

*Exhibit No.:*  
*Issues:* *Rate of Return*  
*Witness:* *Ronald L. Bible*  
*Sponsoring Party:* *MoPSC Staff*  
*Type of Exhibit:* *Direct Testimony*  
*Case Nos.:* *EC-2002-1*  
*Date Testimony Prepared:* *March 1, 2002*

**MISSOURI PUBLIC SERVICE COMMISSION**

**UTILITY SERVICES DIVISION**

**DIRECT TESTIMONY**

**OF**

**RONALD L. BIBLE**

**UNION ELECTRIC COMPANY  
d/b/a AMERENUE**

**CASE NO. EC-2002-1**

*Jefferson City, Missouri  
March 2002*

1           A.     Schedules 7 and 8 present historical capital structures and selected  
2 financial ratios from 1996 to 2000 for AmerenUE. AmerenUE's common equity ratio  
3 has ranged from a high of 57.30 percent to a low of 53.85 percent over the time period of  
4 1996 through 2000. *The Value Line Investment Survey: Ratings & Reports* dated January  
5 4, 2002, reported that the average common equity ratio (figured excluding short-term  
6 debt) for the electric utility (central) industry for 2000 was 40.50 percent, estimated to be  
7 42.50 percent and 44.50 percent for 2001 and 2002, respectively, and 48.5 percent for the  
8 period 2004 to 2006. According to Standard & Poor's Corporation: *Ratings Direct*, dated  
9 November 10, 2001, "Management's financial strategy, which until last year was viewed  
10 as conservative, is now moderate. This is evident in the rising level of debt in the  
11 company's capital structure and recent expansion of its riskier unregulated generation  
12 business".

13                 AmerenUE's reported return on year-end common equity (ROE) has  
14 fluctuated during this time period ranging from a low of 12.38 percent in 1996 to a high  
15 of 14.60 percent in 2000 (see Schedule 8). AmerenUE's ROE of 14.30 percent for 2000  
16 is above the average of 7.4 percent for the electric utility (central) industry according to  
17 *The Value Line Investment Survey: Ratings & Reports*, January 4, 2002. *The Value Line*  
18 *Investment Survey: Ratings & Reports*, January 4, 2002 estimates that Ameren's return on  
19 equity for 2001 will be 14.00 percent. AmerenUE's market-to-book ratio has varied from  
20 a low of 1.46 in 1999 to a high of 1.99 in year 2000 (see Schedule 8).

21     **Determination of the Cost of Capital**

22           Q.     Please describe your approach for determining a utility company's cost of  
23 capital.

1 dividend yield of 6.00 percent, which is lower than the dividend yield used in my DCF  
2 estimates and would decrease the recommended return on common equity.

3 **Reasonableness of DCF Returns for AmerenUE**

4 Q. What analysis was performed to determine the reasonableness of your  
5 DCF model derived return on common equity for Ameren?

6 A. I performed a risk premium cost of equity analysis for Ameren. The risk  
7 premium concept implies that the required return on common equity is found by adding  
8 an explicit premium for risk to a current interest rate. Schedule 14 shows the average risk  
9 premium above the yield of 30-Year Treasury Bonds for Ameren's expected return on  
10 common equity. This analysis shows, on average, Ameren's expected return on equity as  
11 reported by *The Value Line Investment Survey: Ratings & Reports* is 649 basis points  
12 higher than the yield on 30-Year Treasury Bonds for the period of January 1992 to  
13 December 2001 (see Schedule 14).

14 The average yield for 30-Year Treasury Bonds on January 14, 2002 was  
15 5.38 percent. Adding 649 basis points to this yield produces an estimated cost of equity  
16 of 11.87 percent. (See Schedule 15.)

17 Q. Did you perform any other checks on reasonableness of your DCF model  
18 derived return on common equity for Ameren?

19 A. Yes. I performed a Capital Asset Pricing Model (CAPM) cost of equity  
20 analysis for Ameren. The CAPM describes the relationship between a security's  
21 investment risk and its market rate of return. This relationship identifies the rate of return  
22 that investors expect a security to earn so that its market return is comparable with the

market returns earned by other securities that have similar risk. The mathematical expression of the CAPM is the following:

$$k = R_f + \beta (R_m - R_f)$$

where:

k = the expected return on equity for a specific security,

$R_f$  = the risk free rate,

$\beta$  = beta; and

$R_m - R_f$  = the market risk premium.

