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MISSOURI PUBLIC SERVICE COMMISSION

FILE NO. ER-2014-0258

REBUTTAL TESTIMONY OF

JOHN J. SPANOS

ON BEHALF OF

**UNION ELECTRIC COMPANY
d/b/a AMEREN MISSOURI**

January 16, 2015

UE Exhibit No. 44
Date 3-12-15 Reporter KF
File No. ER-2014-0258

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I. INTRODUCTION AND PURPOSE

Q. PLEASE STATE YOUR NAME AND ADDRESS.

A. My name is John J. Spanos. My business address is 207 Senate Avenue, Camp Hill, Pennsylvania.

Q. ARE YOU THE SAME JOHN J. SPANOS WHO PREFILED DIRECT TESTIMONY IN THIS MATTER?

A. Yes.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. The purpose of my testimony is to rebut the portions of the Staff Report filed by the Missouri Public Service Commission Staff (“Staff”) related to depreciation.

Q. WHAT ARE THE SUBJECTS OF YOUR REBUTTAL TESTIMONY?

A. The primary subject of my testimony is depreciation. Specifically I will address Staff’s net salvage estimates for two accounts.¹

II. MASS PROPERTY NET SALVAGE

Q. WHAT IS NET SALVAGE?

A. Net salvage for an asset is the gross salvage received when the asset is disposed of less any costs to remove or retire the asset. Cost of removal often exceeds gross salvage for utility property, so net salvage is often a negative amount.

Net salvage is a component of the “service cost” or “service value” of an asset. The Uniform System of Accounts and the Commission both require that

¹ The Staff also proposes to shift some reserve adjustments that impact the correct depreciation expense for the Meramec plant because they increase Meramec depreciation reserve (effectively treating the reserve as if additional depreciation expense had already been collected relating to the investment in Meramec). This is not an adjustment that I would have made, but it is my understanding that the Company does not object to it. Consequently, my recommended depreciation rate for Account 312 for Meramec must be reduced slightly to 7.29%, resulting in a reduction in recommended depreciation expense for Meramec of \$910,000 annually.

1 depreciation allocate the full service value (original cost less net salvage) of
2 depreciable property over its service life. Thus, net salvage is estimated for each
3 depreciable group in a depreciation study.

4 **Q. PLEASE DESCRIBE HOW YOU ESTIMATED NET SALVAGE**
5 **PERCENTAGES IN THE DEPRECIATION STUDY.**

6 A. The net salvage estimates were based on judgment which incorporated a statistical
7 analysis of Ameren Missouri's historical data, as well as other relevant factors. The
8 statistical analysis was based on historical salvage and cost of removal data
9 expressed as a percentage of the original cost of the associated retired plant. Other
10 factors were also considered, including industry experience in terms of net salvage
11 estimates for other electric companies. Data was available for the period 1961 to
12 2013. Overall and moving averages were analyzed to determine trends and provide
13 an indication of the historical net salvage as a percentage of retirements. The
14 analysis of historical net salvage as a percentage of retirements provides a statistical
15 basis for the level of net salvage that can be expected to occur in the future as a
16 percentage of the original cost of plant currently in service. Thus, consistent with
17 well-established industry practices I have made estimates of net salvage expressed as
18 a percentage of original cost retired that are based in part on this net salvage
19 analysis.

20 **Q. HOW DOES STAFF'S ANALYSIS DIFFER FROM YOURS?**

21 A. For most accounts, Staff has agreed with the estimates I have made in the study.
22 Staff states that their "findings agree with the depreciation rates Mr. Spanos
23 proposes on behalf of Ameren Missouri, with the exception of two of the distribution
24 plant accounts, USOA Account 364 (Poles and Fixtures) and USOA Account 369.01

1 (Overhead Services).”² For these two accounts, Staff has artificially limited the net
2 salvage estimates to negative 100 percent even though the statistical analysis
3 supports estimates that are much more negative.

