## Exthibi No: OOX

Issues: Capital Structure
Witness: Michael G. O'Bryan
Sponsoring Party: Union Electric Company
Type of Exhibit: Direct Testimony
Case No.: ER-20080318
Date Testimony Prepared: April 1. 2008

# MISSOURI PUBLIC SERVICE COMMISSION 

CASE NO. ER-2008-D3/8

## DIRECT TESTIMONY

OF

MICHAEL G. O'BRYAN

ON
BEHALF OF

UNION ELECTRIC COMPANY
d/b/a AmerenUE

St. Louis, Missouri April, 2008

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DIRECT TESTIMONY

OF
MICHAEL G. O'BRYAN
CASE NO. ER-2008- $\qquad$

1. INTRODUCTION
Q. Please state your name and business address.
A. My name is Michael G. O'Bryan. My business address is Onc Ameren Plaza, 1901 Choutcau Avenue, St. Louis, Missouri 63103.
Q. By whom are you employed and in what capacity?
A. I hold the position of Senior Capital Markets Specialist in Corporate Finance for Ameren Services Company ("Ameren Services").
Q. Please summarize your educational background and professional experience.
A. Prior to accepting my current position at Ameren Services, I was employed by A.G. Edwards in St. Louis, Missouri as a Vice President in Investment Banking. I focused on business development and transaction execution with both investor-owned utilities and public power entities. I was also involved in structuring and analyzing fixed-income transactions for clients.

Upon receiving my undergraduate degree, I took a position at A.G. Edwards in Investment Banking as a Research Assistant and then Analyst, focusing on the investorowned utilities sector. I was responsible for transaction support and marketing as well as general financial analysis of clients, capital markets transactions and mergers and acquisitions. I was later promoted to Senior Analyst where I focused to a greater degree on
business development and the execution of clients' transactions. I then moved into Debt Capital Markets concentrating solely on fixed-income exccution and business development for clients in several different industries. I graduated cum laude with a Bachelor of Science degree in Business Administration with a concentration in Finance from the University of Missouri - Columbia in 1992. I later earncd an MBA from Saint Louis University's John Cook School of Business in 1998.
Q. What are your responsibilities in your current position with Ameren

## Services?

A. In my current position, I am involved in Ameren's corporate financing, cost of capital, financial analysis and modeling activities as well as monitoring capital markets and bank credit markets to stay current on rates, structures and opportunities. I communicate regularly with investment bankers and debt capital markets personnel to obtain market intelligence. I also closely follow the actions of the rating agencies for trends and changes in ratings methodology largely for internal ratings maintenance purposes.

## 11. PURPOSE AND SUMMARY OF TESTIMONY

Q. What is the purpose of your direct testimony?
A. The purpose of my testimony is to recommend an overall fair rate of return for Union Electric Company d/b/a AmerenUE's ("AmerenUE" or "Company") electric utility business. I determine AmerenUE's capital structure, embedded cost of long-term debt and embedded cost of preferred stock. I also calculate the overall fair rate of return applied to rate base which is utilized in AmerenUE's filing in this case. I do so by using the fair rate of return applicable to the common equity component of AmerenUE's capital structure as

Direct Testimony of
Michael G. O'Bryan
developed by AmerenUE witness Dr. Roger A. Morin in his direct testimony submitted in this case.
Q. Have you prepared or has there been prepared under your direction and supervision any schedules relating to overall fair rate of return in this proceeding?
A. Yes, I am sponsoring Schedules MGO-E1 through MGO-E4 for that purpose. These schedules are based upon the test year twelve months ended December 31, 2007. I will supplement my testimony with updated schedules to reflect the test year period ending March 31, 2008 when the data is available. The schedules are designated as follows:
$\begin{array}{cl}\text { Schedule MGO-E1 } & \text { Capital Structure/Weighted Average Cost of Capital } \\ \text { Schedule MGO-E2 } & \text { Embedded Cost of Long-Term Debt } \\ \text { Schedule MGO-E3 } & \text { Cost of Short-Term Debt } \\ \text { Schedule MGO-E4 } & \text { Embedded Cost of Preferred Stock } \\ \text { III. } & \text { METHODOLOGY AND REASONING }\end{array}$
Q. How did you calculate the overall fair rate of return or weighted average cost of capital for AmerenUE?
A. In order to derive AmerenUE's overall fair rate of return, I multiplied the relative weighting or proportion of each component of AmerenUE's capital structure by the cost developed for that component. I then summed these weighted costs by component to arrive at AmerenUE's overall fair rate of return or weighted average cost of capital.
Q. What is the primary standard for determining a fair rate of return?
A. The primary standard used in the determination of a fair rate of return is the cost of capital. This cost, the overall rate of return or weighted average cost of capital, must produce sufficient earnings/cash flow when applied to AmerenUE's rate base at book value
to enable the Company to accomplish the following: maintain the financial integrity of its existing invested capital; maintain its creditworthiness; and attract sufficient capital on competitive terms to continue to provide a source of funds for continued investment and enable the Company to meet the needs of its customers.

