:* MoPSC Staff  
*Type of Exhibit:* Rebuttal  
*Case No.:* ER-2014-0258  
*Date Testimony Prepared:* January 16, 2015

**MISSOURI PUBLIC SERVICE COMMISSION**  
**REGULATORY REVIEW DIVISION - UTILITY SERVICES**  
**ENGINEERING AND MANAGEMENT SERVICES UNIT**

**REBUTTAL TESTIMONY**

**OF**

**ARTHUR W. RICE, PE**

**UNION ELECTRIC COMPANY,  
d/b/a Ameren Missouri**

**CASE NO. ER-2014-0258**

**Jefferson City, Missouri  
January, 2015**

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**UNION ELECTRIC COMPANY,**  
**d/b/a Ameren Missouri**  
**CASE NO. ER-2014-0258**

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1 **REBUTTAL TESTIMONY OF**

2 **ARTHUR W. RICE, PE**

3 **UNION ELECTRIC COMPANY,**  
4 **d/b/a Ameren Missouri**

5 **CASE NO. ER-2014-0258**

6 Q. Please state your name and business address.

7 A. My name is Arthur W. Rice, and my business address is Missouri Public  
8 Service Commission, P.O. Box 360, Jefferson City, MO 65102.

9 Q. Are you the same Arthur W. Rice who prepared Staff's *Depreciation Summary*  
10 that appears on page 158 of Staff's Cost of Service Report filed December 5, 2014?

11 A. Yes.

12 Q. Are your current position with the Commission, and your educational  
13 background and other qualifications disclosed in Appendix 1 to Staff's Cost of Service  
14 Report?

15 A. Yes. My current position of Utility Regulatory Engineer I in the Engineering  
16 and Management Services Unit of the Utility Services Department of the Regulatory Review  
17 Division and my work and educational experience are on page 69 of that appendix.

18 Q. Have you previously testified before the Commission?

19 A. Yes. The cases in which I have filed testimony before the Commission are  
20 listed on page 70 of that same appendix.

21 **EXECUTIVE SUMMARY**

22 Q. What is the purpose of this testimony?

1           A.     The purpose of this testimony is to provide a correction to the Staff Cost of  
2 Service Report Accounting Schedule 05, Depreciation Expense, and to summarize the  
3 differences between Staff's depreciation recommendation and Ameren Missouri's  
4 depreciation proposal for this rate case.

5     **CORRECTIONS TO STAFF ACCOUNTING SCHEDULE 05**

6           Q.     What is the nature of the correction to the Cost of Service Report Accounting  
7 Schedule 05 for depreciation expense?

8           A.     The average lives and net salvage percentages for each plant account in two  
9 informational columns F and G in that schedule are incorrect.

10          Q.     Does correcting the numbers recorded in these columns change Staff's  
11 depreciation expense or revenue requirement recommendations?

12          A.     No.

13          Q.     What are the correct entries for these columns?

14          A.     Addition of the Average Life and the Net Salvage percentage information to  
15 the two columns as shown in Schedule AWR-2.

16          Q.     What is the basis for the Average Life information for each plant account?

17          A.     Staff's recommended depreciation rates and the average lives depend on the  
18 method Ameren Missouri used to record retirements for an account. For mass asset  
19 accounts, where retirements are recorded as they physically occur, the life in years shown  
20 represents the average service life for interim retirements observed for the account, (from the  
21 Survivor Curve). For vintage amortized accounts, the life in years shown represents the  
22 amortization period.

1 Q. What is the basis for the Net Salvage information for each plant account?

2 A. The Staff recommended depreciation rate for Ameren Missouri includes  
3 accrual of future expected net salvage for interim retirements over the expected remaining life  
4 of the current assets in each account. The net salvage percent shown is a future expected  
5 interim net salvage cost as a percent of total plant original cost.

6 **STAFF AND AMEREN MISSOURI DEPRECIATION DIFFERENCES**

7 Q. Why does Staff's recommended depreciation expense and Ameren Missouri's  
8 proposed depreciation expense differ?

9 A. There are two sources contributing to the difference in overall depreciation  
10 expense. One is that Staff and Ameren Missouri used different methods to address an  
11 over-accrual of depreciation reserves; the other is the difference in the maximum amount of  
12 negative net salvage each allowed for an account.