4 **Q. ARE STAFF’S RECOMMENDATIONS FOR THESE ACCOUNTS**
5 **CONSISTENT WITH THEIR RECOMMENDATIONS IN RECENT**
6 **PROCEEDINGS FOR AMEREN MISSOURI?**

7 A. No. In Ameren Missouri’s two most recent rate cases (Case Nos. ER-2007-0002 and
8 ER-2010-0036) where depreciation rates were studied and implemented, Staff used
9 the same methodology I have used in this case and recommended net salvage
10 estimates for these accounts that were at least as negative as the estimates I have
11 made in this case. Staff’s recommendation in this case to artificially limit the net
12 salvage estimates for these accounts is inconsistent with its recommendations in
13 these prior cases.

14 Table 1 below summarizes Ameren Missouri’s estimates and Staff’s
15 estimates for these two accounts in each of these two cases and the current case.
16 The table illustrates that in the prior two rate cases Staff has estimated net salvage
17 that was as high or higher (i.e. more negative) than Ameren Missouri’s estimates in
18 those cases. Staff’s estimates in those cases were also as negative as or more
19 negative than the estimates I have recommended in the depreciation study for the
20 current case. However, in the current case Staff has recommended much lower (i.e.
21 less negative) estimates for both accounts.

22

² Staff Cost of Service Report, p. 154, lines 23-26.

1 **Table 1: Comparison of AmerenMO and Staff Net Salvage Estimates**

	<u>Account 364</u>		<u>Account 369.01</u>	
	<u>AmerenMO</u>	<u>Staff</u>	<u>AmerenMO</u>	<u>Staff</u>
ER-2007-0002	(135)	(154)	(200)	(303)
ER-2010-0036	(150)	(150)	(215)	(215)
ER-2014-0258	(150)	(100)	(200)	(100)

2
3 **Q. ARE STAFF'S ESTIMATES, WHICH REPRESENT MUCH LESS**
4 **NEGATIVE ESTIMATES THAN STAFF HAS MADE IN PREVIOUS CASES,**
5 **CONSISTENT WITH THE COMPANY'S ACTUAL NET SALVAGE**
6 **EXPERIENCE?**

7 A. No. The Company's historical data supports estimates that are at least as negative as
8 those I have made. Indeed, Staff even admits as much, stating that my estimates
9 from the depreciation study are "supported by historical cost of removal and salvage
10 data."³

11 As a matter of fact, the overall historical average net salvage for Account 364
12 is negative 160 percent. More recent data, as reflected in the most recent five year
13 average, is even more negative, at negative 182 percent⁴. Thus, the historical data
14 for this account is actually more negative than the negative 150 percent I have
15 recommended.

16 Similarly, for Account 369.01 the overall average net salvage is negative 207
17 percent, more negative than the estimate I have made. While the most recent five
18 year average net salvage is 139 percent, indicating that there could be a downward
19 trend in negative net salvage, I have reflected this in my estimate as I have

³ Staff Cost of Service Report, p. 155, lines 5-6.

⁴ Depreciation Study, pages VIII-71 and III-72.

1 recommended a decrease from the currently approved negative 215 percent to
2 negative 200 percent.

3 In this case, Staff has recommended a net salvage percentage of negative 100
4 percent for both accounts. This amount is far less negative than the Company's
5 actual experience as shown in the historical data. Thus, Staff's approach in this case
6 is inconsistent with generally accepted depreciation practices, with the Company's
7 actual experience, and with Staff's own recommendations in previous cases.

8 **Q. GIVEN THAT STAFF ADMITS THAT THE DATA SUPPORTS AMEREN**
9 **MISSOURI'S ESTIMATES, WHY DOES STAFF LIMIT ITS ESTIMATES**
10 **TO NEGATIVE 100 PERCENT?**

11 A. Staff states that it is of the opinion that "the accrual of net salvage for these two
12 accounts is excessive."⁵ However, Staff provides no statistical support for this
13 claim. Instead, Staff has arbitrarily limited the net salvage estimates for these two
14 accounts to negative 100 percent. Thus, Staff has not made an estimate based on
15 accepted depreciation practices, but has instead recommended a deviation from
16 accepted practices apparently because it does not like the results for these two
17 accounts.

