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Stipulation and Agreement

David P. Broadwater

MoPSC Staff

Testimony in Support of

Stipulation and Agreement

Case Nos.:

EO-2000-205

**MISSOURI PUBLIC SERVICE COMMISSION**

**UTILITY SERVICES DIVISION**

**TESTIMONY  
IN SUPPORT OF  
STIPULATION AND AGREEMENT**

**OF**

**DAVID P. BROADWATER**

**AMERENUE**

**CASE NO. EO-2000-205**

**FILED<sup>4</sup>**

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Missouri Public  
Service Commission

*Jefferson City, Missouri  
November, 1999*

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Case No(s) EO-2000-205  
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Testimony of David P. Broadwater  
In Support Of Unanimous Stipulation And Agreement

1 Q. Were you previously employed before you joined the Commission's staff  
2 (Staff)?

3 A. Yes, I was employed by Cullum & Brown Inc. from July, 1991, through  
4 November, 1993, in a sales and sales support capacity.

5 Q. What is your educational background?

6 A. In 1991, I earned a Bachelor of Science degree in Business Finance from  
7 Northwest Missouri State University. In 1995, I earned a Master of Business  
8 Administration degree with an emphasis in Finance from the University of Missouri at  
9 Kansas City.

10 Q. Are you a member of any professional associations?

11 A. Yes. I am a member of the Society of Utility and Regulatory Financial  
12 Analysts (SURFA), formerly the National Society of Rate of Return Analysts.

13 Q. Do you hold any professional designations?

14 A. Yes. On May 13, 1997, I was awarded the professional designation of  
15 "Certified Rate of Return Analyst" (CRRA) by the Society of Utility and Regulatory  
16 Financial Analysts. This designation is based upon education, experience and the  
17 successful completion of a comprehensive examination.

18 Q. What is the purpose of your present testimony?

19 A. My testimony is to provide (1) a historical perspective and (2) support for  
20 maintaining AmerenUE's (UE) current decommissioning funding level respecting the  
21 Callaway Plant (Callaway) as detailed in the Unanimous Stipulation And Agreement  
22 filed in Case No. EO-2000-205. My testimony is in large part based upon my review of  
23 UE's present filing and UE's prior decommissioning cases.

1 Q. What is decommissioning?

2 A. The United States Nuclear Regulatory Commission (NRC) defines  
3 "decommissioning" as follows at 10 C.F.R. §50.2 and limits decommissioning to the  
4 radiological part of the facility:

5 *Decommission* means to remove (as a facility) safely from  
6 service and reduce residual radioactivity to a level that  
7 permits release of the property for unstructured use and  
8 termination of license.  
9

10 This Commission defines "decommissioning" and "decommissioning costs" as  
11 follows at 4 CSR 240-20.070:

12 (1) As used in this rule, decommissioning means those  
13 activities undertaken in connection with a nuclear  
14 generating unit's retirement from service to ensure that the  
15 final removal, disposal, entombment or other disposition of  
16 the unit and of any radioactive components and materials  
17 associated with the unit, are accomplished in compliance  
18 with all applicable laws, and to ensure that the final  
19 disposition does not pose any undue threat to the public  
20 health and safety. Decommissioning includes the removal  
21 and disposal of the structures, systems and components of a  
22 nuclear generating unit at the time of decommissioning.  
23

24 (2) As used in this rule, decommissioning costs means  
25 all reasonable costs and expenses incurred in connection  
26 with decommissioning, including all expenses to be  
27 incurred in connection with the preparation for  
28 decommissioning, including, but not limited to, engineering  
29 and other planning expenses; and to be incurred after the  
30 actual decommissioning occurs, including, but not limited  
31 to, physical security and radiation monitoring expenses,  
32 less proceeds of insurance, salvage or resale of machinery,  
33 construction equipment or apparatus the cost of which was  
34 charged as a decommissioning expense.  
35

1 Q. Please provide a short history of the preceding decommissioning cases of  
2 UE.

3 A. In reviewing the preceding decommissioning cases, I will start with the  
4 Callaway rate case itself. Callaway's current operating license runs through October,  
5 2024. The first phase of the Callaway rate case filed by UE before this Commission in  
6 1984 was for the purpose of establishing criteria to be used by the Commission for  
7 determining when the Callaway plant was "in service" for ratemaking purposes. Once  
8 the plant was determined to be "in service," it would be eligible for inclusion in rate base  
9 pursuant to Section 393.135 RSMo., which provides that before an electrical corporation  
10 may collect in rates any costs associated with electrical facilities, those facilities must be  
11 "fully operational and used for service."

