EXHIBIT

FILED[3]
APR 20 2007
Missouri Public
Service Commission

Exhibit No.:	
Issue(s):	Net Salvage
Witness:	William Dunkel
Type of Exhibit:	Rebuttal
Sponsoring Party:	Public Counsel
Case No.:	ER-2007-0002
Date Testimony Prepared:	January 31, 2007

REBUTTAL TESTIMONY

OF

WILLIAM DUNKEL

Submitted on Behalf of
the Office of the Public Counsel

UNION ELECTRIC COMPANY, D/B/A AMERENUE

Case No. ER-2007-0002

January 31, 2007

OPC Exhibit No. 401
Case No(s). ER-2007-0002
Date 3/27/07 Rptr MW

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

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.	))))	**Case No. ER-2007-0002** Tariff No. YE-2007-0007

AFFIDAVIT OF WILLIAM DUNKEL

COUNTY OF SANGAMON)
) ss
STATE OF ILLINOIS)

William Dunkel, of lawful age and being first duly sworn, deposes and states:

1. My name is William Dunkel. I am a Consultant for the Office of the Public Counsel.

2. Attached hereto and made a part hereof for all purposes is my rebuttal testimony.

3. I hereby swear and affirm that my statements contained in the attached testimony are true and correct to the best of my knowledge and belief.

William Dunkel
William Dunkel
Consultant

Subscribed and sworn to me this 30th day of January 2007.

Doris A. Melvin
Notary Public

My commission expires 7-22-2007.

"OFFICIAL SEAL"
DORIS A MELVIN
NOTARY PUBLIC
STATE OF ILLINOIS
MY COMMISSION EXPIRES 7-22-2007

Table of Contents

REBUTTAL TESTIMONY

OF

WILLIAM W. DUNKEL

On Behalf of the Office of Public Counsel

Pertaining to AmerenUE

CASE NO. ER-2007-0002

Q. ARE YOU THE SAME WILLIAM W. DUNKEL THAT PREVIOUSLY PREFILED DIRECT TESTIMONY IN THIS PROCEEDING ON BEHALF OF THE OFFICE OF PUBLIC COUNSEL?

A. Yes.

Q. WHAT IS THE PURPOSE OF THIS REBUTTAL TESTIMONY?

A. The primary purpose of this Rebuttal testimony is to respond to certain depreciation issues in other parties' Direct Testimonies that were filed in this proceeding on or about December 15, 2006.

Q. SINCE THE FILING OF YOUR DIRECT TESTIMONY, HAVE YOU INSPECTED AMERENUE FACILITIES?

A. Yes. On January 11 and 12, 2007 I, along with Roxie McCullar of my firm, inspected the AmerenUE Labadie Steam Production Plant, the Osage Hydraulic Production Plant, and the Callaway Nuclear Production Plant. At each plant we were accompanied by, and had discussions with, knowledgeable Company personnel.

RESPONSE TO STAFF DIRECT TESTIMONY PERTAINING TO CALLAWAY NET SALVAGE

Q. DO YOU HAVE AN OVERALL STATEMENT PERTAINING TO THE STAFF DEPRECIATION PROPOSAL?

A. Yes. My general impression is that the depreciation analysis in the testimony of Staff witness Jolie L. Mathis is well thought out and well presented. For example, the Staff has properly recommended that

a 60 year life to final retirement be used for Callaway. Below I present a few adjustments to the Staff depreciation proposals, but these are simply appropriate refinements.

Q. IN RESPONSE TO DISCOVERY, HAS THE STAFF STATED THAT A CORRECTION TO THE CALLAWAY NET SALVAGE AS ORIGINALLY FILED BY THE STAFF IS APPROPRIATE?

A. Yes. In response to The Office of Public Counsel (OPC) Request DR 5103, Staff stated that a correction to the Callaway net salvage calculation as originally filed by the Staff is appropriate. A copy of this request and the Staff response is attached as Rebuttal Schedule WWD-13.

Based in interim retirement data, the Staff had calculated a -37% future net salvage to be applied to the interim retirements of the Callaway Reactor Plant Equipment.[1] This -37% future net salvage percentage is for the net cost-of-removal of the interim retirements. Interim retirements are retirements that occur prior to the time of the plant final retirement. This -37% does not properly apply to the final retirements, because for a nuclear plant a separate "decommissioning" fund is maintained that covers the removal of the plant after its final retirement.[2]

However the mathematics underlying the original Staff filing inadvertently applied this -37% net salvage to <u>all</u> of the investment that would retire, including the <u>final</u> retirements.[3]

The Staff does not intend this -37% be applied to the final retirements, as stated in the Staff response to OPC DR 5103 (f), which is attached as Rebuttal Schedule WWD-13-2:

> (f) Assume that it could be determined (using the curve and final retirement date), that 40% of the account 322 investment would retire as a interim retirement, and 60% would retire as

[1] Staff Schedule JLM-2 (Jolie L. Mathis), page 2, Account 322.
[2] Staff response to OPC DR 5103, part (a).
[3] Staff response to OPC DR 5103, part (d).

part of the final retirement. Since the final retirement investment cost of removal will be paid for from the nuclear demolition account, would it be a correct calculation to apply the -37% to the 40 % that would retire as interim retirements, and 0% to the 60% that would retire in the final retirement (since the nuclear demolition account will pay for that cost-of-removal)? If "no", explain the answer.

Staff Response: **Yes.**

The mathematics need to be adjusted so that the -37% future net salvage applies to the interim retirements, but does not apply to the final retirements.

Q. HAVE YOU PREPARED THE CORRECTION DISCUSSED IN THE ABOVE REQUEST AND STAFF RESPONSE?

A. Yes. The result of this correction is shown on Rebuttal Schedule WWD-14, page 1.

Both the Staff and AmerenUE used the 60-S0 Iowa curve for interim retirements for the Reactor Plant Equipment, account 322.[4] Under the 60-S0 Iowa curve, of the $957,396,835 Reactor Plant investment, $353,474,025 (37%) will retire as interim retirements prior to the final retirement date of 10/2044 and the remaining $603,922,809 (63%) will retire as the final retirement in 10/2044, as shown on page 2 of Rebuttal Schedule WWD-14. For the interim retirements, the -37% Future Net Salvage Percent is included in the corrected depreciation rates calculation, as shown on page 3 of Rebuttal Schedule WWD-14.