18 **Q. IS STAFF'S DECISION TO LIMIT THE NET SALVAGE ESTIMATES FOR**
19 **THESE ACCOUNTS CONSISTENT WITH DEPRECIATION PRINCIPLES?**

20 A. No. Staff's decision to artificially limit the net salvage estimates to negative 100
21 percent is not consistent with established depreciation principles as established in the
22 Uniform System of Accounts, authoritative depreciation texts, and in prior orders of
23 the Commission.

⁵ Staff Cost of Service Report, p. 154, lines 25-26.

1 Q. HAS THE COMMISSION PREVIOUSLY ADDRESSED THE
2 METHODOLOGY FOR NET SALVAGE?

3 A. Yes. The Commission has addressed this issue in great detail in Case No. GR-99-
4 315, a tariff filing for Laclede Gas Company. I will refer to this case as “Laclede”
5 and to the decision as “Laclede” or the “Laclede Order” in the discussion of this
6 issue in my testimony.

7 Q. WHAT DOES THE LACLEDE ORDER STATE REGARDING THE
8 COMMISSION’S OPINION OF THE GOAL OF DEPRECIATION?

9 A. In Laclede, the Commission found that “the accrual method should be used to
10 calculate Laclede’s net salvage value.”⁶ The “accrual method” referred to in the
11 Laclede Order is the same method that I have used in the depreciation study.

12 In Laclede, the Commission further states that:

13 The Commission finds that the fundamental goal of depreciation
14 accounting is to allocate the full cost of an asset, including its net salvage
15 cost, over its economic or service life so that utility customers will be
16 charged for the cost of the asset in proportion to the benefit they receive
17 from its consumption. The Commission further finds that the method
18 utilized by Laclede is consistent with that fundamental goal.⁷

19 Q. ARE YOUR ESTIMATES FOR ACCOUNTS 364 AND 369.01 CONSISTENT
20 WITH THE “FUNDAMENTAL GOAL” AS ESTABLISHED BY THE
21 COMMISSION?

⁶ Case No. GR-99-315, Third Report and Order, issued January 11, 2005, p. 2.

⁷ Case No. GR-99-315, Third Report and Order, issued January 11, 2005, p. 9.

1 A. Yes. The estimates I have made in the depreciation study are intended to allocate the
2 full service value (original cost less salvage) of an asset over its service life.

3 **Q. IS STAFF'S RECOMMENDATION FOR ACCOUNTS 364 AND 369.01**
4 **CONSISTENT WITH THIS "FUNDAMENTAL GOAL" OF**
5 **DEPRECIATION?**

6 A. No. Staff's recommendation will not allocate the full cost of the Company's assets
7 over their service lives.

8 **Q. PLEASE EXPLAIN.**

9 A. Consider as a simple example a single asset that costs \$1,000, will be in service for
10 50 years, will cost \$1,500 to remove from service at the end of its life, and will have
11 no gross salvage. The net salvage for the asset is negative \$1,500 (or the gross
12 salvage less the cost of removal), which produces a net salvage ratio of negative
13 150⁸ percent. The full service value of the asset is therefore \$2,500⁹, which is the
14 amount to be allocated over the asset's service life. The depreciation rate for this
15 asset that will accomplish the goal of allocating the full service value (original cost
16 less net salvage) of the asset over its service life is 5.00%.¹⁰ Over the 50 year
17 service life, this depreciation rate will allocate 250% of the asset's original cost, or
18 \$2,500. As noted above, this amount is equal to the full service value of the asset.

19 Using the methodology I have employed in the depreciation study, a net
20 salvage estimate of negative 150 percent would be used and the full service value
21 would be allocated over the asset's service life as required by the Commission.
22 However, Staff's recommendation for Accounts 364 and 369.01 is to limit the net

⁸ $-1,500/1,000 = -150\%$.

⁹ $1,000 - (-1,500) = 2,500$.