The first term of the CAPM is the risk free rate ( $R_f$ ). The risk free rate reflects the level of return which can be achieved without accepting any risk. In reality, there is no such riskless asset, but it is generally represented by U.S. Treasury securities, because of the government's unlimited ability to tax and create money. For purposes of this analysis, the risk free rate was represented by the yield on 30-Year U.S. Treasury Bonds. The appropriate rate was determined to be 5.38 percent for the period January 14, 2002, as published on [www.marketwatch.com](http://www.marketwatch.com).

The second term of the CAPM is beta ( $\beta$ ). Beta is an indicator of a security's investment risk. It represents the relative movement and relative risk between a particular security and the market as a whole (where beta for the market equals 1.00). Securities with betas greater than 1.00 exhibit greater volatility than do securities with betas less than 1.00. Thus, a higher beta security is considered riskier and requires a higher return in order to attract investor capital away from a lower beta security. For purposes of this analysis, the appropriate beta was determined to be 0.55 as published in *The Value Line Investment Survey: Ratings & Reports*, January 4, 2002.

Union Electric Company  
d/b/a AmerenUE  
CASE NO. EC-2002-1

**Selected Financial Ratios for Union Electric Company  
(Consolidated Basis)**

Financial Ratios	1996	1997	1998	1999	2000
Return on Year-End Common Equity	12.38%	13.98%	12.84%	13.99%	14.30%
Earnings Per Common Share	\$2.86	\$2.44	\$2.82	\$2.81	\$3.33
Common Dividend Payout Ratio	87.80%	88.58%	83.40%	96.55%	76.00%
Year-End Market Price Per Common Share	\$38.500	\$43.250	\$42.687	\$32.812	\$46.310
Year-End Book Value Per Common Share	\$23.06	\$22.00	\$22.27	\$22.52	\$23.30
Year-End Market to Book Ratio	1.67 x	1.97 x	1.92 x	1.46 x	1.99 x
Pre-Tax Interest Coverage Ratio	4.55 x	4.73 x	5.13 x	5.83 x	5.22 x

Notes:

Return on Year-End Common Equity = Net Income Available for Common Stock / Year-End Common Shareholders' Equity.

Common Dividend Payout Ratio = Common Dividends Paid / Net Income Available for Common Stock.

Year-End Market to Book Ratio = Year-End Market Price Per Common Share / Year-End Book Value Per Common Share.

Pre-Tax Interest Coverage Ratio = (Net Income + Income Taxes + Total Interest Expense) / Total Interest Expense.

Sources: Union Electric Company's Shareholder Annual Reports, Ameren Corporation Shareholder Annual Reports,  
Union Electric Company's response to Staff's Data Information Request No. 3801, Standard and Poor's Stock guide  
and Standard & Poor's Corporation's Utility Rating Service.

UNION ELECTRIC COMPANY  
d/b/a AmerenUE  
CASE NO. EC-2002-1

**Risk Premium Costs of Equity Estimates  
for Ameren Corporation**

AEE's Cost of Common Equity		30-Year U.S. Treasury Bond (January 6, 2002)		Equity Risk Premium (1/92 - 12/01)
11.87%	=	5.38%	+	6.49%

**Risk Premium Approach**

The risk premium approach is based upon the proposition that common stocks are more risky than debt and, as a result, investors require a higher expected return on stocks than bonds. In this approach, the cost of common equity is computed by the following formula:

$$\begin{array}{ccccc} \text{Common} & & \text{Current} & & \text{Equity Risk} \\ \text{Equity} & = & \text{Cost of Debt} & + & \text{Premium} \end{array}$$

where:

The Current Cost of Debt is represented by the yield on 30-Year U.S. Treasury Bonds,  
The appropriate rate was determined by using the yield on U.S. Treasury Bonds on January 14, 2002

The Equity Risk Premium represents the difference between AEE's expected return on common equity (ROE) as projected in the Value Line Investment Survey and the yield on U.S. Treasury Bonds on January 14, 2002. The appropriate Equity Risk Premium was determined to be the average risk premium for the period January 1992 through December 2001. See Schedule 14 for the calculation of the Equity Risk Premium of 6.49%.