13 Q. What is the difference related to over-accrual of deprecation reserves?

14 A. Ameren Missouri's proposed switch to a vintage amortization method of  
15 depreciation accruals for selected General Plant accounts would result in an excess of  
16 depreciation reserves for amortized accounts of approximately \$25.0 million. Ameren  
17 Missouri proposes to return this amount to ratepayers by reducing the depreciation expense in  
18 its revenue requirement by approximately \$5.0 million per year for five years. In contrast,  
19 Staff recommends transferring the \$25.0 million to production plant accounts for Venice and  
20 Meramec that show a deficiency in deprecation reserves rather than returning it to ratepayers.  
21 Thus, Staff's depreciation expense does not reflect Ameren Missouri's proposed reduction of  
22 \$5.0 million per year for five years.

1 Q. What is the difference related to negative net salvage?

2 A. Staff recommends that as it did for The Empire District Electric Company  
3 (“Empire”) in Case No. ER-2004-0570, by its order dated March 10, 2005, the Commission  
4 cap net salvage at a maximum negative value of 100%. This affects two Ameren Missouri  
5 accounts in this case, USOA Account 364 (Poles and Fixtures) and USOA Account 369.01  
6 (Overhead Services), where Ameren Missouri has proposed using a net salvage of minus  
7 150% and minus 200% respectively. Staff’s recommendation to cap negative net salvage at  
8 minus 100% reduces annual depreciation expense by approximately \$20.3 million compared  
9 to Ameren Missouri’s proposal.

10 Q. What is the overall difference in depreciation expense between Staff and  
11 Ameren Missouri from these two different approaches?

12 A. Staff’s recommended annual depreciation expense is approximately  
13 \$15.3 million less than Ameren Missouri’s proposal.

14 Q. Do you have any further rebuttal testimony?

15 A. No.

**BEFORE THE PUBLIC SERVICE COMMISSION**

**OF THE STATE OF MISSOURI**

In the Matter of Union Electric Company d/b/a )  
Ameren Missouri's Tariff to Increase Its ) Case No. ER-2014-0258  
Revenues for Electric Service )

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 4 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*

Arthur W. Rice, PE

Subscribed and sworn to before me this 15<sup>th</sup> day of January, 2015.

D. SUZIE MANKIN  
Notary Public - Notary Seal  
State of Missouri  
Commissioned for Cole County  
My Commission Expires: December 12, 2016  
Commission Number: 12412070

*D. Suzie Mankin*

Notary Public

Accounting Schedule:

Sponsor:

Art Rice

Ameren Missouri  
 Case No. ER-2014-0258  
 12 Months Ending March 31, 2014  
 True-Up through December 31, 2014  
 Depreciation Expense