12 The Commission initiated Case No. EO-85-17 in 1984 for the purpose of  
13 determining the "in service criteria" to be used by the Commission. Hearings were held  
14 and on August 22, 1984, the Commission issued a Report And Order establishing criteria  
15 to be used for determining when Callaway was in service and thereby eligible for  
16 inclusion in rate base. On December 21, 1984, UE filed with the Commission notice  
17 which asserted that Callaway had satisfied the in-service criteria at 9:30 a.m.,  
18 December 19, 1984. The Staff concluded that Callaway had complied with the  
19 Commission's in-service criteria.

20 The Commission in its March 29, 1985 Report And Order in Case Nos. EO-85-17  
21 and ER 85-160 found that Callaway met the in-service criteria and was fully operational,  
22 in accordance with Section 393.135, as of 9:30 a.m., December 19, 1984. In addition, the  
23 Commission directed UE to establish an external fund for the decommissioning monies

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1 collected over the life of that plant, and to hire a trustee to administer the trust. As noted  
2 in the Unanimous Stipulation And Agreement, in UE's 1984-1985 Callaway rate case  
3 (Case No. ER-85-160), UE and the Staff stipulated that the decommissioning cost of  
4 Callaway was \$120 million in 1983 dollars, and the Commission set UE's Missouri  
5 jurisdictional annual trust fund requirement at \$2.9 million.

6 The Staff proposed an external trust fund for the decommissioning monies  
7 collected over the life of the plant, which would require the hiring of a trustee. UE  
8 proposed a negative net salvage approach, which would have resulted in UE collecting  
9 the funds in a manner similar to depreciation and would have allowed UE the use of the  
10 funds internally. Under UE's proposal, UE would borrow the necessary funds required  
11 for decommissioning at the end of the service life of the plant. The Commission adopted  
12 the Staff's proposal, noting in its 1985 Report And Order that "the dominant requirement  
13 of the decommissioning fund is assurability" and "[t]he risks and costs involved in  
14 nuclear plant operations and decommissioning far outweigh the additional costs of Staff's  
15 method." Re Union Electric Co., Case Nos. EO-85-17 and ER-85-160, 27 Mo.  
16 P.S.C.(N.S.) 183, 257(1985).

17 UE owns 100 percent of Callaway and UE's electric operations involve three  
18 jurisdictions to which UE's decommissioning costs are allocated: (1) Missouri retail  
19 (state jurisdiction), (2) Illinois retail (state jurisdiction) and (3) Missouri and Illinois  
20 wholesale (federal jurisdiction). Missouri retail constitutes approximately 87.5 percent of  
21 UE 's electric operations on the basis of demand.

22 On March 29, 1991, UE filed its first decommissioning cost study since the  
23 Callaway rate case (Case Nos. EO-85-17 and ER-85-160). This filing, docketed as Case

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1 No. EO-91-300, showed a decommissioning cost estimate for Callaway of \$336 million,  
2 total plant, in 1990 dollars. On September 4, 1990, docketed as Case No. EO-91-84,  
3 Kansas City Power & Light Company (KCPL) filed its first decommissioning cost study  
4 since the Wolf Creek rate case. KCPL's filing in September 1990, six months prior to  
5 UE's March 1991 filing, showed a decommissioning cost estimate for Wolf Creek of  
6 \$250 million, total plant, in 1988 dollars. Although Callaway and Wolf Creek are  
7 similar, but not completely identical units, the UE and KCPL decommissioning cost  
8 studies performed by the same consultant hired by the respective utilities arrived at very  
9 different cost estimates, in large part because of the difference in dates when the two cost  
10 studies were performed. Even though KCPL filed its decommissioning cost study in  
11 September 1990, the KCPL study was actually a 1989 study filed in 1989 with the  
12 Kansas Corporation Commission.