The cost of removal of the final retirement will be covered by the separate nuclear decommissioning fund, so 0% Future Net Salvage is included for the final retirements in the corrected depreciation rates. When this correction is made to the Reactor Plant Equipment account, and similar corrections are made to the other nuclear production plant accounts, with all other parameters being

[4] Staff Schedule JLM-2 (Jolie L. Mathis), page 2, Account 322

the same as originally proposed in the Staff Direct, the annual Nuclear Production Plant expense is $5,963,450 less than proposed in the original Staff Direct testimony, as shown on page 1 of Rebuttal Schedule WWD-14.

I recommend the correction of -$5,963,450 annual expense as shown on Rebuttal Schedule WWD-14 be made. The Staff has agreed that a correction to their original filing is appropriate.

NET SALVAGE FOR THE DISTRIBUTION PLANT ACCOUNTS

Q. PLEASE DISCUSS THE IMPLICATIONS OF STAFF'S CALCULATION OF NET SALVAGE FOR THE DISTRIBUTION PLANT ACCOUNTS.

A. For the Distribution Plant accounts, the Staff proposes that AmerenUE be given $6.8 million more annual depreciation expense than AmerenUE requested,[5] as shown on Rebuttal Schedule WWD-15.

Q. WHY ARE THE STAFF PROPOSED DISTRIBUTION PLANT DEPRECIATION RATES AND ANNUAL DEPRECIATION ACCRUALS HIGHER OVERALL THAN THE AMERENUE PROPOSALS?

A. This interesting result occurs because the Staff proposed Future Net Salvage values inadvertently assumes a high future inflation rate. For example, for Overhead Services, account 369.01, AmerenUE proposed a -200% future net salvage, but the Staff proposed a -303% future net salvage, as can be seen on Rebuttal Schedule WWD-15. The Staff and AmerenUE both proposed the same life and same curve for this account, so the only reason the Staff depreciation rate is higher is because of the difference in the proposed future net salvage values.

[5] This does not imply that I recommend the AmerenUE proposed future net salvages. The AmerenUE recommendation had excessive future net salvage values for certain accounts as discussed in my Direct Testimony.

Q. IS THE -303% FUTURE NET SALVAGE VALUE AS PROPOSED BY STAFF BASED ON THE FUTURE?

A. No. The -303% future net salvage percent the Staff proposes is not actually a future value. Instead the Staff workpapers show -303% is exactly the average net salvage percent for the past investments that retired in the five years 2001 through 2005, as shown on the Staff workpaper that is attached as Rebuttal Schedule WWD-19.

Q. WHAT INFLATION IS INCORPORATED INTO THESE PAST NET SALVAGE PERCENTS?

A. Investments that retired in the years 2001 through 2005 had lived through some of the highest inflation in U.S. history. The high past inflation over their lives had distorted these investments' net salvage percents. The U.S. inflation was over 11% in 1974, over 11% in 1979, over 13% in 1980, and over 10% in 1981.[6] During the ten year period 1973 through 1982, the purchasing power of the dollar was cut more than in half.

Staff found that the average life in Overhead Services was 37 years.[7] Therefore, an "average-life" investment that retired in the years 2001 through 2005 would have been installed prior to that period of high inflation, but would retire after that period of high inflation.

For Overhead Services, inflation had averaged 4.8% per year over the life of the average-life investments retiring in the years 2001 through 2005, as shown on Rebuttal Schedule WWD-16-3.

Q. WHEN THE STAFF SET THE FUTURE NET SALVAGE PERCENT TO BE THE SAME AS THE NET SALVAGE PERCENT OF THE PAST INVESTMENTS THAT

[6] Page 18, Dunkel Direct Testimony, and Schedule WWD-9.
[7] Staff Schedule JLM-2

RETIRED IN THE YEARS 2001 THROUGH 2005, WHAT WAS THE STAFF INADVERTENTLY EFFECTIVELY ASSUMING?

A. By setting the **future** net salvage percent to be the same as the net salvage percent of the past investments that retired in the years 2001 through 2005, the Staff inadvertently was effectively assuming that future inflation would be the same as it was in that past period, which was 4.8% average annual inflation.

Setting the future net salvage equal to the past net salvage assumes the future inflation will be the same as the past inflation. As AmerenUE acknowledged in response to discovery:

OPC 5006 (c)

> If the Future Net Salvage percent is set equal to the historic net salvage percent as determined from the historic data shown on pages B-81,B-82, and B-83, does that effectively assume that future inflation will be the same as past inflation? If not, explain why not.

AmerenUE/Mr. Wiedmayer's Response:

> c) Yes, that is the assumption when viewed over a long term period of 30 to 40 years.[8]

In other words, the use of -303% as the **future** net salvage percent, effectively assumes that **future** inflation will average 4.8% per year.

Q. WHAT DO ACCEPTED AUTHORITIES EXPECT FUTURE ANNUAL INFLATION TO BE?

A. The US Department of Energy's (DOE) "Annual Energy Outlook 2006 with Projections to 2030" projects that the GNP-Price Deflator will be 2.45% per year in the period 2004-2030, and the CPI-U will be approximately 2.71 % per year in the years 2004-2030.[9]

In addition, according to the Survey of Professional Forecasters, a survey of 53 professional forecasters surveyed by the Federal Reserve Bank of Philadelphia, **future** inflation over the long-term is expected to be 2.5% per year.[10]

In short, the inadvertent assumption that inflation will average 4.8% per year in the future is not consistent with accepted estimates of future inflation.

Q. DOES THE LEVEL OF INFLATION BETWEEN THE TIME AN INVESTMENT IS INSTALLED AND THE TIME IT RETIRES IMPACT THE NET SALVAGE PERCENT?