<u>A</u> Account Number	<u>B</u> Plant Account Description	<u>F</u> Average Life	<u>G</u> Net Salvage
	<b>INTANGIBLE PLANT</b>		
302.000	Franchises and Consents	0	0.00%
303.000	Miscellaneous Intangibles	0	0.00%
	<b>STEAM PRODUCTION</b>		
	<b>MERAMEC STEAM PRODUCTION PLANT</b>		
310.000	Land/Land Rights - Meramec	0	0.00%
311.000	Structures - Meramec	100	-1.00%
312.000	Boiler Plant Equipment - Meramec	55	-5.00%
314.000	Turbogenerator Units - Meramec	60	-2.00%
315.000	Accessory Electric Equipment - Meramec	70	-1.00%
316.000	Misc. Power Plant Equipment - Meramec	40	0.00%
316.210	Misc. PP Equip - Office Furniture - Meramec - Fully Accrued	0	0.00%
316.210	Misc. PP Equip - Office Furniture - Meramec - Amortized	20	0.00%
316.220	Misc. PP Equip - Office Equip - Meramec - Fully Accrued	0	0.00%
316.220	Misc. PP Equip - Office Equip - Meramec - Amortized	15	0.00%
316.230	Misc. PP Equip - Computers - Meramec - Fully Accrued	0	0.00%
316.230	Misc. PP Equip - Computers - Meramec - Amortized	5	0.00%
317.000	Meramec ARO	0	0.00%
	<b>SIOUX STEAM PRODUCTION PLANT</b>		
182.000	Sioux Post Op - 2010	0	0.00%
182.000	Sioux Post Op - 2011 & 2012	0	0.00%
310.000	Land/Land Rights - Sioux	0	0.00%
311.000	Structures - Sioux	100	-1.00%
312.000	Boiler Plant Equipment - Sioux	55	-5.00%
314.000	Turbogenerator Units - Sioux	60	-2.00%
315.000	Accessory Electric Equipment - Sioux	70	-1.00%
316.000	Misc. Power Plant Equipment - Sioux	40	0.00%
316.210	Misc. PP Equip - Office Furniture - Sioux - Fully Accrued	0	0.00%
316.210	Misc. PP Equip - Office Furniture - Sioux - Amortized	20	0.00%
316.220	Misc. PP Equip - Office Equip - Sioux - Fully Accrued	0	0.00%



<u>A</u> Account Number	<u>B</u> Plant Account Description	<u>F</u> Average Life	<u>G</u> Net Salvage
316.220	Misc. PP Equip - Office Equip - Sioux - Amortized	15	0.00%
316.230	Misc. PP Equip - Computers - Sioux - Fully Accrued	0	0.00%
316.230	Misc. PP Equip - Computers - Sioux - Amortized	5	0.00%
317.000	Sioux ARO	0	0.00%
<b>VENICE STEAM PRODUCTION PLANT</b>			
310.000	Land/Land Rights - Venice	0	0.00%
311.000	Structures - Venice	0	0.00%
312.000	Boiler Plant Equipment - Venice	0	0.00%
314.000	Turbogenerator Units - Venice	0	0.00%
315.000	Accessory Electric Equipment - Venice	0	0.00%
316.000	Misc. Power Plant Equipment - Venice	0	0.00%
317.000	Venice ARO	0	0.00%
<b>LABADIE STEAM PRODUCTION UNIT</b>			
310.000	Land/Land Rights - Labadie	0	0.00%
311.000	Structures - Labadie	100	-1.00%
312.000	Boiler Plant Equipment - Labadie	55	-5.00%
312.300	Coal Cars - Labadie	25	25.00%
314.000	Turbogenerator Units - Labadie	60	-2.00%
315.000	Accessory Electric Equipment - Labadie	70	-1.00%
316.000	Misc. Power Plant Equipment - Labadie	40	0.00%
316.210	Misc. PP Equip - Office Furniture - Labadie - Fully Accrued	0	0.00%
316.210	Misc. PP Equip - Office Furniture - Labadie - Amortized	20	0.00%
316.220	Misc. PP Equip - Office Equip - Labadie - Fully Accrued	0	0.00%
316.220	Misc. PP Equip - Office Equip - Labadie - Amortized	15	0.00%
316.230	Misc. PP Equip - Computers - Labadie - Fully Accrued	0	0.00%
316.230	Misc. PP Equip - Computers - Labadie - Amortized	5	0.00%
317.000	Labadie ARO	0	0.00%