13 The Staff retained a consultant in 1990 to review both UE's and KCPL's  
14 decommissioning cost studies that were to be filed with the Commission that year. The  
15 cost of the contract with the consultant was approximately \$145,000. The consultant had  
16 previously performed decommissioning, in-service criteria and other nuclear plant expert  
17 witness assignments for the Staff in the Callaway and Wolf Creek rate cases in 1984 and  
18 1985, respectively. It became clear in 1991, in the then pending decommissioning cost  
19 cases, that the Staff would be able to reach agreement with UE and KCPL on (1) the cost  
20 to decommission Callaway and Wolf Creek, respectively, (2) the Missouri retail  
21 jurisdiction annual trust fund accrual and payment requirements, and (3) the  
22 methodologies by which funding at these levels was to be achieved, with no increase  
23 being required in Missouri retail rates. The Staff asked the consultant to work with Staff,

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1 UE and KCPL to specify the data necessary to attempt to reconcile, between the  
2 Callaway and Wolf Creek plants, decommissioning quantities, dimensions, weights and  
3 levels of radioactivity.

4 In 1992, the Staff was able to reach agreement with UE in Case No. EO-91-300  
5 on the following items:

- 6 1. The cost to decommission Callaway was \$347 million in 1990 dollars,
- 7
- 8 2. The Missouri retail jurisdiction annual trust fund accrual and payment
- 9 requirements would be \$6.2 million, and
- 10
- 11 3. The methodologies by which funding at these levels was to be achieved
- 12 with no increase being required in Missouri retail rates.
- 13

14 The Staff's consultant also worked with UE and KCPL to specify the data  
15 necessary to attempt to reconcile decommissioning quantities, dimensions, weights and  
16 radioactivities between Callaway and Wolf Creek. As part of the Nonunanimous  
17 Stipulation And Agreements in Case Nos. EO-91-300 and EO-91-84, UE and KCPL  
18 agreed to provide this information. The results of UE's and KCPL's efforts respecting  
19 such reconciliation were received by the Staff from UE and KCPL in February 1993.  
20 The Staff intended to address the reconciliation in the next decommissioning cost cases  
21 of UE and KCPL.

22 UE filed its second decommissioning cost study in 1993 (Case No. EO-94-81).  
23 UE's decommissioning cost study, utilizing an inflation rate of 4.50 percent and an  
24 after-tax earnings rate of 8.28 percent, showed only a "modest" increase in the estimated  
25 cost to decommission Callaway of \$25 million to \$372 million in 1993 dollars. Based on  
26 the Stipulation And Agreement in Case No. EO-91-300 and utilizing the 5.00 percent  
27 inflation rate assumed in that Stipulation And Agreement, the estimated increase in costs



1 to decommission Callaway would have been approximately \$55 million. The Staff and  
2 UE agreed in Case No. EO-94-81 to maintain the annual accruals to the decommissioning  
3 trust fund at \$6,214,184 for the Missouri retail jurisdiction in order to cover the Missouri  
4 retail jurisdiction portion of the \$372 million total plant cost to decommission Callaway.

5 The Staff took this approach due to:

- 6 1. Changes in federal tax laws and this Commission's  
7 decommissioning rule (4 CSR 240-20.070) that allow  
8 decommissioning trust funds to achieve higher earnings. The  
9 stringent "Black Lung" investment restrictions on  
10 decommissioning trust funds, which prohibited investment in  
11 equity securities, were lifted by Section 1917 of the Energy Policy  
12 Act of 1992 (EPACT). The Commission amended its  
13 decommissioning trust fund rule to permit a maximum investment  
14 in equity securities of 65 percent of the decommissioning trust  
15 fund's book value. It was anticipated that the UE trust funds would  
16 experience greater earnings rates than they would if the "Black  
17 Lung" restrictions were still in place. In addition, Section 1917 of  
18 EPACT reduced the federal income tax rate on certain investment  
19 earnings of decommissioning trusts from 35 percent to 22 percent  
20 for 1994 and 1995, and 20 percent commencing for 1996.