## Q. Why must AmerenUE meet these requirements?

A. Beyond the fact that these three standards are mandated by the landmark Bluefield and Hope U.S. Supreme Court decisions, ${ }^{1}$ meeting these requirements is necessary in order for AmerenUE to effectively mect the electric utility services requirements of its customers and provide an adequate and reasonable return to its investors, debt holders and equity holders alike. The assets owned by AmerenUE which are employed in meeting its customers' electric utility services requirements exist and are available for this purpose only because investors have entrusted their funds with AmerenUE. These investors have deemed an investment in the securitics issued by the Company to be sound and capable of providing a competitive return.

AmerenUE must maintain its creditworthiness in order to continue to attract capital on a competitive basis. This is important to assure future opportunities for AmerenUE to replace capital and various securities which must be refinanced in the future at reasonable cost. Also, the ability of AmerenUE to attract new capital on competitive terms is critical in order for the Company to continue to replace and upgrade facilities used to mcet the electric utility services needs of its customers, finance investment related to meeting environmental compliance standards, etc.

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## 1V. CAPITAL STRUCTURE AND COSTS OF CAPITAL

## Q. Please describe the capital structure of AmerenUE.

A. As outlined on Schedule MGO-E1, the capital structure of AmerenUE on December 31, 2007 consisted of $45.536 \%$ long-term debt, $1.597 \%$ short-term debt, $1.749 \%$ preferred stock and $51.119 \%$ common equity.
Q. How were the balances of the components of AmerenUE's capital structure determined?
A. The balance of long-term debt, $\$ 2,981,873,369$, is the total carrying value of the Company's long-term debt using the net proceeds method. The net proceeds method calculates the carrying value by taking the indebtedness principal amount outstanding and subtracting the unamortized discount, issuance expenses and any loss on reacquired debt.

The balance of short-term debt, $\$ 104,584,299$, is the last twelve-month average net short-term debt - see Schedule MGO-E3. This approach measures the average monthly short-term debt balance, less Construction Work in Progress ("CWIP"), over the last twelve months ended December 31, 2007. It recognizes that short-term debt balances can fluctuate substantially during the year and includes in the Company's capital structure only that portion of short-term debt which may represent permanent capital - i.e. the extent to which short-term debt plays a continual role on the financing of long-term assets.

The balance of preferred stock, $\$ 114,502,040$, is also the carrying value or net proceeds amount of AmerenUE's preferred stock as found in the embedded cost calculation for this component of capitalization.

The balance of common equity, $\$ 3,347,491,925$, represents AmerenUE's stated book value of common equity at December 31, 2007 adjusted to remove the effects of

## Direct Testimony of Michael G. O'Bryan

its investment in its wholly-owned subsidiary, Union Electric Development Corporation. The assets of this subsidiary, which as of January 1, 2008 was no longer a subsidiary of AmerenUE, were not utilized by the Company in providing utility services to its customers. I further adjusted the stated book value by removing AmerenUE's total other comprehensive income as well as the Company's investment in Electric Energy, Inc. ("EEInc.").
Q. What is the embedded cost of AmerenUE's long-term debt?
A. AmerenUE's cmbedded cost of long-term debt was $5.687 \%$ as of December 31, 2007. Schedule MGO-E2 provides the calculation of the embedded cost of long-term debt. AmerenUE has about $\$ 437$ million principal amount of variable rate environmental improvement indebtedness (in various series) outstanding under which the interest rates are reset by a Dutch auction process every 7 or 35 days. The effective cost used for this indebtedness for purposes of this proceeding was derived using prevailing rates as of December 31, 2007 for these securities including related auction broker/dealer fees.
Q. Did you make any adjustments to AmerenUE's long-term debt balance?
A. I did not include the Company's obligations under capital leases related to the Chapter 100 "financing" of its Peno Creek (City of Bowling Green) and Audrain County gasfired generating facilities. These transactions and related capital leases did not generate any proceeds nor were they a source of new capital for the Company.