¹⁰ $(100 - (-150))/50 = 5.00\%$.

1 salvage to 100% of the original cost of the asset. That is, Staff would limit the net
2 salvage estimate to negative 100 percent (not negative 150 percent), resulting in a
3 depreciation rate of 4.00%.¹¹ This depreciation rate would only recover 80% of the
4 asset's full service value (i.e., $\$2,000 \div \$2,500 = 80\%$). There would be a shortfall
5 of \$500¹² upon the retirement of the asset. Thus, Staff's recommendation does not
6 meet the Commission's stated goal of depreciation.

7 **Q. IN THE EXAMPLE ABOVE, WHO PAYS FOR THE \$500 SHORTFALL?**

8 A. The \$500 shortfall would have to be paid by future customers who receive service
9 *after* the asset is retired. Thus, future customers will pay the costs of assets that
10 served a previous generation of customers, resulting in an intergenerational subsidy
11 or "intergenerational inequity".

12 **Q. IN THE EXAMPLE ABOVE, THE RATE BASE FOR THE ASSET WOULD**
13 **BE A NEGATIVE AMOUNT IN THE LATER YEARS OF ITS SERVICE**
14 **LIFE. STAFF CRITICIZES THE NET SALVAGE ESTIMATES FOR**
15 **ACCOUNTS 364 AND 369.01 BY ARGUING THAT THERE IS A**
16 **"REASONABLE EXPECTATION" THAT THESE ESTIMATES WILL**
17 **PRODUCE "A NEGATIVE RATE BASE."¹³ CAN YOU ADDRESS STAFF'S**
18 **ARGUMENT?**

19 A. Yes, I can. Staff's argument appears to be that depreciation principles should be
20 ignored because Staff does not like the result. I disagree. The fact that a negative
21 rate base for an account could exist is not a problem, but is instead simply the result
22 of applying proper depreciation principles based on the Company's actual

¹¹ $(100 - (-100)) / 50 = 4.00\%$.

¹² $2,500 - 2,000 = 500$.

¹³ Staff Report, p. 155, lines 22-23.

1 experience. While Staff argues that “it is not practical or prudent to recommend a
2 depreciation rate that is expected to produce a negative rate base,” Staff provides no
3 justification for its contention, and the possibility of a negative rate base should not
4 cause the Commission to accept incorrect depreciation rates.

5 Again, the Commission has previously found that “fundamental goal of
6 depreciation accounting is to allocate the full cost of an asset, including its net
7 salvage cost, over its economic or service life.”¹⁴ The Commission offers no
8 qualifiers to this statement. Thus, if the net salvage cost will exceed the original
9 cost, then a negative rate base could occur. The Company’s actual experience
10 demonstrates that there are accounts for which net salvage exceeds original cost. An
11 artificially low depreciation rate that would not produce a negative rate base would
12 fail to meet the goal of depreciation and would produce intergenerational inequity.

13 I should also point out that in real-world utility operations the Company
14 owns many assets and is constantly replacing assets as they are retired. For this
15 reason, it is very unlikely that in aggregate the Company would have a negative rate
16 base.

17 **Q. YOU HAVE EXPLAINED THAT STAFF’S ESTIMATES ARE NOT**
18 **CONSISTENT WITH THE COMMISSION’S ESTABLISHED**
19 **DEPRECIATION PRACTICES. DOES THE FERC UNIFORM SYSTEM OF**
20 **ACCOUNTS (“USofA”), WHICH HAS BEEN ADOPTED BY THE**
21 **COMMISSION, ALSO ADDRESS NET SALVAGE?**

22 **A. Yes. FERC defines depreciation as follows:**

¹⁴ Case No. GR-99-315, Third Report and Order, issued January 11, 2005, p. 9.

