Exhibit No.: Issues:

Witness: Sponsoring Party: Type of Exhibit: Case No.: Date Testimony Prepared: Effect of Transfer on Nuclear Decommissioning Trust Kevin L. Redhage AmerenUE Direct Testimony EO-2004-0108 September 17, 2003

## MISSOURI PUBLIC SERVICE COMMISSION

## CASE NO. EO-2004-0108

### DIRECT TESTIMONY

OF

## **KEVIN L. REDHAGE**

ON

## **BEHALF OF**

## UNION ELECTRIC COMPANY d/b/a AmerenUE

St. Louis, Missouri September, 2003

## **BEFORE THE PUBLIC SERVICE COMMISSION**

## **OF THE STATE OF MISSOURI**

In the matter of the Application of Union ) Electric Company (d/b/a AmerenUE) for ) an order authorizing the sale, transfer and assignment of certain Assets, Real Estate, Leased Property, Easements and Contractual Agreements to Central Illinois ) Public Service Company (d/b/a AmerenCIPS) ) and, in connection therewith, certain other ) related transactions. )

Case No. EO-2004-0108

### **AFFIDAVIT OF KEVIN L. REDHAGE**

STATE OF MISSOURI	)
	) ss
CITY OF ST. LOUIS	)

Kevin L. Redhage, being first duly sworn on his oath, states:

1. My name is Kevin L. Redhage. I work in the City of St. Louis, Missouri, and I am a Finance Professional in the Financial Planning and Investments Department of Ameren Services Company.

2. Attached hereto and made a part hereof for all purposes is my Direct Testimony on behalf of Union Electric Company d/b/a AmerenUE consisting of 10 pages and Schedules 1 through 3, all of which have been prepared in written form for introduction into evidence in theabove-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.

Kevin L. Redhage

Subscribed and sworn to before me this 17th day of September 2003.

Uerre W. Whitehead

My commission expires:

VALERIE W. WHITEHEAD Notary Public - Notary Seal STATE OF MISSOURI Jefferson County My Commission Expires: Dec. 10, 2006

1		DIRECT TESTIMONY
2		OF
3		KEVIN L. REDHAGE
4		UNION ELECTRIC COMPANY
5		d/b/a AmerenUE
6		CASE NO. EO-2004-0108
7		
8	Q.	Please state your name, address, and occupation.
9	A.	My name is Kevin L. Redhage. My business address is 1901 Chouteau Avenue, St. Louis,
10		Missouri. I am a Finance Professional in the Financial Planning and Investments Department at
11		Ameren Services Company ("Ameren Services").
12	Q.	How long have you held this position?
13	A.	I have held this position since February 1992.
14	Q.	What are your principal duties?
15	А.	My principal duties include the following: monitoring investment activity and coordination of trust
16		and regulatory issues concerning Union Electric Company's d/b/a AmerenUE ("Company")
17		Nuclear Decommissioning Trust Fund; reviewing capital expenditure justifications to assure that
18		they are conducted in accordance with Company policies; and developing economic models for
19		the performance of financial analyses. I also perform other projects as assigned, relative to the area
20		of financial planning, on a case-by-case basis.
21	Q.	Please describe your educational background.

- A. I graduated with a Bachelor of Science degree in Civil Engineering from the University of Missouri
   Rolla in 1979. In 1991, I received a Masters degree in Business Administration (MBA) from
   Webster University in St. Louis, Missouri, with an emphasis in Finance.
- 4 Q. What is your work experience at the Company?
- A. I was employed by the Company in May 1981 as an Assistant Engineer in the Nuclear Construction
  Department at the Company's Callaway Nuclear Power Plant ("Callaway"). While serving in this
  department, I was promoted from Assistant Engineer to Engineer. In these positions, I performed
  various construction management activities, both technical and administrative in nature.
- In April 1986, following the completion of Callaway construction, I transferred to the newly
  formed Quality Services Department, located in the Company's St. Louis headquarters. My
  principal responsibility in this position was the review of Company suppliers' quality assurance
  ("QA") programs, and the on-site verification of the implementation of the QA programs at the
  suppliers' facilities. In this position, I also was involved in the development of internal Company
  QA programs.

After I attained my MBA in Finance, I was assigned to the Financial Planning and Investments Department as a Financial Specialist. This title was later changed to "Finance Professional." This is the position I currently hold with the principal duties as described earlier.