## Q. What is the cost of AmerenUE's short-term debt?

A. AmerenUE's cost of short-term debt was $3.621 \%$ based on the Company's weighted average borrowing rate on outstanding commercial paper and revolving credit agreement loan as of February 19, 2008.
Q. What is the embedded cost of AmerenUE's preferred stock?
A. AmerenUE's embedded cost of preferred stock was $5.189 \%$ as of December 31, 2007. Schedule MGO-E4 provides the calculation of the embedded cost of preferred stock. Using the net proceeds method of calculating the balance of preferred stock, the balance outstanding as of December 31, 2007 was $\$ 114,502,040$.
Q. Did you consider expenses associated with AmerenUE's issuance of preferred stock in developing the embedded cost of this component of the Company's capital structure?
A. Yes, I did. I included expenses associated with the issuance of preferred stock, including discount and premium, plus any loss incurred in acquiring/redeeming prior series, in the embedded cost calculation. These costs are illustrated in the cost calculations shown on Schedule MGO-E4. Unlike similar expenses incurred in connection with the issuance of long-term debt, for accounting purposes these expenses are not amortized over the life of the particular series of preferred stock due to the perpetual nature of this form of capitalization. Nonetheless, for economic purposes it is reasonable to recognize these costs in establishing an overall fair rate of return for the Company.
Q. In what manner will AmerenUE obtain debt and preferred stock capital in the future?
A. AmerenUE expects to continue to issue its own long-term debt and preferred stock securities in the external capital markets. Short-term borrowings can be obtained from the capital or bank markets, Ameren Corporation, or through Ameren Corporation's Utility Money Pool, depending on the best borrowing rates and availability.

## Direct Testimony of

 Michael G. O'BryanQ. Please describe your calculation of AmerenUE's balance of common equity.
A. I derived AmerenUE's balance of common equity, $\$ 3,347,491,925$, by adjusting the Company's stated book value of common equity at December 31, 2007 of $\$ 3,489,051,811$ by the amount representing the common stockholder's equity associated with AmerenUE's investment in its wholly-owned subsidiary, Union Electric Development Corporation -- $(\$ 4,009,784)$. 1 further adjusted the stated book value by removing AmerenUE's December 31, 2007 total other comprehensive income $\$ 4,391,443$ as well as the Company's investment in EEInc. of $\$ 141,178,227$.

## Q. What is the cost of common equity for AmerenUE?

A. In his direct testimony in this case, Dr. Morin develops and supports two fair rates of return on common equity for AmerenUE's electric utility operations, the use of which is dependent upon whether the Company is granted a fuel adjustment clause ("FAC") in these proceedings. Dr. Morin recommended costs of equity for AmerenUE of $10.900 \%$ with the benefit of an FAC and $11.150 \%$ without. For purposes of determining the overall fair rate of return for AmerenUE in this proceeding, I use both of Dr. Morin's recommended costs of equity to calculate two separate fair rates of return.

## V. FAIR RATE OF RETURN

Q. What are the overall fair rates of return for AmerenUE for this proceeding?
A. As shown on Schedule MGO-E1, as of December 31, 2007, the overall fair rates of return for AmerenUE are $8.311 \%$ (with FAC) and $8.439 \%$ (without FAC). I derived these results by using the capital structure and embedded costs of long-term debt, short-term

Direct Testimony of
Michael G. O'Bryan
debt and preferred stock discussed above, and shown on the various schedules attached, along with the costs of common equity for AmerenUE developed by Dr. Morin in his testimony.