UNION ELECTRIC COMPANY  
d/b/a AmerenUE  
CASE NO. EC-2002-1

**Capital Asset Pricing Model (CAPM) Costs of Equity Estimates  
Ameren Corporation**

<b>AEE's Cost of Common Equity</b>	<b>=</b>	<b>Risk Free Rate</b>	<b>+</b>	<b>(AEE's (Beta</b>	<b>*</b>	<b>Market) Risk Premium)</b>	<b>)</b>
9.40%	=	5.38%	+	( 0.55	*	7.30%	)
9.34%	=	5.38%	+	( 0.55	*	7.20%	)

**Capital Asset Pricing Model**

The capital asset pricing model (CAPM) describes the relationship between a security's investment risk and its market rate of return. This relationship identifies the rate of return which investors expect a security to earn so that its market return is comparable with the market returns earned by other securities that have similar risk. The general form of the CAPM is as follows:

$$\text{Cost of Common Equity} = \text{Risk Free Rate} + [ \text{Beta} * \text{Market Risk Premium} ]$$

where:

The Risk Free Rate reflects the level of return which can be achieved without accepting any risk. The Risk Free Rate is represented by the yield on 30-Year U.S. Treasury Bonds. The appropriate rate was determined to be 5.38% on January 14, 2002 as published on [WWW.MARKETWATCH.COM](http://WWW.MARKETWATCH.COM).

The Beta represents the relative movement and relative risk between a particular stock and the market. The appropriate Beta for AEE was determined to be 0.55 as published in The Value Line Investment Survey: Ratings & Reports, January 4, 2002.

The Market Risk Premium represents the expected return from holding the entire market portfolio less the expected return from holding a risk free investment. The appropriate Market Risk Premium was determined to be 7.30% as calculated in Ibbotson Associates, Inc.'s Stocks, Bonds, Bills, and Inflation: 2001 Yearbook for the period 1926 - 2000 and 7.20% for the period 1991-2000.

UNION ELECTRIC COMPANY  
d/b/a AmerenUE  
CASE NO. EC-2002-1

**Capital Asset Pricing Model (CAPM) Costs of Common Equity Estimates  
for the Three Comparable Electric Utility Companies**

	(1)	(2)	(3)	(4)	(5)	(6)
Company Name	Risk Free Rate	Company's Value Line Beta	Market Risk Premium	Market Risk Premium	CAPM Cost of Common Equity (Low)	CAPM Cost of Common Equity (High)
Allegheny Energy	5.38%	0.60	7.20%	7.30%	9.70%	9.76%
Alliant Energy	5.38%	0.55	7.20%	7.30%	9.34%	9.40%
Cinergy	5.38%	0.55	7.20%	7.30%	9.34%	9.40%
<b>Average</b>		<u><b>0.57</b></u>			<u><b>9.46%</b></u>	<u><b>9.52%</b></u>

Notes: Column 5 = [ Column 1 + ( Column 2 \* Column 3 ) ] .

Column 6 = [ Column 1 + ( Column 2 \* Column 4 ) ] .

Sources: Column 1 = The Risk Free Rate reflects the level of return which can be achieved without accepting any risk. The Risk Free Rate is represented by the yield on 30-Year U.S. Treasury Bonds. The appropriate rate was determined to be 5.38% for the period ending January 14, 2002 as published on the Marketwatch website ([www.marketwatch.com](http://www.marketwatch.com)).

Column 2 = The Beta represents the relative movement and relative risk between a particular stock and the market. The appropriate Betas were taken from The Value Line Investment Survey, Ratings and Reports, December 7, 2001 and January 4, 2002.

Column 3 = The Market Risk Premium represents the expected return from holding the entire market portfolio less the expected return from holding a risk free investment. The appropriate Market Risk Premium was determined to be 7.20% as calculated in Ibbotson Associates, Inc.'s Stocks, Bonds, Bills, and Inflation: 2001 Yearbook for the period 1991 - 2000.

Column 4 = The Market Risk Premium represents the expected return from holding the entire market portfolio less the expected return from holding a risk free investment. The appropriate Market Risk Premium was determined to be 7.30% as calculated in Ibbotson Associates, Inc.'s Stocks, Bonds, Bills, and Inflation: 2001 Yearbook for the period 1926 - 2000.