21  
22 The Engineering Section of the Commission's Energy Department-  
23 Utility Operations Division performed a review and comparison of  
24 the material quantities and radioactivities shown in the UE and  
25 KCPL filings. The parameters of the KCPL and UE filings in Case  
26 Nos. EO-94-80 and EO-94-81, respectively, appeared to be the  
27 same except for those systems where the two companies utilized  
28 different concepts, e.g., Callaway's cooling tower and Wolf  
29 Creek's cooling lake. An abbreviated comparison of the filings in  
30 Case Nos. EO-94-80 and EO-94-81, with the results of the  
31 reconciliation submitted to the Staff in February 1993, indicated  
32 that the other parameters were the same;

- 33  
34 2. Based on the analysis of the Staff, the decommissioning cost study  
35 provided by UE in Case No. EO-94-81 was essentially the same as  
36 the study done in Case No. EO-91-300 and agreed to by the Staff;  
37 and  
38  
39 3. The Staff had initially intended in Case Nos. EO-94-80 and  
40 EO-94-81 to retain a consultant to (a) verify UE's and KCPL's then  
41 current decommissioning cost estimates, and (b) assist the Staff in

1 performing the analysis regarding the installed quantities and  
2 levels of radioactivity in the Callaway and Wolf Creek systems.  
3 When it became clear from UE's and KCPL's filings that a  
4 settlement on then existing rates and funding levels was likely, the  
5 Staff's focus respecting UE's and KCPL's filings centered on the  
6 retention of a consultant to perform a reconciliation of Callaway  
7 and Wolf Creek installed quantities and levels of radioactivity.  
8 Only two proposals were received in response to the Request For  
9 Proposals issued on behalf of the Staff by the Division of  
10 Purchasing and Materials Management, Missouri Office of  
11 Administration. The bids in the two proposals were \$312,000 and  
12 \$385,000, which were more than double the cost of the 1990  
13 contract of \$145,000. The Staff determined that (a) it was  
14 unacceptable to award a contract and (b) a postponement of the  
15 Staff's effort to reach agreement with UE and KCPL on installed  
16 quantities and levels of radioactivity of Callaway and Wolf Creek  
17 systems would not adversely affect such an effort at a later date.  
18

19 UE filed its third decommissioning case (Case No. EO-97-86) on September 3,  
20 1996, and in its application UE stated that under a reasonable set of economic, financial  
21 and investment assumptions, the current funding level of their nuclear decommissioning  
22 trust fund will result in the "right" amount of funds for the decommissioning of Callaway.

23 The Staff and UE agreed to an amount of decommissioning expense for Callaway  
24 of approximately \$420 million total plant in 1996 dollars. The Staff and UE also agreed  
25 that the annual accrual level of \$6,214,184, with quarterly payments, should be  
26 maintained. This was based on the analysis the Company did concerning the amount of  
27 the cost of decommissioning Callaway and the Staff's analysis of UE's decommissioning  
28 trust fund. The Company's analysis of the cost to decommission Callaway was simply an  
29 update of the study the Company performed in 1993, which the Staff agreed to in Case  
30 No. EO-94-81. The Staff accepted UE's analysis in that and the immediately preceding  
31 decommissioning cases (Case Nos. EO-97-86, EO-94-81 and EO-91-300) without having

1 an outside consultant perform a study because the Staff believed it was reasonable to  
2 proceed in that manner.

3 Q. Please explain the status of UE's current decommissioning case.

4 A. UE filed its current decommissioning case, Case No. EO-2000-205, on  
5 September 1, 1999. In its application on page 2, UE states that "AmerenUE's cost  
6 estimate to decommission Callaway is \$509,451,856 in 1999 dollars." Based on this total  
7 cost to decommission Callaway, UE asserts that the current funding levels of \$6.2 million  
8 annually should not be changed at this time.

9 The Staff and UE have agreed to an amount of decommissioning expense for  
10 Callaway of approximately \$509 million in 1999 dollars. The Staff and UE have also  
11 agreed that the annual accrual level of \$6,214,184, with quarterly payments, should be  
12 maintained.

13 Maintaining the annual accrual level of \$6,214,184 is based on the analysis the  
14 Company performed concerning the cost to decommission Callaway and on the Staff's  
15 analysis of UE's decommissioning trust fund. The Company's analysis of the cost to  
16 decommission Callaway is an update of the study the Company performed in 1993.