## VI. CONCLUSION

## Q. Does this conclude your direct testimony?

A. Yes, it does.

# BEFORE THE PUBLIC SERVICE COMMISSION OF THE STATE OF MISSOURI 

In the Matter of Union Electric Company ) $\mathrm{d} / \mathrm{b} / \mathrm{a}$ AmerenUE for Authority to File ) Tariffs Increasing Rates for Electric ) Service Provided to Customers in the ) Company's Missouri Service Area. )

Case No. ER-2008- $\qquad$

## AFFIDAVIT OF MICHAEL G. O'BRYAN

## STATE OF MISSOURI ) <br> CITY OF ST. LOUIS )

Michael G. O'Bryan, being first duly sworn on his oath, states:

1. My name is Michael G. O'Bryan. I work in the City of St. Louis, Missouri, and I am employed by Ameren Services Company as Senior Capital Markets Specialist.
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 9 pages, Attachment A and Schedules MGO-E1 through MGO-E4, all of which have been prepared in written form for introduction into evidence in the above-referenced docket.
3. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded are true and correct.


Subscribed and swom to before me this


My commission expires:

## Executive Summary

## Michael G. O'Bryan

## Senior Capital Markets Specialist in Corporate Finance for Ameren Services Company

The table below outlines the various capital components of AmerenUE's capital structure along with the representative weights and costs of each as of December 31, 2007. The methodology for calculating both the amount and cost of long-term debt, short-term debt and preferred stock is detailed in Exhibits MGO-E2, MGO-E3 and MGO-E4, respectively. The Company's amount of common equity was based on the common sharcholder's equity as of December 31, 2007 adjusted for miscellaneous items. The Company's cost of common equity, developed by the Company's witness Dr. Roger A. Morin, assumes the presence of a fuel adjustment clause.

| CAPITAL <br> COMPONENT | AMOUNT | PERCENT |  | WEIGHTED |
| :---: | ---: | ---: | :---: | :---: |
| OF TOTAL | COST | COST |  |  |
| Long-Term Debt | $\$ 2,981,873,369$ | $45.536 \%$ | $5.687 \%$ | $2.590 \%$ |
| Short-Term Debt | $\$ 104,584,299$ | $1.597 \%$ | $3.621 \%$ | $0.058 \%$ |
| Preferred Stock | $\$ 114,502,040$ | $1.749 \%$ | $5.189 \%$ | $0.091 \%$ |
| Common Equity | $\$ 3,347,491,925$ | $51.119 \%$ | $10.900 \%$ | $5.572 \%$ |
| TOTAL | $\$ 6,548,451,633$ | $\mathbf{1 0 0 . 0 0 0 \%}$ |  | $\mathbf{8 . 3 1 1 \%}$ |

## Union Electric Company d/b/a AmerenUE Weighted Average Cost of Capital

With Fuel Adjustment Clause
at $12 / 31 / 2007$ :

| CAPITAL COMPONENT | AMOUNT | PERCENT <br> OF TOTAL | COST | WEIGHTED <br> COST |
| :--- | ---: | ---: | ---: | ---: |
| Long-Term Debt | $\$ 2,981,873,369$ | $45.536 \%$ | $5.687 \%$ | $2.590 \%$ |
| Short-Term Debt | $\$ 104,584,299$ | $1.597 \%$ | $3.621 \%$ | $0.058 \%$ |
| Preferred Stock | $\$ 114,502,040$ | $1.749 \%$ | $5.189 \%$ | $0.091 \%$ |
| Common Equity | $\$ 3,347,491,925$ | $51.119 \%$ | $10.900 \%$ | $5.572 \%$ |
| TOTAL | $\$ 6,548,451,633$ | $100.000 \%$ |  | $8.311 \%$ |

Without Fuel Adjustment Clause
at 12/31/2007:

| CAPITAL COMPONENT | AMOUNT | PERCENT <br> OF TOTAL | COST | WEIGHTED <br> COST |
| :--- | ---: | ---: | ---: | :---: |
| Long-Term Debt | $\$ 2,981,873,369$ | $45.536 \%$ | $5.687 \%$ | $2.590 \%$ |
| Short-Term Debt | $\$ 104,584,299$ | $1.597 \%$ | $3.621 \%$ | $0.058 \%$ |
| Preferred Stock | $\$ 114,502,040$ | $1.749 \%$ | $5.189 \%$ | $0.091 \%$ |
| Common Equity | $\$ 3,347,491,925$ | $51.119 \%$ | $11.150 \%$ | $5.700 \%$ |
| TOTAL | $\$ 6,548,451,633$ | $\mathbf{1 0 0 . 0 0 0 \%}$ |  | $8.439 \%$ |

At December 31, 2007

| $\begin{gathered} \text { SERIES } \\ c_{1} \end{gathered}$ | $\begin{gathered} \text { COUPON }(\mathrm{ai} \\ \hline \end{gathered}$ | issues cs | $\begin{gathered} \text { MATURITY } \\ \hline \end{gathered}$ | PRINCIPAL C5 | FACE AMOUNT outstanding C6 | $\begin{gathered} \text { DISC(PREM) } \\ 67 \\ \hline \end{gathered}$ | MORTIZED BAL issue exp. ce | $\begin{gathered} \text { LCES } \\ \text { LOSS } \\ \text { C9 } \end{gathered}$ | GARRYiNg value C10 | ANNUALIZEO COUPON INT. C11 | ANNUAI | IZED AMORTI issue Exp C13 | ATION Loss C14 | ANNUALIZED int. exp. c15 | $\left[\left.\begin{array}{c} \text { EMBEDOEO } \\ \text { COST } \\ C 16 \end{array} \right\rvert\,\right.$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Firsi Morgage Bands | 6.750\% | 01-May-93 | 01-May-08 | \$148.000,000 | \$148.000.000 | \$13.960 | \$27.048 |  |  | \$9,990,000 | \$41.880 | \$81,144 |  |  |  |
| Senior Sacured Nolss | 5.250\% | 22-Aug-02 | 01-Sep-12 | \$173,000.000 | \$173.000.000 | \$84.472 | \$571.592 |  |  | \$9,082,500 | \$20.244 | \$122.484 |  |  |  |
| Sanior Securad Notas | 4.650\% | 07-0ct-03 | 01-Oct-13 | \$200,000,000 | \$200,000,000 | \$228.459 | \$912.525 |  |  | \$9.300,000 | \$39.732 | \$158.700 |  |  |  |
| Senior Securgd Noles | 5.500\% | 18-May-04 | 15-May-14 | \$104,000 000 | \$104.000.000 | \$227,535 | \$479,094 |  |  | \$5.720.000 | \$35.460 | \$74.664 |  |  |  |
| Serior Sectured Noties | 4.750\% | 09-Apr-03 | 01-Apr-15 | \$114,000,000 | \$114.000.000 | \$112.317 | \$548.274 |  |  | \$5.415.000 | \$15.492 | \$75.624 |  |  |  |
| Senior Securea Motes | 5.400\% | 08-Cac-05 | 01-Feb-16 | \$260.000.000 | \$260.000.000 | \$593.096 | \$1,542.226 |  |  | \$14,040.000 | \$72.624 | \$188.844 |  |  |  |
| Senior Securea Naties | 6.400\% | 15.Jun-07 | 15-Jun-17 | \$425,000,000 | \$425,000,000 | \$355,224 | \$2.983.494 |  |  | \$27,200.000 | \$37.392 | \$314.052 |  |  |  |
| Senior Secured Notes | 5.100\% | 28-Jui-03 | 01-Aug-18 | \$200,000,000 | \$200,000.000 | \$74.803 | \$1.214,755 |  |  | \$10,200,000 | \$7,068 | \$114.780 |  |  |  |
| Senior Secured Notas | 5.100\% | 23-Sep-04 | 0i-OCL-19 | \$300,000,000 | \$300,000,000 | \$100.956 | \$1.888.131 |  |  | \$15,300,000 | \$8.592 | \$180,692 |  |  |  |
| Serior Secured Notes | 5.000\% | 27-Jan-05 | 01-F66-20 | \$85,000,000 | \$85,000,000 | \$542.300 | \$575.795 |  |  | \$4.250.000 | \$44.880 | \$47.652 |  |  |  |
| First Morligage Bonds | 5.450\% | 15-0ct-93 | 01-Oct-28 | \$44.000.000 | \$44,000.000 | \$202.437 | \$371, 757 |  |  | \$2.398.000 | \$9.756 | \$17.916 |  |  |  |
| Senior SBCured Notes | 5.500\% | 10-Mar-03 | 15-Mar-34 | \$184,000,000 | \$184,000.000 | \$1.735.650 | \$1.523.340 |  |  | \$10.120,000 | \$66.120 | \$58.032 |  |  |  |
| Senior Secured Niotes | 5.300\% | 21-Jul-05 | 01-Aug-37 | \$300,000,000 | \$300,000,000 | \$940.040 | \$2.756.575 |  |  | \$15.900.000 | \$31.776 | \$93.180 |  |  |  |
| Subordindild Debentures | 7.690\% | 16-Dec-96 | 15-0ec-36 | \$65.500.000 | \$65.500.000 | \$415.512 | \$96.048 |  |  | \$5.036.950 | \$14,328 | \$3,312 |  |  |  |
| Enviranmenlal improvement Series 1991 | 5.000\% | 01-Dec-31 | 01-Dec-20 | \$42.585,000 | \$42.585.000 |  | \$757.485 |  |  | \$2.129.250 |  | \$58,544 |  |  |  |
| Environmenlal Improvement Stores 1992 | 5.370\% | 01.Dec-92 | 01-Dec-22 | \$47.500.000 | \$47,500,000 |  | \$565.897 |  |  | \$2.550,750 |  | \$97.800 |  |  |  |
| Environmuntal limpovement, Sentes 19988 ABC | 4.356\% | 04-Sep-98 | 01-Sep-33 | \$160.000,000 | \$160,000,000 |  | \$2.459.268 |  |  | \$6,970.000 |  | \$391.452 |  |  |  |
| Environmential Improvement. Series 2000 ABC | 4.377\% | 09-Mar-00 | 01-Mar-35 | \$186,500,000 | \$186,500,000 |  | \$4.741,670 |  |  | \$8,162.657 |  | \$174,540 |  |  |  |
| TOTALLONG. TERM DEGY |  |  |  | \$3,039,085,000 | \$3,039,085,000 | \$5,636.761] | \$24,014,974 | \$27,559,896] | \$2,981,873,369 | \$163,765,107 | \$445,344 | \$2,233,512 | \$3,144,120 | \$169,588,083 | $5.687 \%$ |