<u>A</u> Account Number	<u>B</u> Plant Account Description	<u>F</u> Average Life	<u>G</u> Net Salvage
	<b>RUSH ISLAND STEAM PRODUCTION PLANT</b>		
310.000	Land/Land Rights - Rush	0	0.00%
311.000	Structures - Rush	100	-1.00%
312.000	Boiler Plant Equipment - Rush	55	-5.00%
314.000	Turbogenerator Units - Rush	60	-2.00%
315.000	Accessory Electric Equipment - Rush	70	-1.00%
316.000	Misc. Power Plant Equipment - Rush	40	0.00%
316.210	Misc. PP Equip - Office Furniture - Rush - Fully Accrued	0	0.00%
316.210	Misc. PP Equip - Office Furniture - Rush - Amortized	20	0.00%
316.220	Misc. PP Equip - Office Equip - Rush - Fully Accrued	0	0.00%
316.220	Misc. PP Equip - Office Equip - Rush - Amortized	15	0.00%
316.230	Misc. PP Equip - Computers - Rush - Fully Accrued	0	0.00%
316.230	Misc. PP Equip - Computers - Rush - Amortized	5	0.00%
317.000	Rush Island ARO	0	0.00%
	<b>COMMON STEAM PRODUCTION PLANT</b>		
310.000	Land/Land Rights - Common	0	0.00%
311.000	Structures - Common	100	-1.00%
312.000	Boiler Plant Equipment - Common	55	-5.00%
314.000	Turbogenerator Units - Common	70	-1.00%
315.000	Accessory Electric Equipment - Common	40	0.00%
316.001	Misc. Power Plant Equipment - Common	40	0.00%
316.002	Production - Office Furniture, Equip	40	0.00%
316.004	Production - Tools, Shop, Garage Equip	40	0.00%
316.007	Production - Unit Maintenance Tools	40	0.00%
	<b>CALLAWAY NUCLEAR PRODUCTION PLANT</b>		
182.000	Callaway Post Operational Costs	0	0.00%
320.000	Land/Land Rights - Callaway	0	0.00%
321.000	Structures - Callaway	100	-1.00%
322.000	Reactor Plant Equipment - Callaway	55	-6.00%
323.000	Turbogenerator Units - Callaway	50	-3.00%
324.000	Accessory Electric Equipment - Callaway	80	-1.00%
325.000	Misc. Power Plant Equipment - Callaway	35	0.00%
325.210	Misc. PP Equip - Office Furniture - Callaway - Fully Accrued	0	0.00%
325.210	Misc. PP Equip - Office Furniture - Callaway - Amortized	20	0.00%
325.220	Misc. PP Equip - Office Equip - Callaway - Fully Accrued	0	0.00%
325.220	Misc. PP Equip - Office Equip - Callaway - Amortized	15	0.00%

<u>A</u> Account Number	<u>B</u> Plant Account Description	<u>F</u> Average Life	<u>G</u> Net Salvage
325.230	Misc. PP Equip - Computers - Callaway - Fully Accrued	0	0.00%
325.230	Misc. PP Equip - Computers - Callaway - Amortized	5	0.00%
326.000	Callaway ARO	0	0.00%
<b>HYDRAULIC PRODUCTION OSAGE HYDRAULIC PRODUCTION PLANT</b>			
111.000	Accum. Amort. of Land Appraisal Studies - Osage	0	0.00%
330.000	Land/Land Rights - Osage	0	0.00%
331.000	Structures - Osage	130	-3.00%
332.000	Reservoirs - Osage	150	-1.00%
333.000	Water Wheels/Generators - Osage	95	-14.00%
334.000	Accessory Electric Equipment - Osage	65	-2.00%
335.000	Misc. Power Plant Equipment - Osage	55	-2.00%
335.210	Misc. PP Equip - Office Furniture - Osage - Fully Accrued	0	0.00%
335.210	Misc. PP Equip - Office Furniture - Osage - Amortized	20	0.00%
335.220	Misc. PP Equip - Office Equip - Osage - Fully Accrued	0	0.00%
335.220	Misc. PP Equip - Office Equip - Osage - Amortized	15	0.00%
335.230	Misc. PP Equip - Computers - Osage - Fully Accrued	0	0.00%
335.230	Misc. PP Equip - Computers - Osage - Amortized	5	0.00%
335.008	Hydro Fish and Wildlife Facilities - Osage	0	0.00%
335.009	Hydro Museum - Osage	0	0.00%
336.000	Roads, Railroads, Bridges - Osage	50	0.00%
336.000	Roads, Railroads, Bridges - SQ Curve - Osage	0	0.00%