17 Furthermore, there is currently in effect a Stipulation And Agreement that  
18 addresses the issue of the funding level for decommissioning UE's Callaway plant. This  
19 Stipulation And Agreement specifically relates to UE's instant filing. Said Stipulation  
20 And Agreement among Staff, Office of the Public Counsel (Public Counsel) and UE was  
21 filed in Case No. EM-96-149<sup>1</sup> on July 12, 1996. The Stipulation And Agreement, which

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<sup>1</sup> In the Matter of the Application of Union Electric Company for an order authorizing (1) certain merger transactions involving Union Electric Company; (2) the transfer of certain assets, real estate, leased property, easements and contractual agreements to Central Illinois Public Service Company; and (3) in connection therewith, certain other related transactions.

was approved by the Commission, includes the following language concerning decommissioning:

- i. UE will file its cost of nuclear decommissioning study with the Commission as required by September 1, 1999. If the Commission Order in that proceeding results in a decrease in annual nuclear decommissioning expense/funding from its then current level, UE's Missouri retail electric service rates will not be changed to reflect the decrease in expense/funding. Instead, nuclear decommissioning expense/funding will be decreased (effective as of the date provided in the nuclear decommissioning cost Order) with the total difference, i.e., 100% of the pro-rated difference, between the lower expense/funding level and the then current level, being treated as a credit to each Sharing Period of the New Plan as provided for in Attachment C hereto. If no sharing occurs for a Sharing Period for which there is a decrease in the nuclear decommissioning expense/funding level, then the decrease in the nuclear decommissioning expense/funding for that Sharing Period will be carried over to the subsequent Sharing Period. Since the difference between the prospective lower expense/funding level and the then current level will be treated as a credit in each Sharing Period and the difference will be carried over to the subsequent Sharing Period if no sharing occurs for the current Sharing Period, no decrease in the then current expense level will be reflected in the calculation of UE's ROE in determining sharing under the New Plan, pursuant to Attachment C.

If the Commission Order in the nuclear decommissioning proceeding results in an increase in expense/funding above its then current level, for purposes of determining the implementation of a rate increase only, the increased expense will be annualized in calculating UE's return on equity for the earliest possible Sharing Period for which a preliminary earnings/proposed sharing report has not yet been filed at the time of the issuance of the Commission Order in the nuclear decommissioning docket. If UE's return on common equity (ROE) on this basis is less than 10.00% (calculated as indicated in Attachment C appended hereto), then the increased expense will result in an increase in UE's Missouri retail electric service rates as allowed by Section 393.292 RSMo. 1994. If UE's ROE on the above basis exceeds 10.00%, then the increased expense will not result in any increase in UE's Missouri retail electric service rates; however, the actual amount of increased expense (unannualized) will be reflected in the calculation of UE's ROE in determining sharing under the New Plan.

1 In any case, the Commission shall include language in its 1999  
2 Callaway decommissioning case Report And Order substantially  
3 similar to that used in Case NO. EO-94-81, specifically finding  
4 that the Callaway decommissioning costs are included in UE's  
5 then current cost of service and are reflected in its then current  
6 electric service rates for ratemaking purposes.

7  
8 All signatories will be notified of UE's filing of its 1999 nuclear  
9 decommissioning cost case.

10  
11 The Stipulation And Agreement created (1) a new experimental alternative  
12 regulation plan and (2) extended a rate case and complaint case moratorium through  
13 June 30, 2001.

14 Based on the above conditions, the Staff believes the current level of  
15 decommissioning funding should remain at \$6,214,184 payable quarterly. However,  
16 consistent with how the Staff has generally proceeded at the conclusion of a rate  
17 case/complaint case moratorium and the Southwestern Bell Telephone Company  
18 Incentive Regulation Experiment, the Staff intends to review the earnings of UE at the  
19 conclusion of the aforementioned new experimental alternative regulation plan. As part  
20 of that review, the Staff will also review the level of decommission funding to assure the  
21 Commission that the level of funding is still appropriate.