Camping Value $=$ Face Amounl Outstanding less Unamonlized Discount, Issuance Expenses, and Loss on Reacquired Debf
$\mathrm{C} 10 * \mathrm{C} 6 \cdot \mathrm{C7} \cdot \mathrm{C} 8 \cdot \mathrm{C} 9$
Annuaized interest Expense = Annual Coupon interest plis Anmual Amortization of Discount, Issuance Expenses, shd Loss on Reacquired Deor
$\mathrm{Cl}_{2}=\mathrm{C} 11+\mathrm{C}_{12}+\mathrm{C}_{13}+\mathrm{C}_{14}$
$\mathrm{C} 15=\mathrm{C} 15 / \mathrm{C} 10$
(a) Coupon rate lor variable rate auction securities refiects previaling rates as of 12/3107 and includes ongoing broker deater fee

## Union Electric Company d/b/a AmerenUE

## Cost of Short-term Debt

January 1, 2007 - December 31, 2007

| $\begin{gathered} \text { MONTH } \\ \text { C1 } \end{gathered}$ | baLANCE OF SHORT-TERM DEBT (a) C2 | BALANCE OF TOTAL CWIP C3 | BALANCE OF CWIP ACCRUING AFJOC C4 | NET AMOUNT OUTSTANDING C5 | INTEREST rate C6 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| January 2007 | \$530,200,000 | \$348,947,381 | \$325,183,609 | \$205,016.391 | 5.216\% |
| February | 544,300,000 | 299,514,595 | 335,040,464 | 209,259,536 | 5.417\% |
| March | 661,800,000 | 312,235,641 | 412,415,548 | 249,384,452 | 5.377\% |
| April | 710,800,000 | 341,513,402 | 432,843,662 | 277,956,338 | 5.449\% |
| May | 689,500,000 | 302,036,513 | 376,105,131 | 313,394,869 | 5.790\% |
| June | 254,600,000 | 332,516,228 | 361,064,128 | 0 | 5.870\% |
| July | 176,600,000 | 341,269,174 | 349,650,018 | 0 | 5.688\% |
| August | 99,100,000 | 388,043,452 | 340,236,201 | 0 | 5.934\% |
| Septernber | 148,700,000 | 411,983,830 | 364,211,544 | 0 | $5.744 \%$ |
| October | 219,200,000 | 445,251,694 | 383,638,947 | 0 | 5.231\% |
| November | 230,700,000 | 467,042,905 | 472,855,882 | 0 | 4.864\% |
| December | 0 | 545,901,947 | 517,979,394 | 0 | 5.399\% |
| AVERAGE | \$355,458,333 | \$378,021,397 | \$389,268,711 | \$104,584,299 |  |

C5 Net Amount Outstanding = Baiance of Short-Term Debt less Balance of CWIP Accruing AFUOC

$$
C 5=C 2-C 4
$$

(a) Short-term debt amounts are net of cash. Negative amounts are excluded.


## Union Electric Company d/b/a AmerenỤE

 Embedded Cost of Preferred Stockat December 31, 2007

| SERIES, TYPE, PAR C1 | $\begin{gathered} \text { DIVIVEND } \\ \mathrm{C} 2 \\ \hline \end{gathered}$ | $\begin{gathered} \text { ISSUED } \\ \text { C3 } \\ \hline \end{gathered}$ | MATURITY C4 | SHARES OUTSTANDING C5 | PAR ISSUEDI OUTSTANDING C6 | PREMIUM C7 | ISSUANCE EXPENSEIDISCOUNT C8 | NET Proceeds <br> c9 | ANNUAL divioend C10 | $\begin{gathered} \text { EMBEDDED } \\ \text { cost } \\ \text { C11 } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| \$4.50 Series. Perpetuai, $\$ 100$ par | \$4.500 | 01-May-41 | - | 213,595 | \$21,359,500 | (\$825,000) | \$440,294 | \$21,744,206 | \$961.178 |  |
| \$5.50 Series, Perpetual. $\$ 100 \mathrm{par}$ | \$5.500 | 01-Oct-41 |  | 14,000 | \$1,400,000 |  |  | \$1,400,000 | \$77,000 |  |
| \$3.70 Series, Ferpetual. $\$ 100 \mathrm{par}$ | \$3.700 | 01-Oct-45 |  | 40.000 | \$4,000,000 | (\$70,000) | \$69,396 | \$4,000,604 | \$148,000 |  |
| \$3.50 Series. Perpetual, $\$ 100$ par | \$3.500 | 01-May-46 |  | 130,000 | \$13,000,000 | (\$910,000) | \$252,772 | \$13,657,228 | \$455,000 |  |
| \$4.30 Series, Perpetual. $\$ 100$ par | \$4.300 | 01-Jul-46 |  | 40,000 | \$4,000,000 |  |  | \$4,000,000 | \$172,000 |  |
| \$4.75 Series. Perpetual. $\$ 100$ par | \$4.750 | 01-Oct-49 | - | 20,000 | \$2,000,000 |  |  | \$2,000,000 | \$95,000 |  |
| \$4.00 Series. Perpetual. $\$ 100$ par | \$4.000 | 01-Nov-49 |  | 150,000 | \$15.000,000 | (\$384,000) | \$326,896 | \$15,057,104 | \$600,000 |  |
| \$4.56 Series, Perpetual, $\$ 100$ par | \$4.560 | 01-Nov-63 |  | 200,000 | \$20,000,000 | (\$266,000) | \$297,633 | \$19,968,367 | \$912,000 |  |
| \$7,64 Series, Perpetual. $\$ 100$ par | \$7.640 | 01-Jan-93 | - | 330,000 | \$33,000,000 |  | \$325,469 | \$32,674,531 | \$2,521,200 |  |
| TOTAL PREFERRED STOCK |  |  |  |  | \$113,759,500 | (\$2,455,000) | \$1,712,460 | \$114,502,040 | \$5,941,378 [ | 5.189\% |

issuance expenses, discount/premium, and any loss incurred in acquiring/redeeming prior series are not amortized due to the perpetual nature of the company's preferred stock
Net Proceeds = Par Value Outstanding plus Premium less Issuance Expense and Discount
$\mathrm{C} 3=\mathrm{C} 6+\mathrm{C} 7-\mathrm{C} 8$
Embedded Cost $=$ Annual Dividend divided by Net Proceeds
$\mathrm{C} 11=\mathrm{C} 10 / \mathrm{C} 9$


[^0]:    ${ }^{1}$ Blucfield Water Works \& Improvement Co. v. Public Service Commission of West Virginia, 262 U.S. 679 (1923) and Federal Power Commission v. Hope Natural Gas Company. 320 U.S. 391 (1944).