18

## Q. Are you familiar with the subject matter of this proceeding?

A. Yes. AmerenUE is proposing to transfer its electric transmission and distribution and gas properties
 in the Metro East service area in Illinois to Central Illinois Public Service Company d/b/a
 AmerenCIPS. The logistics of this transfer and the benefits expected to accrue to Missouri
 ratepayers are discussed in the testimonies of Mr. Craig Nelson and Mr. Richard Voytas.

1 **O**. What is the scope of your testimony? 2 My testimony will address the effect the proposed transfer will have on Missouri ratepayers relative A. 3 to the recovery of nuclear decommissioning expenses. 4 Q. Are you sponsoring any schedules? 5 A. Yes. I am sponsoring Schedule Numbers 1 through 3. 6 Q. Please describe how nuclear decommissioning costs are currently allocated between the 7 various jurisdictions that the Company serves. 8 A. Currently, the amount of decommissioning cost allocated to each jurisdiction is computed by 9 multiplying the total decommissioning cost estimate by the "12-Month Coincident Peak Demand 10 Allocation Factor" applicable to that jurisdiction. 11 These "allocation factors" are based on a twelve-month average of the amount of 12 jurisdictional peak demand coincident with the Company's peak demand for each of the Company's three jurisdictions: Missouri, Illinois and Wholesale. The latest available allocation 13 14 factors, for the twelve-months ending December 31, 2002, are as indicated in the "Pre-Property 15 Transfer" table of Schedule 1. As indicated on this schedule, the allocation factors applicable to 16 the Missouri, Illinois and Wholesale jurisdictions are 91.27%, 6.88% and 1.85%, respectively. 17 Q. How would the foregoing 12-Month Coincident Peak Demand Allocation Factors be 18 adjusted to reflect the transfer of the Company's Illinois properties? 19 A. As a result of the transfer, the Company would no longer have an Illinois jurisdiction. Coincident 20 demands for that jurisdiction would consequently go to zero. The allocation factors for the 21 remaining Missouri and Wholesale jurisdictions would then be based on the proportionate average 22 coincident peak demand values for these two jurisdictions. The "Post-Property Transfer" table of Schedule 1 illustrates the resulting allocation factors, assuming the elimination of the Illinois
 jurisdiction's average coincident demand. The Missouri allocation factor increases to 98.01% and
 the Wholesale allocation factor increases to 1.99%.

4 Q. What effect would the foregoing change in allocation factors have on the amount of
5 decommissioning cost for which Missouri ratepayers are responsible?

A. The latest site-specific decommissioning study (performed by TLG Services, Inc. in August 2002)
estimated total decommissioning costs to be \$515,339,000 in terms of 2002 dollars. This estimate
was used in the Company's most recent triennial decommissioning cost and funding update filing
(Case No. EO-2003-0083). Applying the allocation factor of 98.01% to this total cost of
decommissioning results in a decommissioning cost of \$505,073,512 allocable to Missouri
ratepayers.

12 Q. What is the current valuation of the Illinois jurisdictional sub-account of the Callaway

13 Plant Tax-Qualified Nuclear Decommissioning Trust Fund (the "qualified trust fund")?

- A. As of June 30, 2003, the Illinois jurisdictional sub-account of the qualified trust fund contained
  assets with a market value of \$13,801,353.70 and a book value of \$11,554,953.31. At the
  applicable composite income tax rate of 24.5283%, this results in a "after-tax liquidation value" of
  \$13,250,349.83.
- Q. Assuming that the proposed property transfer is approved, what would be the accounting
   treatment of the funds in the Illinois sub-account?
- A. The funds in the Illinois jurisdictional sub-account would be reallocated to the Missouri and
  Wholesale sub-accounts. The latest available 12-Month Coincident Peak Demand Allocation
  Factors, adjusted to exclude Illinois demands, would be applied to the market value of the funds

1		in the Illinois jurisdictional sub-account to determine the amounts to be allocated to the remaining
2		Missouri and Wholesale jurisdictions. Schedule 2 illustrates this reallocation, based on the
3		allocation factors for the twelve-months ending December 31, 2002 and the June 30, 2003
4		qualified trust fund valuations (the latest available data for the respective parameters at the time of
5		preparation of this testimony).
6	Q.	Is there a precedent for the jurisdictional responsibility for nuclear decommissioning costs
7		and the jurisdictional sub-account being reallocated in this manner?
8	A.	Yes, there is. At the time the Company sold the transmission and distribution properties in its Iowa
9		jurisdiction in 1992, the nuclear decommissioning cost and trust fund balance were reallocated to
10		Missouri in this same manner. The Commission approved this reallocation in its Order in Case
11		Nos. EM-92-225 and EM-92-253, dated December 22, 1992.
12	Q.	Does the increase in decommissioning cost allocable to Missouri ratepayers require an
13		increase in the annual jurisdictional expense and contribution amount to the Missouri
14		jurisdictional sub-account of the Callaway Nuclear Decommissioning Trust Fund at this
15		time?
16	A.	No. I performed a "Zone of Reasonableness" analysis for the Missouri jurisdictional sub-account
17		assuming the reallocation of a portion of the Illinois decommissioning expense liability to Missouri
18		ratepayers and assuming the reallocation of a portion of the existing Illinois jurisdictional sub-
19		account's assets to the Missouri jurisdictional sub-account, as previously discussed. All of the
20		other financial and economic assumptions and input parameters were held identical to those used
21		in the Zone of Reasonableness analysis presented in Case No. EO-2003-0083 (the Company's
22		most recent triennial funding update filing).

1		The results of the Zone of Reasonableness analysis are presented in Schedule 3. In
2		summary, the analysis indicates that the current annual decommissioning expense and contribution
3		amount of \$6,214,184 would be adequate within a range of decommissioning inflation values from
4		a low of 3.312% (based on "conservative" financial and economic assumptions) to a high of
5		4.500% (based on "optimistic" assumptions). At "expected" financial and economic assumption
6		values, the current annual contribution amount would be adequate for a decommissioning inflation
7		level of 3.854%.
8	Q.	Does the Company anticipate future decommissioning inflation rates to be within the
9		foregoing range?
10	A.	Yes. In the last triennial funding update (Case No. EO-2003-0083), the Company derived a
11		projected decommissioning inflation rate of 4.036%. Applying the same methodology, but using
12		updated sources for parameters used in the projection, an updated decommissioning inflation rate
13		projection of 3.472% was derived.
14	Q.	Please describe the methodology used to derive the 3.472% projected decommissioning
15		inflation rate.
16	A.	Decommissioning inflation is a composite of individual inflation rates associated with various
17		decommissioning cost elements. For the purpose of this analysis, a projected decommissioning
18		inflation rate was derived in a manner similar to the escalation of the minimum financial assurance
19		amount for decommissioning required by the U.S. Nuclear Regulatory Commission ("NRC") in the
20		Code of Federal Regulations (10 CFR 50.75). This escalation is performed using a "three-factor
21		formula" which applies weighting factors to the inflation experienced for three primary

decommissioning cost elements. These cost elements and their respective weighting factors are as
 follows:

3	• Labor costs, 65% Weighting Factor,
4	• Energy costs, 13% Weighting Factor,
5	• Waste burial costs, 22% Weighting Factor.
6	Average forecast inflation rates for "Compensation per hour" were used as a predictor of
7	labor cost inflation, while average forecast rates for "Price of Imported Oil (\$/Barrel)" were used

as a predictor of energy costs. These projected values were obtained for the period of 2004
through 2012 from the June 25, 2003 "Long-Term Economic Outlook" published by
Macroeconomic Advisers and are as follows:

11 12 13		2004	2005	2006	2007	2008	2009	2010	2011	2012 A	nnualized
14 15 16	Compensation Per hour:	3.5%	3.4%	3.7%	4.0%	4.1%	3.9%	3.9%	3.9%	4.0%	3.82%
17 18 19	Price of Importe Oil (\$/Barrel):	ed -20.8%	-2.4%	0.3%	1.0%	1.5%	1.5%	1.6%	1.9%	2.0%	-1.80%

20

There are no available forecasts for waste burial inflation; consequently, the forecast escalation for this parameter was based on its historical trend. Historical waste burial values were obtained from NUREG-1307, Revision 10, which is a regulation adopted by the NRC. These values are as follows:

1		Index Value
2 3		
4		1995 1996 1997 1998 1999 2000 2001 2002
5 6		12.824 12.771 15.852 15.886 N/A 18.129 N/A 18.732
7		
8		This NUREG revision was published in October, 2002 and the waste burial cost index
9		values contained therein extend through 2002. Based on the foregoing historical data, an annualized
10		inflation rate of 5.56% has been experienced over the seven-year period of 1995 to 2002.
11		The weighted-average decommissioning inflation rate is then computed by applying the
12		previously noted weighting factors to the projected inflation values for each of the individual
13		components, as follows:
14		
15		Labor: $65\% \times 3.82\% = 2.483\%$
16		Energy: $13\% \times -1.80\% = -0.234\%$
17 18		Waste Burial: $22\% \times 5.56\% = 1.223\%$
19		Weighted Average $= 3.472\%$
20		
21		
22		Considering the projected decommissioning inflation value of 3.472% resulting from the
23		foregoing "three-factor formula" analysis, the Company believes that the current decommissioning
24		expense and contribution amount of \$6,214,184 continues to be appropriate as it would be
25		sufficient up to a 3.854% projected decommissioning inflation rate under the expected Zone of
26		Reasonableness boundary assumptions.
27	Q.	To put the issue of decommissioning expense into perspective of overall rates, what
28		percentage does this expense comprise of the overall annual operating expenses of the
29		Company in serving Missouri electric jurisdictional customers?

1	A.	The current annual decommissioning expense of \$6,214,184 constitutes approximately 0.37% o					
2		the total annual operating expense associated with serving the Company's Missouri electric					
3		customers.					

4	Q.	Will the Company continue to monitor the valuation of the qualified trust fund and the
5		annual contribution amounts to assure that funding adequacy is maintained in the future?
6	A.	Yes. 4 CSR 240-3.185(3) of the Missouri Code of State Regulations requires the Company to
7		file updated decommissioning cost studies and proposed funding levels with the Commission every
8		three years. The Company must make its next filing by September 1, 2005. Should any
9		adjustments in the level of annual contributions be necessary to maintain decommissioning funding
10		adequacy, they will be addressed at that time.
11		SUMMARY
12	Q.	In summary, what does the Company seek from the MPSC with regard to nuclear
13		decommissioning costs?
14	A.	In conjunction with the proposed transfer of AmerenUE's properties in the Metro East area in
15		Illinois to AmerenCIPS, the Company is requesting that the MPSC concurrently approve:

- 1) The reallocation of a portion of the decommissioning cost previously allocated to Illinois
   ratepayers to Missouri ratepayers;
- 18
  2) The reallocation of a portion of the funds currently in the Illinois jurisdictional sub-account of
  the nuclear decommissioning trust fund to the Missouri jurisdictional sub-account;
- 3) The use of the latest available 12-Month Coincident Peak Demand Allocation Factors,
  adjusted for the elimination of the Illinois demands, for the performance of the above
  reallocations; and

8	Q.	Does this conclude your testimony?
7		presented in Case No. EO-2003-0083) continue to be valid and acceptable to the Commission.
6		parameters used in the Zone of Reasonableness analysis contained in Schedule 3 (identical to those
5		are reflected in its current rates for ratemaking purposes; and, that the economic and financial input
4		decommissioning expenses for Callaway are included in the Company's current cost of service and
3		The Company is also requesting the Commission to confirm that the foregoing
2		contributions to the qualified trust fund at the current level of \$6,214,184 annually.
1		4) The Company's continuing to accrue decommissioning expenses and to make annual

9 A. Yes, it does.

# Union Electric Company (d/b/a AmerenUE) AVERAGE PEAK DEMANDS AT TIME OF AMEREN PEAK 12 Months Ended December 31, 2002

Pre-Property Transfer Includes Illinois Demands							
TotalUltimate ConsumersSales For							
	Company	Missouri	Illinois	Resale			
Average Demands:	6,497,799	6,050,791	447,008	0			
Applicable to Resale:	0	(120,531)	0	120,531			
Total:	6,497,799	5,930,260	447,008	120,531			
Fixed Allocation %:	100.00%	91.27%	6.88%	1.85%			

Post-Property Transfer Excludes Illinois Demands								
	Total Ultimate Consumers Sales For							
		Company	Missouri	Illinois	Resale			
	Ē							
<b>Average Demands:</b>		6,050,791	6,050,791	0	0			
Applicable to Resale:		0	(120,531)	0	120,531			
	Total:	6,050,791	5,930,260	0	120,531			
Fixed Allocation %:		100.00%	98.01%	0.00%	1.99%			

Missouri	Illinois	Wholesale	Total
\$172,497,766.01	\$13.801.353.70	\$4,921,020,88	\$191,220,140.59
	11.554.953.31	4.887.872.27	157,740,783.13
31,199,808.46	2,246,400.39	33,148.61	33,479,357.46
24.5283%	24.5283%	24.5283%	24.5283%
(7,652,783.21)	(551,003.87)	(8,130.79)	(8,211,917.87)
\$164,844,982.80	\$13,250,349.83	\$4,912,890.09	\$183,008,222.72
98.01%	0.00%	1.99%	100.00%
\$13 526 432 46	(\$13,801,353,70)	\$274 921 24	(\$0.00)
1 - 7 7	. , , , ,		0.00
,. ,		44.748.01	0.00
, ,	551.003.87	(10,975,93)	(0.00)
. , ,	(\$13,250,349,83)		(\$0.00)
1 1 1 1 1 1		1	(1111)
\$186.024.198.47	\$0.00	\$5 195 942 12	\$191,220,140.59
1	+	12, 22, 2	157,740,783.13
- ,- ,		-, -,	33,479,357.46
		,	(8,211,917.87)
		( , , , , , , , , , , , , , , , , , , ,	\$183,008,222.72
	Missouri \$172,497,766.01 141,297,957.55 31,199,808.46 24.5283% (7,652,783.21) \$164,844,982.80	Missouri         Illinois           \$172,497,766.01         \$13,801,353,70           141,297,957,55         11,554,953,31           31,199,808.46         2,246,400,39           24,5283%         24,5283%           (7,652,783,21)         (551,003,87)           \$164,844,982.80         \$13,250,349,83           98.01%         0.00%           \$13,526,432.46         (\$13,801,353,70)           11,324,780.09         (11,554,953,31)           2,201,652.38         (2,246,400,39)           (540,027,94)         551,003,87           \$12,986,404.52         (\$13,250,349,83)           \$186,024,198,47         \$0.00           152,622,737.64         0.00           (3,401,460,84         0.00           (8,192,811.15)         0.00	\$172,497,766.01         \$13,801,353.70         \$4,921,020.88           141,297,957.55         11,554,953.31         4,887,872.27           31,199,808.46         2,246,400.39         33,148.61           24,5283%         24,5283%         24,5283%           (7,652,783.21)         (551,003.87)         (8,130.79)           \$164,844,982.80         \$13,250,349.83         \$4,912,890.09           98.01%         0.00%         1.99%           98.01%         0.00%         1.99%           \$13,526,432.46         (\$13,801,353.70)         \$274,921.24           11,324,780.09         (11,554,953.31)         230,173.22           2,201,652.38         (2,246,400.39)         44,748.01           (540,027.94)         551,003.87         (10,975.93)           \$12,986,404.52         (\$13,250,349.83)         \$263,945.31           \$186,024,198.47         \$0.00         \$5,195,942.12           152,622,737.64         0.00         5,118,045.49           33,401,460.84         0.00         77,896.62           (8,192,811.15)         0.00         (19,106.72)

#### CALLAWAY PLANT TAX-QUALIFIED NUCLEAR DECOMMISSIONING TRUST FUND REALLOCATION OF ILLINOIS JURISCDICTIONAL SUBACCOUNT BALANCES Sub-Account Valuations as of June 30, 2003

#### Note 1:

The reallocation factor used above is based on the 12CP coincident demand factors for the 12-months ending December 31, 2002. This is the latest available value for this parameter at the time of preparation of this testimony.

Note 2:

In actual practice, the securities in the Illinois sub-account will <u>not</u> be sold and the proceeds reinvested in the remaining jurisdictional sub-accounts. Doing this would result in a realized gain which would incur an income tax liability. Instead, the individual securities in the Illinois sub-account will be "reassigned" to the Missouri and Wholesale sub-accounts. This "reassignment" will be performed in such a manner that the market value is reallocated as closely as possible in accordance with the reallocation factors, while maintaining the index replication of the sub-accounts. But, since the reallocation is being performed by reassigning individual securities with fixed book values, the exact reallocation amounts may vary slightly when considered from a market versus a book value perspective.

In addition, the actual reallocation will be performed at the time the Company so directs the trustee, following receipt of Commission approval. The actual market values will, in all probability, have changed from those indicated in the above spreadsheet.

Consequently, the reallocation of the "After-Tax Liquidation Value" should coincide closely with the values indicated in the above spreadsheet, but cannot be expected to match precisely.

## AmerenUE Callaway Plant Tax-Qualified Nuclear Decommissioning Trust Fund Projection Missouri Jurisdiction

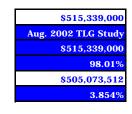
1 Current Year:	2003
2 Year Decommissioning Begins:	2024
3 Year Decommissioning Ends:	2033
<ul> <li>4 End-Of-Year Fund Balances</li> <li>June 30, 2003 End-Of-Quarter Fund Balance:</li> <li>2033 End-Of-Year Fund Balance:</li> </ul>	\$177,831,387 \$0 f After entering all data, manually set this cell equal to the Final, Ending Balance of Fund, located on "Fund Projections" worksheet!
5 Annual Contribution to Fund	
Current:	\$6,214,184
Revised:	\$6,214,184
Effective Date of Revised Annual Contribution	
Year:	2004
Quarter:	1
<ul> <li>6 Portfolio Return Assumptions</li> <li>Asset Allocation <ul> <li>Equities:</li> <li>Bonds:</li> <li>Real Return on Bonds:</li> <li>CPI Inflation:</li> <li>Nominal Return on Bonds:</li> <li>Equity Premium over Bonds:</li> <li>Nominal Return on Equities:</li> <li>Weighted Average Return:</li> <li>Switch Out of Equities at End-Of-Year:</li> </ul> </li> <li>7 Investment Management &amp; Trust Fees (Basis Points):</li> </ul>	65.000% 35.000% 4.500% 3.000% 7.500% 4.000% 11.500% 2022
/ investment management & frust rees (basis romts).	13.00
8 Federal & State Tax Assumptions Federal Tax Rate: Missouri State Income Tax Rate: Bercentage of Federal Taxes Deductible on MO Taxes:	20.0000% 6.2500% 50.0000%
Percentage of Federal Taxes Deductible on MO Taxes: Composite Tax Rate:	24.5283%
•	

### AmerenUE

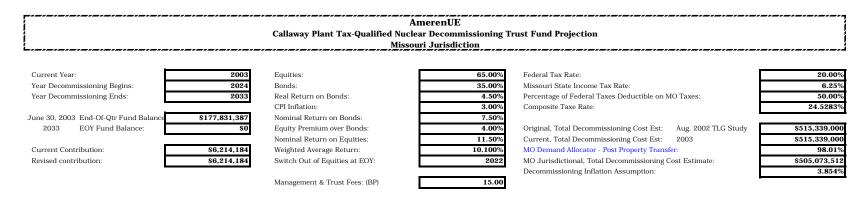
Callaway Plant Tax-Qualified Nuclear Decommissioning Trust Fund Projection Missouri Jurisdiction

#### 1 Decommissioning Expense Estimates

Original, Total Decommissioning Cost Estimate: Original Estimate Based On: Current, Total Decommissioning Cost Estimate: Demand Allocator (Missouri - Post Property Transfer): MO Jurisdictional, Total Decommissioning Cost Estimate: Decommissioning Inflation:



	Decommissioning Expense Calculation							
Year	Aug. 2002 TLG Study Total Decommissioning Expenses	Aug. 2002 TLG Study Decommissioning Expenses % OF TOTAL	Missouri Jurisdictional Decommissioning Expenses 2002	# of Years of Inflation	Inflation Factor At 3.854% Decommissioning Inflation Rate	Missouri Jurisdictional Decommissioning Expenses (Inflated \$\$)		
TOTAL	\$515,339,000.00	100.00%	\$505,073,512			\$1,344,834,729		
2003	\$0	0.00%	\$0	1	1.0385	\$0		
2004	\$0	0.00%	\$0	2	1.0786	\$0		
2005	\$0	0.00%	\$0	3	1.1201	\$0		
2006	\$0	0.00%	\$0	4	1.1633	\$0		
2007	\$0	0.00%	\$0	5	1.2081	\$0		
2008	\$0	0.00%	\$0	6	1.2547	\$0		
2009	\$0	0.00%	\$0	7	1.3031	\$0		
2010	\$0	0.00%	\$0	8	1.3533	\$0		
2011	\$0	0.00%	\$0	9	1.4055	\$0		
2012	\$0	0.00%	\$0	10	1.4596	\$0		
2013	\$0	0.00%	\$0	11	1.5159	\$0		
2014	\$0	0.00%	\$0	12	1.5743	\$0		
2015	\$0	0.00%	\$0	13	1.6350	\$0		
2016	\$0	0.00%	\$0	14	1.6980	\$0		
2017	\$0	0.00%	\$0	15	1.7634	\$0		
2018	\$0	0.00%	\$0	16	1.8314	\$0		
2019	\$0	0.00%	\$0	17	1.9020	\$0		
2020	\$0	0.00%	\$0	18	1.9753	\$0		
2021	\$0	0.00%	\$0	19	2.0514	\$0		
2022	\$0	0.00%	\$0	20	2.1305	\$0		
2023	\$0	0.00%	\$0	21	2.2126	\$0		
2024	\$9,627,000	1.87%	\$9,435,231	22	2.2979	\$21,681,144		
2025	\$56,737,000	11.01%	\$55,606,806	23	2.3865	\$132,703,281		
2026	\$108,154,000	20.99%	\$105,999,586	24	2.4784	\$262,713,235		
2027	\$103,226,000	20.03%	\$101,169,751	25	2.5740	\$260,406,931		
2028	\$57,321,000	11.12%	\$56,179,173	26	2.6732	\$150,176,256		
2029	\$57,164,000	11.09%	\$56,025,300	27	2.7762	\$155,537,173		
2030	\$49,358,000	9.58%	\$48,374,795	28	2.8832	\$139,473,987		
2031	\$31,638,000	6.14%	\$31,007,775	29	2.9943	\$92,847,189		
2032	\$34,101,000	6.62%	\$33,421,712	30	3.1097	\$103,932,393		
2033	\$8,013,000	1.55%	\$7,853,382	31	3.2296	\$25,363,141		



Fund Projections								
Year	Beginning-of-Year Balance	Annual Contributions To Fund	Pre Tax & Fee Income	Investment Management & Trust Fees	Federal & State Income Taxes	After Tax & Fee Income	Missouri Jurisdictional Decommissioning Expenses (Inflated \$\$)	End-Of-Year Balance
TOTAL		\$ 133,604,957	\$ 1,393,331,800	\$ 24,078,940	\$ 335,854,475	\$ 1,033,398,385	\$ 1,344,834,729	
June 30, 2003								\$177,831,387
2003	\$ 177,831,387	\$ 3,107,092	\$ 9,058,939	\$ 137,936	\$ 2,188,171	\$ 6,732,833	s -	187,671,312
2004	187,671,312	6,214,184	19,268,619	300,619	4,652,528	14,315,472	-	208,200,968
2005	208,200,968	6,214,184	21,342,114	332,969	5,153,187	15,855,959	-	230,271,110
2006	230,271,110	6,214,184	23,571,198	367,746	5,691,413	17,512,040	-	253,997,334
2007	253,997,334	6,214,184	25,967,547	405,132	6,270,026	19,292,388	-	279,503,907
2008	279,503,907	6,214,184	28,543,711	445,324	6,892,057	21,206,330	-	306,924,420
2009	306,924,420	6,214,184	31,313,183	488,532	7,560,763	23,263,887	-	336,402,492
2010	336,402,492	6,214,184	34,290,468	534,982	8,279,647	25,475,838	-	368,092,514
2011	368,092,514	6,214,184	37,491,160	584,918	9,052,475	27,853,768	-	402,160,466
2012	402,160,466	6,214,184	40,932,023	638,600	9,883,292	30,410,131	-	438,784,780
2013	438,784,780	6,214,184	44,631,079	696,311	10,776,453	33,158,315	-	478,157,280
2014	478,157,280	6,214,184	48,607,702	758,352	11,736,633	36,112,716	-	520,484,180
2015	520,484,180	6,214,184	52,882,719	825,049	12,768,862	39,288,807	-	565,987,172
2016	565,987,172	6,214,184	57,478,521	896,750	13,878,547	42,703,223	-	614,904,579
2017	614,904,579	6,214,184	62,419,179	973,832	15,071,500	46,373,847	-	667,492,609
2018	667,492,609	6,214,184	67,730,570	1,056,697	16,353,969	50,319,904	-	724,026,697
2019	724,026,697	6,214,184	73,440,513	1,145,781	17,732,670	54,562,062	-	784,802,943
2020	784,802,943	6,214,184	79,578,914	1,241,549	19,214,825	59,122,539	-	850,139,666
2021	850,139,666	6,214,184	86,177,923	1,344,504	20,808,197	64,025,222	-	920,379,072
2022	920,379,072	6,214,184	93,272,103	1,455,183	22,521,131	69,295,788	-	995,889,044
2023	995,889,044	6,214,184	74,924,710	1,554,688	17,996,421	55,373,602	-	1,057,476,830
2024	1,057,476,830	6,214,184	78,730,751	1,633,663	18,910,607	58,186,482	21,681,144	1,100,196,352
2025	1,100,196,352	-	77,538,353	1,608,921	18,624,200	57,305,232	132,703,281	1,024,798,303
2026	1,024,798,303	-	67,008,126	1,390,419	16,094,909	49,522,798	262,713,235	811,607,866
2027	811,607,866	-	51,105,330	1,060,436	12,275,163	37,769,732	260,406,931	588,970,667
2028	588,970,667	-	38,541,190	799,730	9,257,339	28,484,121	150,176,256	467,278,532
2029	467,278,532	-	29,213,246	606,175	7,016,829	21,590,242	155,537,173	333,331,602
2030	333,331,602	-	19,769,596	410,219	4,748,526	14,610,850	139,473,987	208,468,465
2031	208,468,465	-	12,153,365	252,182	2,919,158	8,982,025	92,847,189	124,603,300
2032	124,603,300	-	5,447,783	113,041	1,308,521	4,026,220	103,932,393	24,697,127
2033	24,697,127	-	901,167	18,699	216,454	666,013	25,363,141	(0

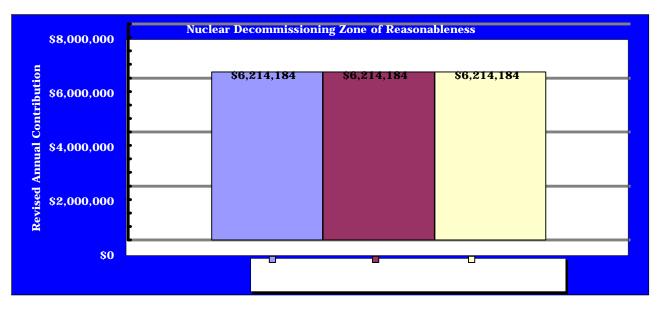
## AmerenUE Callaway Plant Tax-Qualified Nuclear Decommissioning Trust Fund Projection Missouri Jurisdiction

	Contribution Boundary Estimates			
1 Portfolio Return Assumptions	Optimistic Estimate	Expected Estimate	Conservative Estimate	
Equity Allocation:	65.000%	65.000%	65.000%	
Bond Allocation:	35.000%	35.000%	35.000%	
Real Return on Bonds:	4.750%	4.500%	4.250%	
CPI Inflation:	3.250%	3.000%	<b>2.750</b> %	
Nominal Return on Bonds:	<b>8.000</b> %	7.500%	7.000%	
Equity Premium over Bonds:	4.500%	4.000%	3.500%	
Nominal Return on Equities:	<b>12.500</b> %	11.500%	10.500%	
Weighted Average Return:	<b>10.925</b> %	10.100%	9.275%	
Switch out of Equities at End-Of-Year:	2024	2022	2021	

### 2 Decommissioning Expense Estimates

2 Decommissioning Expense Estimate			
Decommissioning Inflation:	4.500%	3.854%	3.312%

	Optimistic	Expected	Conservative
<b>Revised Annual Contribution:</b>	\$6,214,184	\$6,214,184	\$6,214,184



### AmerenUE Callaway Plant Tax-Qualified Nuclear Decommissioning Trust Fund Projection Missouri Jurisdiction Zone of Reasonableness Analysis

	Co	Contribution Boundary Estimates			
Portfolio Return Assumptions	Optimistic Estimate	Expected Estimate	Conservative Estimate		
Equity Allocation:	65.00%	65.00%	65.00%		
Bond Allocation:	35.00%	35.00%	35.00%		
Real Return on Bonds:	4.75%	4.50%	4.25%		
CPI Inflation:	3.25%	3.00%	2.75%		
Nominal Return on Bonds:	8.00%	7.50%	7.00%		
Equity Premium over Bonds:	4.50%	4.00%	3.50%		
Nominal Return on Equities:	12.50%	11.50%	10.50%		
Weighted Average Return:	10.93%	10.10%	9.28%		
Switch out of Equities at End-Of-Year:	2024	2022	2021		

	Required Contribution Amounts			
Decommissioning Inflation:	Optimistic Estimate	Expected Estimate	Conservative Estimate	
2.25%	\$ (4,506,918)	\$ (1,734,816)	\$ 798,427	
2.50%	\$ (3,582,209)	\$ (689,436)	\$ 1,950,369	
2.75%	\$ (2,599,772)	\$ 421,254	\$ 3,174,329	
3.00%	\$ (1,556,127)	\$ 1,601,193	\$ 4,474,656	
3.25%	\$ (447,592)	\$ 2,854,550	\$ 5,855,950	
3.50%	\$ 729,728	\$ 4,185,738	\$ 7,323,081	
3.75%	\$ 1,979,956	\$ 5,599,423	\$ 8,881,200	
4.00%	\$ 3,307,452	\$ 7,100,544	\$ 10,535,758	
4.25%	\$ 4,716,827	\$ 8,694,322	\$ 12,292,518	
4.50%	\$ 6,212,959	\$ 10,386,283	\$ 14,157,579	
4.75%	\$ 7,801,006	\$ 12,182,269	\$ 16,137,391	
5.00%	\$ 9,486,423	\$ 14,088,456	\$ 18,238,773	
5.25%	\$ 11,274,977	\$ 16,111,376	\$ 20,468,936	
5.50%	\$ 13,172,762	\$ 18,257,937	\$ 22,835,505	
5.75%	\$ 15,186,224	\$ 20,535,436	\$ 25,346,539	