22 Q. In the Staff's testimony filed in support of the Stipulation And Agreement  
23 in Case No. EO-97-86 (UE's 1996 decommissioning filing), the Staff indicated that it  
24 believed an outside consultant should be retained to perform or assist in the performance  
25 of an analysis of the cost to decommission Callaway and the reconciliation between  
26 Callaway and Wolf Creek of decommissioning quantities, dimensions, weights and levels  
27 of radioactivity. Has the Staff sought the assistance of an outside consultant for the  
28 instant case?

1           A.     No. Since UE's 1996 filing, the Staff has reconsidered this matter and  
2 concluded that for purposes of UE's 1999 filing, the hiring of an outside consultant was  
3 not justified. However, the Staff believes that an outside consultant should be retained  
4 some time in the future when more actual data is available to address these areas.

5           Q.     Please discuss UE's statement in its Application And Request For  
6 Expedited Treatment And Contingent Request for Waiver at page 2 that "... the  
7 Company and the Commission Staff have jointly developed a 'Zone of Reasonableness'  
8 model that computes the required annual decommissioning contribution within a  
9 'reasonable' range of economic and financial parameters."

10          A.     The Financial Analysis Department (Financial Analysis) developed an  
11 Excel model to analyze the decommissioning trust funds of both KCPL and UE, prior to  
12 the current decommissioning cases. Financial Analysis patterned its Excel model after a  
13 Lotus model that UE had previously developed. Financial Analysis discussed the model  
14 with UE on several occasions, but the collaboration on the project did not go beyond the  
15 development of the model. UE used the Excel model for purposes of its September 1,  
16 1999 filing. The Staff and UE have not agreed to any of the assumptions or economic  
17 and financial parameters that are to be used within the model.

18          Q.     Throughout your discussion of the past and present decommissioning  
19 cases, you mention on several occasions decommissioning costs in hundreds of millions  
20 of 19xx dollars. Please explain the concept of 19xx dollars.

21          A.     The concept of 19xx dollars, is that it would cost \_\_\_\_\_ millions of  
22 dollars to fully decommission a nuclear generating unit if all the work was done in 19xx.  
23 When the total cost of decommissioning is given in 19xx dollars, the time value of money

1 concept is not considered. For example, when it is stated that it will cost approximately  
2 \$509 million in 1999 dollars to fully decommission Callaway, that is assuming all the  
3 work is done in 1999.

4 Q. Who is the trustee and investment manager for UE's nuclear  
5 decommissioning trust fund?

6 A. Currently, as approved by the Commission, Bankers Trust Company is the  
7 trustee of UE's decommissioning trust fund. The investment manager of the fixed  
8 income portion of the trust fund is TradeStreet Investment Associates, Inc., and  
9 Mississippi Valley Advisors is the investment manager of the equity portion of the trust  
10 fund.

11 Q. Please summarize the options that UE has for decommissioning Callaway.

12 A. As noted in the Unanimous Stipulation And Agreement, three  
13 decommissioning options were examined by UE: (1) DECON, (2) SAFSTOR and  
14 (3) ENTOMB. All three alternatives are acceptable to the NRC. DECON assumes  
15 decontamination and demolition immediately following conclusion of power operations  
16 in 2024, when the 40 year operating license expires. All work is anticipated to be  
17 completed by 2032. DECON consists of removal of fuel assemblies, source material,  
18 radioactive fission and corrosion products, and other radioactive materials immediately  
19 after cessation of power operations. DECON is the alternative upon which present  
20 funding is based. The total DECON cost to decommission in 1999 dollars is  
21 \$509,451,856.

22 SAFSTOR places the facility in protective storage once spent fuel and source  
23 material are removed. Delayed decontamination and dismantling activities are initiated

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1 such that decommissioning is completed within the 60 year time period set by the NRC.  
2 All work is anticipated to be completed by 2086. The total SAFSTOR cost to  
3 decommission in 1999 dollars is \$637,125,145.

4 ENTOMB places the facility in protective storage. Initial activities include:  
5 removing contaminated components, systems and structures outside the designated  
6 entombment boundary, and sealing the remaining radioactive items within the reactor  
7 containment building. This process is restricted in overall duration to 60 years and is  
8 anticipated to be completed by 2086. The total ENTOMB cost to decommission in 1999  
9 dollars is \$731,556,385.

10 Staff's principal consideration respecting nuclear decommissioning is that  
11 adequate funds be available to decontaminate and demolish the facilities using one of the  
12 NRC authorized methodologies. The Staff believes that given present information and  
13 assumptions, if adequate funds will be available to cover the cost of the DECON  
14 alternative, adequate funds will be available to cover the cost of the SAFSTOR and  
15 ENTOMB alternatives. This belief assumes that the funds will grow by accruing interest  
16 during the years when the site is operationally inactive and the facility is in protective  
17 storage under the SAFSTOR and ENTOMB alternatives.

18 Q. Please explain the status of UE's decommissioning trust fund.

19 A. As of June 30, 1999, UE's decommissioning trust fund for its Missouri  
20 jurisdictional portion of Callaway had a market value of approximately \$142.6 million.  
21 The trust fund has achieved an internal rate of return (IRR) of 11.97 percent. The IRR is  
22 the annualized interest rate that equates the ending market value with the historical  
23 stream of quarterly fund payments.



1       As previously noted, the total estimated cost to decommission Callaway in 1999  
2 dollars is approximately \$509 million; UE is responsible for 100 percent of those costs  
3 and the Missouri retail customers of UE will be responsible for 87.5 percent of UE's  
4 costs, or approximately \$445.9 million.

5       The Staff's analysis of UE's decommissioning trust fund is based on a 5 percent  
6 inflation factor, an after-tax 8.5 percent average return on the trust fund and the current  
7 estimates of the cost to decommission Callaway. The Staff believes that its estimates of  
8 the real return on the trust fund of 3.5 percent annually is reasonable (after-tax 8.5  
9 percent return on the trust fund minus 5 percent inflation factor). The fund is currently  
10 outperforming the Staff's assumption (11.97 percent IRR and inflation is currently  
11 2.6 percent for the most recent 12-month period as measured by the consumer price  
12 index - all urban consumers), but the Staff does not believe it is reasonable to assume that  
13 the current conditions will exist for the remaining life of the fund. The Staff is concerned  
14 with the reliability of estimates of the cost to decommission Callaway, Wolf Creek or any  
15 nuclear power plant due to the lack of historical information in general concerning the  
16 cost of decommissioning nuclear generating units. Therefore, the Staff believes it is  
17 appropriate to keep the funding level of the decommissioning trust fund at its current  
18 annual level of \$6,214,184, with payment made to the trust fund on a quarterly basis.

19       Q.     Does this conclude your testimony?

20       A.     Yes, it does.

**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 Approval of Decommissioning Cost)  
Estimate and Funding Level of Nuclear Decommissioning )  
Trust Fund )

Case No. EO-2000-205

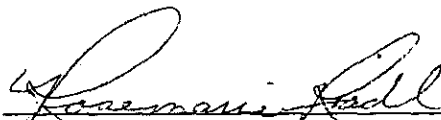
**AFFIDAVIT OF DAVID P. BROADWATER**

STATE OF MISSOURI       )  
                                  )  
COUNTY OF COLE       )       ss.

David P. Broadwater, is, of lawful age, and on his oath states: that he has participated in the preparation of the foregoing Testimony in question and answer form, consisting of 16 pages to be presented in the above case; that the answers in the foregoing Testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true and correct to the best of his knowledge and belief.

  
\_\_\_\_\_  
David P. Broadwater

Subscribed and sworn to before me this 30th day of November 1999.

  
\_\_\_\_\_  
Notary Public, State of Missouri

My Commission Expires: 6/1/2001

## DAVID BROADWATER

<u>COMPANY</u>	<u>CASE NO.</u>
Empire District Electric	ER-95-279
Laclede Gas Company	GR-96-193
Missouri Gas Energy	GR-96-285
Empire District Electric	ER-97-81
Empire District Electric	ER-97-82
Kansas City Power & Light	EO-97-84
Union Electric	EO-97-86
Missouri-American Water Company	WR-97-237
St. Louis County Water	WR-97-382
Laclede Gas Company	GR-98-374
Laclede Gas Company	GR-99-315