A. Yes, all witnesses that address this issue agree that the level of inflation between the time an investment is installed and the time it retires impact the net salvage percent.

As discussed on pages 20-24 of my Direct Testimony, it is well known that the higher the inflation is between the time the investment was installed, and the time it retires, the more negative the net salvage percent will be. In fact AmerenUE has agreed this is true. In response to discovery request OPC 5006(b) AmerenUE agreed to the following statement:

> (b) Is it a correct statement that, everything else being equal, the greater the inflation between the time the investment went into service, and the time it was retired, the higher the cost of removal percent would be?[11]
>
> AmerenUE Response: b) Yes, that is correct.

---

[8] This request and response are attached to the Dunkel Direct Testimony as Schedule WWD-7.
[9] "Annual Energy Outlook 2006 with Projections to 2030" Report #:DOE/EIA-0383(2006), Release Date: December 2005, and Page 35, Direct Testimony of James T. Selecky
[10] Federal Reserve Bank of Philadelphia – Economic Research – Survey of Professional Forecasters, Release Date: November 13, 2006. This document was obtained at the Federal Reserve Bank of Philadelphia website http://www.phil.frb.org/files/spf/survq406.html, visited December 4, 2006. This 2.5% is the forecast future annual inflation measured in CPI-U. Also see page 25 of Dunkel Direct.
[11] This request and AmerenUE's response are attached to the Dunkel Direct as Schedule WWD-7-1.

Page 35 and 36 of Mr. Selecky's direct testimony in this proceeding also discuss the well known fact that the amount of inflation between the time the investment was installed, and the time it retires, has a major impact on the net salvage percent.

All witnesses, even the AmerenUE witness, that address this issue agree that the amount of inflation between the time the investment was installed, and the time it retires, impacts the net salvage percent.

Q. CAN YOU EXPLAIN WHY THE INFLATION THAT OCCURS BETWEEN THE INSTALLATION OF THE INVESTMENT AND THE REMOVAL OF THE INVESTMENT IMPACTS THE NET SALVAGE PERCENT?

A. Yes. The Staff determined that the investments in the Overhead Services account (Account 369.01) live an average of 37 years.[12] For an overhead service installed in the year 1968, and retired 37 years later, in the year 2005, the net salvage percent would be:

$$\text{Net Salvage Percent} = \frac{\text{Net Salvage (paid in } \textbf{year 2005 dollars)}}{\text{Original Cost investment (paid in } \textbf{year 1968 dollars)}.}$$

The numerator is written in year 2005 dollars, but the denominator is written in year 1968 dollars. Inflation between these two years has a major impact on the net salvage percent calculated.[13]

Q IS IT YOUR POSITION THAT THE STAFF IS INTENTIONALLY PROPOSING 4.8% FUTURE INFLATION BE USED IN THE FUTURE NET SALVAGE VALUES?

A. No. The Staff responses to several OPC questions indicate Staff had not considered this inflation issue. In response to the OPC discovery DR 5102, which asked about the inflation rate incorporated

[12] Staff Schedule JLM-2.

into the Staff proposed future net salvage percents, Staff indicated they had not really considered the inflation they were effectively including in their future net salvage proposals:

> STAFF RESPONSE: Staff neither agrees nor disagrees the answer to the above statement is "yes". Staff's analysis does not address inflation beyond that reflected in the data set provided by the Company.

These requests and the Staffs responses are attached as Rebuttal Schedule WWD-17.

Therefore the Staff's effective use of 4.8% annual future inflation incorporated into Staff's future net salvage values was inadvertent.

Q. IN DISCOVERY, WHEN ASKED ABOUT THE FUTURE INFLATION RATES INCORPORATED INTO THEIR FUTURE NET SALVAGE PERCENT RECOMMENDATIONS, HOW DID STAFF RESPOND?

A. As previously discussed, in response to OPC DR 5102, Staff stated:

> Staff's analysis does not address inflation beyond that reflected in the data set provided by the Company.

In addition Staff stated:

> Staff adheres to Commission policy stated in ER-2004-0570.

This Staff response is attached hereto as part (d) of Rebuttal Schedule WWD-17.

Q. DOES THE COMMISSION POLICY AS STATED IN ER-2004-0570 INDICATE THAT HIGH ESTIMATES OF FUTURE INFLATION SHOULD BE USED IN THE DETERMINATION OF THE FUTURE NET SALVAGE VALUES?

[13] This issue is discussed further on pages 20-25 of Dunkel Direct Testimony.

A. No, the Commission Report and Order[14] in Empire District electric case does not indicate that high future inflation rates should be used. Pertaining to the net salvage for the mass accounts, the Commission Order states that:

> the fundamental goal of depreciation accounting is to allocate the full cost of an asset, including its Net Salvage cost, over its economic or service life so that utility customers will be charged for the cost of the asset in proportion to the benefit they receive from its consumption. The Commission found in that case that the traditional accrual method used by the utility was consistent with that fundamental goal. It is the policy of this Commission to return to traditional accounting methods for Net Salvage.[15] (footnotes omitted)

My correction does follow this Commission position. Specifically, my correction does recover future net salvage from the utility customers over the life of the investment. The only issue is whether the annual future inflation used in the future net salvage calculation should be 4.8% or 2.5%.[16]

Q. IN EMPIRE DISTRICT ELECTRIC CASE THE COMMISSION INDICATES THAT A TRADITIONAL APPROACH TO THE NET SALVAGE SHOULD BE USED FOR THESE ACCOUNTS. WHAT IS INCLUDED IN A PROPER TRADITIONAL ANALYSIS?

A. The "Public Utility Depreciation Practices," published by NARUC states the analyst is expected to examine past data. However the analyst is also expected to be "cognizant of the factors that may cause future cost of removal experience to differ from that of the past" and if there are significant differences, the analyst is expected to "modify the results of the historical analysis." [17]

[14] Report and Order in Case No. ER-2004-0570 Issued March 10, 2005.
[15] Page 54 of the Report and Order in Case No. ER-2004-0570 Issued March 10, 2005.
[16] This refers to the Overhead Services account. See Rebuttal Schedule WWD 18-1 for similar information for other accounts.
[17] "Public Utility Depreciation Practices", published by NARUC p.161 (1996).

The Staff proposed -303% net salvage for the Overhead Services account is exactly a **past** net salvage percent. Determining the past data is the proper **first** step in a proper traditional analysis. However, the next step in a proper traditional analysis was not followed, which should have included being "cognizant of the factors that may cause future cost of removal experience to differ from that of the past" and if there are significant differences to "modify the results of the historical analysis" [18]

Q. HAVE YOU CORRECTED THE INADVERTENT USE OF 4.8% ANNUAL FUTURE INFLATION IN THE FUTURE NET SALVAGE VALUES?

A. Yes. For account 369.01, Overhead Services, the correction is shown on Rebuttal Schedule WWD-16. This correction uses an annual future inflation rate of 2.5%. At 2.5% annual future inflation, the Future Net Salvage percent is -133%, instead of the -303% that incorporates a future annual inflation rate of 4.8%.

Q. WHAT IS THE ANNUAL EXPENSE IMPACT OF USING THE -133% FUTURE NET SALVAGE THAT RESULTS FROM A FUTURE ANNUAL INFLATION RATE OF 2.5%?

A. As shown on Rebuttal Schedule WWD-18, for account 369.01, the -133% future net salvage produces an annual depreciation expense that is $5.7 million less than the annual expense produced by a -303% future net salvage. This Schedule also shows the impact of using a future annual inflation rate of 2.5% on other distribution and transmission accounts.[19] The total impact of using 2.5% future annual inflation in calculating the future net salvage values is an annual depreciation expense that is $26,735,191 less than proposed by the Staff.

Q. WHAT DO YOU RECOMMEND?

[18] "Public Utility Depreciation Practices", published by NARUC p.161 (1996).

A. I recommend that:

1. Based in interim retirement data, the Staff had calculated a -37% future net salvage to be applied to the interim retirements of the Callaway Reactor Plant Equipment. Staff does not intend this -37% apply to the final retirements, because for a nuclear plant a separate "decommissioning" fund is maintained that covers the removal of the plant after its final retirement.

However the mathematics underlying the original Staff filing for this account inadvertently applied this -37% net salvage to all of the investment that would retire, including the final retirements. The calculation must be corrected to recognize that the Callaway final retirement is covered by the "decommissioning" fund.

I recommend this correction to Staff's Callaway net salvage calculations for the nuclear accounts. This results in a reduction of $5,963,450 to Staff's annual depreciation expense, as shown on Rebuttal Schedule WWD-14.

2. For Overhead Services, account 369.01, the Staff proposed a -303% future net salvage. That future net salvage percent includes effectively incorporates an assumption of 4.8% annual future inflation.[20] However annual future inflation is estimated to be 2.5%. When the other affected Distribution and Transmission accounts are also included, using 2.5% annual future inflation results in a reduction of $26,735,191 to Staff's proposed annual depreciation expense, as shown on Rebuttal Schedule WWD-18.

[19] There is little or no impact on accounts with short average lives, or that have little or no net salvage.
[20] This refers to the Overhead Services account. See Rebuttal Schedule WWD 18-1 for similar information for other accounts.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

PUBLIC COUNSEL DATA REQUEST TO STAFF DR 5103

AMEREN UE
CASE NO.: ER-2007-0002

REQUESTED BY: BILL DUNKEL

REQUESTED FROM: Staff Depreciation

DATE OF REQUEST: 12/26/2006

Information Requested:

Regarding the Staff proposed depreciation rates as shown on Schedule JLM-2 and page 7 of the Staff Direct Testimony of Mathis that:

> For each account, I took the actual net salvage for the past 5 years and divided it by the original cost of plant retired during those same 5 years. For a few accounts, an unusually high or low net salvage amount was excluded to eliminate a percentage amount that may cause the average to become skewed.

(a) Is it correct that for the nuclear plant, a separate account is maintained that is intended to cover the demolition of the plant after its final retirement? If "no", explain the answer.

Response: Yes.

(b) Ameren UE proposes 0% Net Salvage for all of the Nuclear accounts. Is it reasonable to expect that one reason Ameren UE proposed 0% is because much of the cost of removal of the nuclear plant will be cover by the separate nuclear demolition fund? If "no", explain the answer.

Response: Yes.

(c) Is it correct that in the Staff proposal, the costs associated with the nuclear demolition account are included in the revenue requirement in addition to the amounts shown on Schedule JLM-2? If "no", explain the answer.

Response: Yes.

(d) For Account 322, the Staff Net Salvage shown on Schedule JLM-2 is –37%. In that calculation of the 3.10% recommended depreciation rate, was that –37% applied to all the expense or investment, including the investment (or depreciation expense associated with that investment) that would be retired as part of the final retirement of the Plant?

Response: Yes. However the amount of final retirement is not yet known.

(e) If the answer to part (d) is no, Provide the workpapers that show what portion of the investment or expense did not have the –37% applied to it.

(f) Assume that it could be determined (using the curve and final retirement date), that 40% of the account 322 investment would retire as a interim retirement, and 60% would retire as part of the final retirement. Since the final retirement investment cost of removal will be paid for from the nuclear demolition account, would it be a correct calculation to apply the –37% to the 40 % that would retire as interim retirements, and 0% to the 60% that would retire in the final retirement (since the nuclear demolition account will pay for that cost-of-removal) ? If "no", explain the answer.

Response: **Yes.**

THIS RESPONSE INCLUDES:

☐ Printed Materials 2 Total Pages ☐ Magnetic Media __ Number of disks or tapes

Please number each section of multiple pages as:

File formats for data: _____

# of Total #

LIST PRINTED MATERIALS AND/OR FILES INCLUDED:

The information provided to the Office of the Public Counsel in response to the above information request is accurate and complete, and contains no material misrepresentations or omissions based upon present known facts to the undersigned. The undersigned agrees to immediately inform the Office of the Public Counsel if any matters are discovered which would materially affect the accuracy or completeness of the information provided in response to the above information.

DATE RECEIVED: 12-29-06 SIGNED BY: Julie Hallmi

TITLE: Utility Engineering Specialist 4

IMPACT OF CORRECTING STAFF'S DEPRECIATION RATES
Corrected to apply the Staff future net salvage percent (FNS%) to the interim retirements and 0% FNS to the final retirements

	12/31/05 Plant in Service	Staff Proposal Annual Accrual	Staff Proposal Annual Rate	Corrected Depreciation Rates[1] (Final 0% FNS, Interim Staff FNS%) Annual Accrual	Corrected Depreciation Rates[1] (Final 0% FNS, Interim Staff FNS%) Annual Rate	Difference
Nuclear Production Plant						
Callaway Nuclear Production Plant						
321 Structures & Improvements	$892,849,632	$17,559,737	1.97%	$17,127,188	1.92%	($432,549)
322 Reactor Plant Equipment	$957,396,835	$29,681,715	3.10%	$24,492,402	2.56%	($5,189,313)
323 Turbogenerator Units	$498,999,736	$10,372,157	2.08%	$10,121,436	2.03%	($250,722)
324 Accessory Electrical Equipment	$210,733,334	$4,020,496	1.91%	$3,957,015	1.88%	($63,481)
325 Miscellaneous Power Plant Equipment	$164,519,297	$4,089,323	2.49%	$4,061,937	2.47%	($27,386)
Total Nuclear Production Plant	$2,724,498,833	$65,723,427	2.41%	$59,759,977	2.19%	($5,963,450)

Note:
1. See Staff Response to OPC DR#5103

INTERIM AND FINAL RETIREMENTS
USING STAFF SURVIVOR CURVE AND 10-2044 FINAL RETIREMENT DATE

		Staff Proposed Life	Staff Proposed Curve	12/31/05 Plant in Service	Interim Retirements	Final Retirements
Nuclear Production Plant						
	Callaway Nuclear Production Plant					
321	Structures & Improvements	100	R1	892,849,631.74	138,952,207.43	753,897,424.31
322	Reactor Plant Equipment	60	S0	957,396,834.63	353,474,025.35	603,922,809.28
323	Turbogenerator Units	100	S0	498,999,735.95	87,017,163.62	411,982,572.33
324	Accessory Electrical Equipment	80	R2	210,733,334.15	41,291,825.29	169,441,508.86
325	Miscellaneous Power Plant Equipment	60	O1	164,519,297.02	53,240,272.51	111,279,024.51
	Total Nuclear Production Plant			2,724,498,833.49	673,975,494.20	2,050,523,339.29

AmerenUE - Electric

ACCOUNT 322 - REACTOR PLANT EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT DECEMBER 31, 2005

Year	12/31/05 Plant in Service	Interim Retirement Amount	Interim plus Salvage	Final Retirement Amount	Total to Recover	Average Life	Annual Accrual Rate	Annual Accrual Amount
(1)	(2)	(3)	(4) = (3)*(1-%salvage)	(5) = (2)-(3)	(6) = (3)+(5)	(7)	(8) = 1/(7)	(9) = (6)*(8)
Interim Survivor Curve			Iowa 60-S0					
Probable Retirement Year			10-2044					
Interim Net Salvage Percent			-37%					
1985	694,890,465.22	276,964,056.23	379,440,757.03	417,926,408.99	797,367,166.02	47.74	2.09%	16,664,973.77
1986	2,882,102.28	1,136,836.05	1,557,465.38	1,745,266.23	3,302,731.62	47.22	2.12%	70,017.91
1987	1,779,911.73	694,362.68	951,276.87	1,085,549.05	2,036,825.92	46.70	2.14%	43,588.07
1988	2,178,317.69	839,845.56	1,150,588.42	1,338,472.13	2,489,060.55	46.16	2.17%	54,012.61
1989	6,223,638.78	2,369,672.27	3,246,451.00	3,853,966.51	7,100,417.52	45.61	2.19%	155,499.14
1990	5,444,035.51	2,045,532.39	2,802,379.38	3,398,503.12	6,200,882.49	45.05	2.22%	137,659.59
1991	5,997,593.00	2,222,010.91	3,044,154.95	3,775,582.09	6,819,737.04	44.48	2.25%	153,444.08
1992	3,722,057.68	1,358,492.53	1,861,134.77	2,363,565.15	4,224,699.92	43.90	2.28%	96,323.16
1993	410,563.11	147,494.69	202,067.73	263,068.42	465,136.15	43.30	2.31%	10,744.64
1994	8,039,687.33	2,840,092.09	3,890,926.16	5,199,595.24	9,090,521.40	42.70	2.34%	212,718.20
1995	6,308,844.76	2,189,195.40	2,999,197.70	4,119,649.36	7,118,847.06	42.08	2.38%	169,428.56
1996	3,284,230.24	1,118,261.76	1,532,018.61	2,165,968.48	3,697,987.09	41.45	2.41%	89,121.49
1997	561,621.39	187,415.42	256,759.13	374,205.97	630,965.10	40.81	2.45%	15,458.64
1998	4,878,019.12	1,593,267.55	2,182,776.54	3,284,751.57	5,467,528.11	40.16	2.49%	136,141.45
1999	1,879,294.66	599,972.65	821,962.53	1,279,322.01	2,101,284.54	39.50	2.53%	53,162.50
2000	20,500,183.16	6,387,203.46	8,750,468.74	14,112,979.70	22,863,448.44	38.83	2.58%	589,876.97
2001	26,442.73	8,026.51	10,996.32	18,416.22	29,412.54	38.14	2.62%	770.61
2002	659,789.76	194,756.36	266,816.21	465,033.40	731,849.61	37.45	2.67%	19,540.38
2003	16,269,999.84	4,660,116.67	6,384,359.84	11,609,883.17	17,994,243.01	36.74	2.72%	489,443.41
2004	4,795,007.96	1,329,298.68	1,821,139.19	3,465,709.28	5,286,848.47	36.03	2.78%	146,974.39
2005	166,665,028.68	44,588,115.49	61,085,718.22	122,076,913.19	183,162,631.41	35.30	2.83%	5,183,502.47
	957,396,834.63	353,474,025.35	484,259,414.72	603,922,809.28	1,088,182,224.01		2.56%	24,492,402.06

PROPOSED DEPRECIATION PARAMETERS

	Current			Company Proposal					Staff Proposal					Corrected Depreciation Rates[1] (Final 0% FNS, Interim Staff FNS%)				
	Life (Yr.)	Net Salvage (%)	Depreciation Rate (%)	Probable Retirement Year	Life (Yr.)	Curve (Iowa)	Net Salvage (%)	Depreciation Rate (%)	Probable Retirement Year	Life (Yr.)	Curve (Iowa)	Net Salvage (%)	Depreciation Rate (%)	Probable Retirement Year	Life (Yr.)	Curve (Iowa)	Net Interim Salvage (%)	Depreciation Rate (%)
Nuclear Production Plant																		
Callaway Nuclear Production Plant																		
321 Structures & Improvements	40	0%	2.60%	10-2024	100	R1	0%	2.82%	10-2044	100	R1	-3%	1.97%	10-2044	100	R1	-3%	1.92%
322 Reactor Plant Equipment	40	4%	2.60%	10-2024	60	S0	0%	3.38%	10-2044	60	S0	-37%	3.10%	10-2044	60	S0	-37%	2.56%
323 Turbogenerator Units	40	0%	2.60%	10-2024	100	S0	0%	3.18%	10-2044	100	S0	-3%	2.08%	10-2044	100	S0	-3%	2.03%
324 *Accessory Electrical Equipment*	40	1%	2.60%	10-2024	80	R2	0%	2.74%	10-2044	80	R2	-2%	1.91%	10-2044	80	R2	-2%	1.88%
325 Miscellaneous Power Plant Equipment	40	2%	2.60%	10-2024	60	O1	0%	3.70%	10-2044	60	O1	-1%	2.49%	10-2044	60	O1	-1%	2.47%
Total Nuclear Production Plant																		

Note:

1. Corrected to apply the Staff future net salvage percent (FNS%) to the interim retirements and 0% FNS to the final retirements. See Staff Response to OPC DR#5103.

STAFF PROPOSES DISTRIBUTION DEPRECIATION RATES AND EXPENSE THAT ARE HIGHER THAN REQUESTED BY AMERENUE

FERC Acct		Plant In Service June 06	AmerenUE Proposal Life (Years)	Curve	Future Net Salvage %	Proposed Rate	Staff Proposal Life (Years)	Curve	Future Net Salvage %	Proposed Rate	Annual Accruals AmerenUE Proposed[2]	Staff Proposed	Difference
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10) = (1) * (5)	(11) = (1) * (9)	+(11)-(10)
Missouri Distribution Plant													
361	Structures and Improvements	15,759,384	60	R2.5	(5)	1.75%	60	R2.5	0	1.67%	$275,789	$263,182	$ (12,607)
362	Station Equipment	531,174,647	55	R2.5	(5)	1.82%	63	R2	(2)	1.62%	$9,667,379	$8,605,029	$ (1,062,350)
364	Poles, Towers, and Fixtures	657,866,888	43	R3	(135)	5.47%	43	R3	(154)	5.92%	$35,985,319	$38,945,720	$ 2,960,401
365	Overhead Conductors and Devices	725,041,472	47	R1	(50)	3.19%	46	R1.5	(52)	3.30%	$23,128,823	$23,926,369	$ 797,546
366	Underground Conduit	172,578,086	65	R3	(50)	2.31%	65	R3	0	1.54%	$3,986,554	$2,657,703	$ (1,328,851)
367	Underground Conductors and Devices	459,391,695	53	R2.5	(25)	2.36%	54	R2	(40)	2.59%	$10,841,644	$11,898,245	$ 1,056,601
368	Line Transformers	353,005,804	45	L2	0	2.22%	42	R2.5	(1)	2.40%	$7,836,729	$8,472,139	$ 635,410
369.01	Overhead Services	126,844,186	37	R2.5	(200)	8.09%	37	R2.5	(303)	10.86%	$10,261,695	$13,775,279	$ 3,513,584
369.02	Underground Services	121,695,103	45	R3	(80)	3.99%	45	R3	(98)	4.39%	$4,855,635	$5,342,415	$ 486,780
370	Meters	103,953,475	28	L2.5	0	3.57%	28	L2.5	2	3.50%	$3,711,139	$3,638,372	$ (72,767)
371	Installations on Customer Premises	164,856	20	O1	0	3.74%	28	O1	0	3.55%	$6,166	$5,852	$ (314)
373	Street Lighting and Signal Systems	101,695,076	33	L1	(45)	4.39%	37	L0.5	(58)	4.27%	$4,464,414	$4,342,380	$ (122,034)
		3,369,170,672									$115,021,286	$121,872,683	$ 6,851,397

(1) All Data From Staff Schedule JLM-2

(2) $115,021,286 is different than the $113,014,977 shown on Page III-7 of Schedule JFW-E1because the Plant investment dollar amounts are different on these two Schedules

Company: AmerenUE
Account Number: 369.01
Account Name: Overhead Services
Staff Avg Life: 37

Public

Adjusting Net Salvage Percent
For Future Annual Inflation Rate of 2.50%

		Original Cost Of Investment Retired	Net Salvage	Net Salvage Percent
(1)	Average in Last 5 Years[1]	$334,727	-$1,015,839	-303%
(2)	Average Annual Historic Inflation Rate Over the Average Life For Investments That Retired In the Last 5 Years[2]		4.80%	
(3)	Remove Historic Inflation[3]	$334,727	-$179,045	-53%
(4)	Adjust Net Salvage for Future Inflation At:[4] 2.50%	$334,727	-$446,421	**-133%**

Source Notes:

1. Page 2 of This Document
2. Page 3 of This Document
3. -$1,015,839 / (+1+ 4.80%)^ 37 = -$179,045
4. -$179,045 *(+1+ 2.50%)^ 37 = -$446,421

Company:	AmerenUE	Public
Account Number:	369.01	
Account Name:	Overhead Services	
Staff Avg Life:	37	

Historic Net Salvage Data-Retirements Last Ten Years

	Regular Retirements (Original Cost)	Net Salvage	
1996	$1,228,264	-$899,636	
1997	$528,157	-$842,558	
1998	$319,655	-$941,975	
1999	$389,097	-$895,577	
2000	$288,117	-$784,311	
2001	$605,062	-$893,343	
2002	$214,626	-$855,905	
2003	$231,752	-$1,197,309	
2004	$273,245	-$1,241,765	
2005	$348,948	-$890,873	
Average in Last 10 Years	$442,692	-$944,325	-213%
Average in Last 5 Years	$334,727	-$1,015,839	-303%

Source: This Account on Pages B-81 to B-141,
AmerenUE Depreciation study, Schedule JFW-E1.

Public

Company: AmerenUE
Account Number: 369.01
Account Name: Overhead Services
Staff Avg Life: 37

Retire In Year	Average Life	Average Installed In	CPI-U Install Year	CPI-U Removal Year	Historic Inflation Ratio, Install to Removal Period	Average Annual Inflation Factor	Average Annual Inflation Over Average Life
(A)	(B)	(C)=(A)-(B)	(D)	(E)	(F)=(E)/(D)	(G)= (F)^(1/(B))	(H)= ((G)-1)*100%
1996	37	1959	29.10	156.90	5.39	1.04659	4.66%
1997	37	1960	29.60	160.50	5.42	1.04675	4.67%
1998	37	1961	29.90	163.00	5.45	1.046902	4.69%
1999	37	1962	30.20	166.60	5.52	1.047237	4.72%
2000	37	1963	30.60	172.20	5.63	1.047801	4.78%
2001	37	1964	31.00	177.10	5.71	1.048228	4.82%
2002	37	1965	31.50	179.88	5.71	1.048216	4.82%
2003	37	1966	32.40	183.96	5.68	1.048053	4.81%
2004	37	1967	33.40	188.90	5.66	1.047942	4.79%
2005	37	1968	34.80	195.30	5.61	1.047723	4.77%
Average Last Ten Year					5.58		4.75%
Average Last Five Years					5.67		4.80%

PUBLIC COUNSEL DATA REQUEST TO STAFF DR 5102

AMEREN UE
CASE NO.: ER-2007-0002

REQUESTED BY: BILL DUNKEL

REQUESTED FROM: Staff Depreciation

DATE OF REQUEST: 12/26/2006

Information Requested:

Regarding the Staff proposed depreciation rates as shown on Schedule JLM-2 and page 7 of the Staff Direct Testimony of Mathis that:

> For each account, I took the actual net salvage for the past 5 years and divided it by the original cost of plant retired during those same 5 years.

(a) In response to discovery request OPC 5006 (c) AmerenUE agreed to the following statement

> If the Future Net Salvage percent is set equal to the historic net salvage percent as determined from the historic data shown on pages B-81, B-82, and B-83, does that effectively assume that future inflation will be the same as past inflation?

The OPC witness Mr. Dunkel made a similar statement in his testimony.

Does Staff agree the answer to the above statement is "yes"? If "no" explain the answer and provide the corrected statement.

RESPONSE: Staff neither agrees nor disagrees the answer to the above statement is "yes". Staff's analysis does not address inflation beyond that reflected in the data set provided by the Company.

(b) In response to discovery request OPC 5006 (b) AmerenUE agreed to the following statement

> (b) Is it a correct statement that, everything else being equal, the greater the inflation between the time the investment went into service, and the time it was retired, the higher the cost of removal percent would be?

The OPC witness Mr. Dunkel made a similar statement in his testimony.

Does Staff agree with the above statement? If "no" explain the answer and provide the corrected statement.

RESPONSE: Staff observes Commission policy with respect to the determination of net salvage.

(c) On page 18 of his Direct Testimony, Mr. Dunkel presents evidence that annual inflation was over 11% in 1974, over 11% in 1979, over 13% in 1980, and over 10% in 1981. Does Staff dispute these statements? If "yes" explain the answer and provide the corrected statement.

RESPONSE: See response to (a).

(d) For those accounts in which the future net salvage value was set equal to the average net salvage of the investments that had retired in that past 5 years, is Staff willing to consider an adjustment that is based on the possibility that future inflation may be different than the past inflation was during the life of the investments that retired in the past 5 years? If "no" explain why not.

RESPONSE: No. Staff adheres to Commission policy stated in ER-2004-0570.

(e) If not already provided, for those accounts in which the staff proposed net salvage is not equal to the average net salvage for the plant retiring in the past five years, please provide the workpapers showing the calculation of the Staff proposed net salvage percents.

RESPONSE: All workpapers have been provided.

THIS RESPONSE INCLUDES:

☐ Printed Materials 3 Total Pages ☐ Magnetic Media __ Number of disks or tapes

Please number each section of multiple pages as: File formats for data: _____

# of Total #

LIST PRINTED MATERIALS AND/OR FILES INCLUDED:

The information provided to the Office of the Public Counsel in response to the above information request is accurate and complete, and contains no material misrepresentations or omissions based upon present known facts to the undersigned. The undersigned agrees to immediately inform the Office of the Public Counsel if any matters are discovered which would materially affect the accuracy or completeness of the information provided in response to the above information.

DATE RECEIVED: 12-29-06 SIGNED BY: [signature]

TITLE: Utility Engineering Specialist III

Impact of Utilizing 2.5% Annual Future Inflation
In Determining Future Net Salvage in the Electric
"Mass" Accounts (Transmission and Distribution)

Account Number[1]	Account Name	Investment Jun-06[2]	Staff Proposed Annual Accrual Prior to Application of Salvage Percent[3]	Using 3.78% - 4.80% Future Annual Inflation: Staff Proposed Net Salvage Percent[4]	Staff Proposed Net Salvage Annual $	Average Annual Inflation Rate in the Staff's Net Salvage[5]	Using 2.5% Future Annual Inflation: Net Salvage Percent At 2.5% Future Annual Inflation	Net Salvage Annual $ At 2.5% Future Annual Inflation	Difference In Annual Accruals
	Transmission:								
354	Towers and Fixtures	$ 70,903,822	$ 1,092,616	-22%	$ 240,376	4.04%	-8%	$ 87,409	$ (152,966)
356	Overhead Conductors and Devices-Transmission	$ 118,782,726	$ 2,154,392	-2%	$ 43,088	3.89%	-1%	$ 21,544	$ (21,544)
	Distribution:								
364	Poles and Fixtures	$ 657,866,888	$ 15,332,961	-154%	$ 23,612,759	4.36%	-71%	$ 10,886,402	$ (12,726,357)
365	Overhead Conductors and Devices	$ 725,041,472	$ 15,741,032	-52%	$ 8,185,337	4.22%	-24%	$ 3,777,848	$ (4,407,489)
366	Underground Conduit	$ 172,578,086	$ 2,657,703	0%	$ -	4.04%	0%	$ -	$ -
367	Underground Conductors and Devices	$ 459,391,695	$ 8,498,746	-40%	$ 3,399,499	3.78%	-20%	$ 1,699,749	$ (1,699,749)
369.01	Overhead Services	$ 126,844,186	$ 3,418,183	-303%	$ 10,357,096	4.80%	-133%	$ 4,546,184	$ (5,810,912)
369.02	Underground Services	$ 121,695,103	$ 2,698,189	-98%	$ 2,644,226	4.24%	-46%	$ 1,241,167	$ (1,403,058)
373	Street Lighting and Signal Systems	$ 101,695,076	$ 2,748,342	-58%	$ 1,594,038	4.34%	-30%	$ 824,503	$ (769,536)
	Total				$ 50,076,418			$ 23,084,806	$ (26,991,612)
	Allocate to the Missouri Jurisdiction[6]								0.9905
	Difference at 2.50% Future Annual Inflation Rate								($26,735,191)

Notes:
(1) Transmission and Distribution accounts with significant net salvage dollars and long average lives.
(2) From Schedule JLM-2 of Staff's Direct Testimony
(3) From Schedule JLM-2 of Staff's Direct Testimony, Staff's Annual Accrual divided by Future Net Salvage Percent
(4) From Schedule JLM-2 of Staff's Direct Testimony
(5) Average annual inflation over the average life of the investment retiring in the years 2001 through 2005, which is what Staff used.
(6) Ratio from AmerenUE Schedule GSW-E-21-2

The attached pages are the Staff work papers showing that the -303% is the average salvage percent of the investment retired between 2001-2005 for Account 369.01 – Overhead Services.

ACCOUNT 369.01

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
1961	359,987	139,008	39	8,173	2	130,835-	36-
1962	254,676	122,194	48	1,694	1	120,500-	47-
1963	267,044	123,122	46	21,181	8	101,941-	38-
1964	275,701	130,650	47	10,320	4	120,330-	44-
1965	275,389	101,270	37	6,968	3	94,302-	34-
1966	332,230	119,457	36	13,460	4	105,997-	32-
1967	381,955	189,510	50	14,608	4	174,902-	46-
1968	392,132	234,769	60	9,559-	2-	244,328-	62-
1969	401,875	257,275	64	13,057	3	244,218-	61-
1970	354,564	270,011	76	563	0	269,448-	76-
1971	419,135	360,729	86	14,885	4	345,844-	83-
1972	425,397	461,086	108	5,415	1	455,671-	107-
1973	428,878	371,507	87	5,581	1	365,926-	85-
1974	407,320	502,724	123	4,042	1	498,682-	122-
1975	304,484	752,240	247	96-	0	752,336-	247-
1976	405,334	576,334	142	8,026	2	568,308-	140-
1977	347,228	626,893	181	1,424	0	625,469-	180-
1978	366,069	671,802	184	2,168	1	669,634-	183-
1979	402,625	758,331	188	4,760	1	753,571-	187-
1980	380,286	806,706	212	11,702	3	795,004-	209-
1981	399,214	893,205	224	9,163	2	884,042-	221-
1982	326,325	893,699	274	7,165	2	886,534-	272-
1983	331,555	854,810	258	11,430	3	843,380-	254-
1984	400,661	993,348	248	14,076	4	979,272-	244-
1985	443,357	1,069,969	241	2,989	1	1,066,980-	241-
1986	384,131	1,081,243	281	26,625	7	1,054,618-	275-
1987	351,207	1,070,434	305	17,573	5	1,052,861-	300-
1988							
1989	394,919	1,311,391	332	48,361-	12-	1,359,752-	344-
1990	474,250	1,862,823	393	36,721-	8-	1,899,544-	401-
1991	503,255	1,612,161	320	38,548-	8-	1,650,709-	328-
1992	586,503	1,377,160	235	2,972	1	1,374,188-	234-
1993	518,051	1,684,798	325	10,339	2	1,674,459-	323-
1994	713,480	1,851,578	260	9,774	1	1,841,804-	258-
1995	320,599	1,565,828	488	15,834-	5-	1,581,662-	493-
1996	1,228,264	895,472	73	4,164-	0	899,636-	73-
1997	528,157	843,695	160	1,137	0	842,558-	160-
1998	319,655	951,827	298	9,852	3	941,975-	295-
1999	389,097	904,820	233	9,243	2	895,577-	230-
2000	288,117	786,694	273	2,383	1	784,311-	272-
2001	605,062	892,388	147	955-	0	893,343-	148-
2002	214,626	836,858	390	19,047-	9-	855,905-	399-

Source: Mathis workpapers provided 1/3/07. File name "PSCSalvage.prn".