1 *Depreciation*, as applied to depreciable electric plant, means the
2 loss in service value not restored by current maintenance, incurred
3 in connection with the consumption or prospective retirement of
4 electric plant in the course of service from causes which are known
5 to be in current operation and against which the utility is not
6 protected by insurance. Among the causes to be given
7 consideration are wear and tear, decay, action of the elements,
8 inadequacy, obsolescence, changes in the art, changes in demand
9 and requirements of public authorities.¹⁵

10
11 In general, depreciation accrual rates are used to allocate, for accounting purposes,
12 the service values of assets over their service lives. As a result, each year of service
13 (and each generation of customers) is charged with the portion of the asset consumed
14 or used in that year. The total annual depreciation is based on a system of
15 depreciation accounting that aims to distribute the cost of fixed capital assets, less
16 net salvage, over the estimated useful life of the unit, or group of assets, in a
17 systematic and rational manner.

18 **Q. THE USofA REFERS TO DEPRECIATION AS THE “LOSS IN SERVICE**
19 **VALUE.” WHAT IS SERVICE VALUE?**

20 A. Service value, as defined in the USofA, is “the difference between original cost and
21 net salvage value of electric plant.”¹⁶

22 **Q. DOES THE USofA ALSO DEFINE WHAT IT MEANS BY “NET SALVAGE**
23 **VALUE”?**

24 A. Yes. “‘Net salvage value’ means the salvage value of property retired less the cost of
25 removal.”¹⁷ Net salvage is described as “positive net salvage” if the salvage value
26 exceeds removal costs, and described as “negative net salvage” (i.e., a net cost) if
27 removal costs exceed the salvage value.

¹⁵ FERC Uniform System of Accounts, Definition 12.

¹⁶ Ibid, Definition 37.

¹⁷ Ibid, Definition 19.

1 Q. GIVEN THAT DEPRECIATION INCLUDES NET SALVAGE, DOES FERC
2 EXPLAIN HOW NET SALVAGE IS TO BE INCORPORATED INTO
3 DEPRECIATION?

4 A. Yes. General Instruction 22, "Depreciation Accounting," pertains to electric utilities
5 and states, "[u]tilities must use a method of depreciation that allocates in a
6 systematic and rational manner the service value of depreciable property over the
7 service life of the property."

8 Q. DO YOUR NET SALVAGE ESTIMATES ALLOCATE THE SERVICE
9 VALUE OF AMEREN MISSOURI'S DEPRECIABLE PROPERTY IN A
10 SYSTEMATIC AND RATIONAL MANNER OVER THEIR SERVICE
11 LIVES?

12 A. Yes.

13 Q. DO STAFF'S NET SALVAGE ESTIMATES ALLOCATE THE SERVICE
14 VALUE OF AMEREN MISSOURI'S DEPRECIABLE PROPERTY IN A
15 SYSTEMATIC AND RATIONAL MANNER OVER THEIR SERVICE
16 LIVES?

17 A. No. For Accounts 364 and 369.01 Staff's depreciation rates do not allocate the
18 service value of the assets in these accounts over their service lives and a systematic
19 and rational manner.

20 Q. DO ANY AUTHORITATIVE TEXTS DESCRIBE HOW NET SALVAGE IS
21 ESTIMATED?

22 A. Yes, both NARUC's Public Utility Depreciation Practices ("NARUC Manual") and
23 Wolf and Fitch's *Depreciation Systems* ("Wolf and Fitch") are well-regarded texts
24 that are considered to be authoritative depreciation sources by depreciation

1 professionals. Both texts describe the method of estimating net salvage, and explain
2 that net salvage is expressed as a percentage of original cost and is estimated using
3 the same methods I have employed.

4 **Q. HOW DOES NARUC EXPLAIN THAT NET SALVAGE IS ESTIMATED?**

5 A. NARUC explains that “net salvage is expressed as a percentage of plant retired by
6 dividing the dollars of net salvage by the dollars of original cost of plant retired.”¹⁸
7 This is the methodology used in my depreciation study.