<u>A</u> Account Number	<u>B</u> Plant Account Description	<u>F</u> Average Life	<u>G</u> Net Salvage
	<b>KEOKUK HYDRAULIC PRODUCTION PLANT</b>		
111.000	Accum. Amortization of Land Appraisal Studies - Keokuk	0	0.00%
330.000	Land/Land Rights - Keokuk	0	0.00%
331.000	Structures - Keokuk	130	-1.00%
332.000	Reservoirs - Keokuk	150	-6.00%
333.000	Water Wheels/Generators - Keokuk	95	-3.00%
334.000	Accessory Electric Equipment - Keokuk	65	-1.00%
335.000	Misc. Power Plant Equipment - Keokuk	55	0.00%
335.210	Misc. PP Equip - Office Furniture - Keokuk - Fully Accrued	0	0.00%
335.210	Misc. PP Equip - Office Furniture - Keokuk - Amortized	20	0.00%
335.220	Misc. PP Equip - Office Equip - Keokuk - Fully Accrued	0	0.00%
335.220	Misc. PP Equip - Office Equip - Keokuk - Amortized	15	0.00%
335.230	Misc. PP Equip - Computers - Keokuk - Fully Accrued	0	0.00%
335.230	Misc. PP Equip - Computers - Keokuk - Amortized	5	0.00%
335.008	Hydro Fish and Wildlife Facilities - Keokuk	0	0.00%
335.009	Hydro Museum - Keokuk	0	0.00%
336.000	Roads, Railroads, Bridges - Keokuk	50	0.00%
336.000	Roads, Railroads, Bridges - SQ Curve - Keokuk	0	0.00%
	<b>TAUM SAUK HYDRAULIC PRODUCTION PLANT</b>		
330.000	Land/Land Rights - Taum Sauk	0	0.00%
331.000	Structures - Taum Sauk	130	-1.00%
332.000	Reservoirs - Taum Sauk	150	-6.00%
333.000	Water Wheels/Generators - Taum Sauk	95	-3.00%
334.000	Accessory Electric Equipment - Taum Sauk	65	-1.00%
335.000	Misc. Power Plant Equipment - Taum Sauk	55	0.00%
335.210	Misc. PP Equip - Office Furniture - Taum Sauk - Fully Accrued	0	0.00%
335.210	Misc. PP Equip - Office Furniture - Taum Sauk - Amortized	20	0.00%
335.220	Misc. PP Equip - Office Equip - Taum Sauk - Fully Accrued	0	0.00%
335.220	Misc. PP Equip - Office Equip - Taum Sauk - Amortized	15	0.00%
335.230	Misc. PP Equip - Computers - Taum Sauk - Fully Accrued	0	0.00%
335.230	Misc. PP Equip - Computers - Taum Sauk - Amortized	5	0.00%
335.008	Hydro Fish and Wildlife Facilities - Taum Sauk	0	0.00%
335.009	Hydro Museum - Taum Sauk	0	0.00%
336.000	Roads, Railroads, Bridges - Taum Sauk	50	0.00%

<u>A</u> Account Number	<u>B</u> Plant Account Description	<u>F</u> Average Life	<u>G</u> Net Salvage
	<b>OTHER PRODUCTION</b>		
	<b>OTHER PRODUCTION PLANT</b>		
340.000	Land/Land Rights - Other	0	0.00%
341.000	Structures - Other	40	-5.00%
342.000	Fuel Holders - Other	40	-5.00%
344.000	Generators	40	-5.00%
344.000	Generators - Solar	20	0.00%
344.000	Generators - Landfill Gas	6	40.00%
345.000	Accessory Electric Equipment - Other	35	-5.00%
346.000	Misc. Power Plant Equipment - Other	20	-5.00%
346.210	Misc. PP Equip - Office Furniture - Other - Fully Accrued	0	0.00%
346.210	Misc. PP Equip - Office Furniture - Other - Amortized	20	0.00%
346.220	Misc. PP Equip - Office Equip - Other - Fully Accrued	0	0.00%
346.220	Misc. PP Equip - Office Equip - Other - Amortized	15	0.00%
346.230	Misc. PP Equip - Computers - Fully Accrued	0	0.00%
346.230	Misc. PP Equip - Computers - Other - Amortized	5	0.00%
	<b>TRANSMISSION PLANT</b>		
111.000	Accum. Amortization of Electric Plant - TP	0	0.00%
350.000	Land/Land Rights - TP	0	0.00%
352.000	Structures & Improvements - TP	60	-5.00%
353.000	Station Equipment - TP	60	-5.00%
354.000	Towers and Fixtures - TP	70	-30.00%
355.000	Poles and Fixtures - TP	58	-100.00%
356.000	Overhead Conductors & Devices - TP	58	-25.00%
359.000	Roads and Trails - TP	70	0.00%
359.000	Roads and Trails - SQ Curve - TP	0	0.00%
	<b>DISTRIBUTION PLANT</b>		
360.000	Land/Land Rights - DP	0	0.00%
361.000	Structures & Improvements - DP	60	-5.00%
362.000	Station Equipment - DP	60	-5.00%
364.000	Poles, Towers, & Fixtures - DP	47	-100.00%
365.000	Overhead Conductors & Devices - DP	50	-50.00%
366.000	Underground Conduit - DP	70	-50.00%
367.000	Underground Conductors & Devices - DP	-56	-25.00%
368.000	Line Transformers - DP	41	5.00%
369.100	Services - Overhead - DP	43	-100.00%
369.200	Services - Underground - DP	55	-90.00%
370.000	Meters - DP	26	0.00%
371.000	Meter Installations - DP	25	0.00%
373.000	Street Lighting and Signal Systems - DP	36	-40.00%

<u>A</u> Account Number	<u>B</u> Plant Account Description	<u>F</u> Average Life	<u>G</u> Net Salvage
	<b>GENERAL PLANT</b>		
389.000	Land/Land Rights - GP	0	0.00%
390.000	Structures & Improvements - Misc - GP	55	-5.00%
390.000	Structures & Improvements - Large - GP	48	-10.00%
390.500	Structures & Improvements - Training - GP	5	0.00%
391.000	Office Furniture & Equipment - Fully Accrued - GP	0	0.00%
391.000	Office Furniture & Equip - Amortized - GP	20	0.00%
391.000	Office Furniture & Equip - Reserve Recovery - GP	0	0.00%
391.100	Mainframe Computers - GP	0	0.00%
391.100	Mainframe Computers - Reserve Recovery - GP	0	0.00%
391.200	Personal Computers - Fully Accrued - GP	0	0.00%
391.200	Personal Computers - Amortized - GP	5	0.00%
391.200	Personal Computers - Reserve Recovery - GP	0	0.00%
391.300	Office Equip - Fully Accrued - GP	0	0.00%
391.300	Office Equip - Amortized - GP	15	0.00%
391.300	Office Equip - Reserve Recovery - GP	0	0.00%
392.000	Transportation Equipment - GP	11	10.00%
392.500	Transportation Equipment - Training - GP	5	0.00%
393.000	Stores Equipment - Fully Accrued - GP	0	0.00%
393.000	Stores Equipment - Amortized - GP	20	0.00%
393.000	Stores Equipment - Reserve Recovery - GP	0	0.00%
394.000	Laboratory Equipment - Fully Accrued -GP	0	0.00%
394.000	Laboratory Equipment - Amortized - GP	20	0.00%
394.000	Laboratory Equip - Reserve Recovery - GP	0	0.00%
394.500	Laboratory Equipment - Training - GP	5	0.00%
395.000	Tools, Shop, & Garage Equipment- GP	20	0.00%
395.000	Tools, Shop, & Garage Equip - Reserve Recovery - GP	0	0.00%
396.000	Power Operated Equipment - GP	15	15.00%
397.000	Communication Equip - Fully Accrued -GP	0	0.00%
397.000	Communication Equip - Amortized - GP	15	0.00%
397.000	Communication Equip - Reserve Recovery - GP	0	0.00%
397.500	Communication Equip - Training - GP	5	0.00%
398.000	Miscellaneous Equip - Fully Accrued -GP	0	0.00%
398.000	Miscellaneous Equip - Amortized - GP	20	0.00%
398.000	Miscellaneous Equip - Reserve Recovery - GP	0	0.00%