8 **Q. HOW DO WOLF AND FITCH EXPLAIN THAT NET SALVAGE IS**
9 **ESTIMATED?**

10 A. Wolf and Fitch also explain that net salvage is expressed as a percentage of the
11 original cost of plant retired, noting “the SR [Salvage Ratio] is the salvage divided
12 by the original cost of the retirements and usually is expressed as a percentage.”¹⁹

13 **Q. DO THESE TEXTS RECOGNIZE THAT NET SALVAGE CAN EXCEED**
14 **THE ORIGINAL COST OF DEPRECIABLE PROPERTY?**

15 A. Yes. Both texts recognize that net salvage can exceed the original cost (i.e. that net
16 salvage can exceed negative 100 percent). NARUC acknowledges that “in some
17 cases negative net salvage even exceeds the original cost of plant.”²⁰

18 Wolf and Fitch states:

19 Negative salvage is a common occurrence. With inflation, the cost
20 of retiring long-lived property, such as a water main, may exceed the
21 installed cost. Decommissioning cost of nuclear power plants is an
22 example of large negative salvage. The matching principle specifies
23 that all costs incurred to produce a service should be matched against

¹⁸ *Public Utility Depreciation Practices*, National Association of Regulatory Utility Commissioners, 1996, p. 1.

¹⁹ *Depreciation Systems*, W.C. Fitch and Frank. K. Wolf, 1994, p. 261. I should note that in this context Wolf and Fitch use the term “salvage” to mean “net salvage.”

²⁰ *Public Utility Depreciation Practices*, National Association of Regulatory Utility Commissioners, 1996, pp. 159-160, p.158.

1 the revenue produced. Estimated future costs of retiring of an asset
2 currently in service must be accrued and allocated as part of the
3 current expense.²¹
4

5 **Q. WHAT CAN YOU CONCLUDE FROM THESE AUTHORITATIVE**
6 **DEPRECIATION TEXTS?**

7 A. Both texts support the method I have used for estimating net salvage. Further, both
8 texts recognize that net salvage can exceed the original cost of depreciable property.
9 Thus, neither text supports Staff's proposal to artificially limit their net salvage
10 estimates to 100 percent of original cost.

11 **Q. PLEASE SUMMARIZE THE ISSUE FOR NET SALVAGE FOR ACCOUNTS**
12 **364 AND 369.01.**

13 A. For these two accounts, I have made net salvage estimates using accepted practices
14 that are consistent with Commission practices, the USofA, and authoritative
15 depreciation texts. My estimates incorporate the Company's actual historical net
16 salvage experience and the depreciation rates I have recommended represent the
17 allocation of the full service value of the Company's assets over the assets' service
18 lives.

19 For Accounts 364 and 369.01, Staff has abandoned these established
20 depreciation practices and has recommended to artificially reduce (i.e. make less
21 negative) the net salvage estimates for these accounts. Staff's estimates will not
22 accomplish the "fundamental goal" of depreciation as established by the
23 Commission, and instead will produce intergenerational inequity and require future
24 customers to pay the costs of assets that will no longer be providing service.

25 **Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

²¹ *Depreciation Systems*, W.C. Fitch and Frank. K. Wolf, 1994, p. 7.

1 A. Yes.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

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

AFFIDAVIT OF JOHN J. SPANOS

COMMONWEALTH OF PENNSYLVANIA)
) ss
COUNTY OF CUMBERLAND).

John J. Spanos, being first duly sworn on his oath, states:

1. My name is John J. Spanos and my office is located in Camp Hill, Pennsylvania and I am associated with Gannett Fleming Valuation and Rate Consultants, LLC (Gannett Fleming).

2. Attached hereto and made a part hereof for all purposes is my Rebuttal Testimony on behalf of Union Electric Company d/b/a Ameren Missouri consisting of 14 pages and Schedule(s) N/A, all of which have been prepared in written form for introduction into evidence in the above-referenced docket.

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

John J. Spanos
John J. Spanos

Subscribed and sworn to before me this 12th day of January, 2015.

Cheryl Ann Rutter
Notary Public

My commission expires: February 20, 2015

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Cheryl Ann Rutter, Notary Public
East Pennsboro Twp., Cumberland County
My Commission Expires Feb. 20, 2015
MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES