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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
July 2001

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Q. Please state your name, occupation and business address.

A. My name is Ronald L. Bible. I am employed by the Missouri Public Service Commission (MoPSC) as the Manager of the Financial Analysis Department. My business address is 200 Madison, Jefferson City, Missouri 65102.

Q. Please describe your educational and professional background.

A. In 1981, I earned a Master of Business Administration degree with an emphasis in Finance and Investments from the Southern Illinois University at Edwardsville, Illinois. In 1976, I earned a Bachelor of Arts degree in Social Science from Colorado State University, Ft. Collins, Colorado.

Q. What is your work experience.

A. I was employed by Credit Union National Association from 1995 to 1997 and by American Express from 1991 to 1995 as a Financial and Investment Analyst/Planner. Prior to that, I was with Voluntary Hospitals of America and Hospital Corporation of America where I performed statistical and financial analysis. Previous to these positions, I was an officer in the United States Air Force and was responsible for a unit that provided statistical analysis.

Q. Have you previously filed testimony before this Commission?

A. Yes. I have testified before the MoPSC a number of times. My testimony at the MoPSC has addressed issues including rate of return, proposed financings, and merger and acquisition issues.

Q. What is the purpose of your testimony in this case?

A. My testimony is presented to provide a recommendation to the Commission as to a fair and reasonable rate of return (cost of capital) to be applied to the rate base for Union Electric Company d/b/a AmerenUE (AmerenUE).

Q. Have you prepared any schedules to your analysis of the cost of capital for AmerenUE?

A. Yes. I am sponsoring a study entitled "An Analysis of the Cost of Capital for Union Electric d/b/a AmerenUE, Case No. EC-2002-1" consisting of 31 schedules which are attached to this direct testimony (see Schedule 1).

Q. What do you conclude is the cost of capital for AmerenUE?

A. My analysis leads me to conclude that the cost of capital for AmerenUE is in the range of 8.14 to 8.72 percent.

Q. What range are you proposing for the return on common equity (ROE) for AmerenUE?

A. I estimate AmerenUE's return on common equity to be in the range of 9.04 percent to 10.04 percent with a midpoint of 9.54 percent.

Economic and Legal Rationale for Regulation

Q. Why are the prices charged to customers by utilities such as AmerenUE regulated?

A. A primary purpose of price regulation is to restrain the exercise of monopoly power. Monopoly power represents the ability to charge excessive or unduly discriminatory prices. Monopoly power may arise from the presence of economies of scale and/or from the granting of a monopoly franchise.

For services that operate efficiently and have the ability to achieve economies of scale, a monopoly is the most efficient form of market organization. Utility companies can supply service at lower costs if the duplication of facilities by competitors is avoided. This allows the use of larger and more efficient equipment which results in lower per unit costs. For instance, it may cost more for two or more competing companies to maintain duplicate electric distribution systems to provide competing residential services to one household. This situation could result in price wars and lead to unsatisfactory and perhaps irregular service. For these reasons, exclusive rights may be granted to a single utility to provide service within a given territory. This also creates a more stable environment for operating the utility company. Utility regulation acts as a substitute for the economic control of market competition and allows the consumer to receive adequate utility service at a reasonable price.

Electric distribution utility companies such as AmerenUE provide electric distribution services essentially under a monopoly franchise. Therefore, it is clear that AmerenUE has monopoly power.

Another purpose of price regulation is to provide the utility company with an opportunity to earn a fair return on its capital, particularly on investments made as a result of a monopoly franchise.

Q. What is your understanding of the legal basis you must use when determining a fair and reasonable return for a public utility?

A. Several landmark decisions by the U.S. Supreme Court provide the legal framework for regulation and for what constitutes a fair and reasonable rate of return for a public utility. Listed below are some of the cases:

1. Munn v. People of Illinois (1877),
2. Bluefield Water Works and Improvement Company (1923),
3. Natural Gas Pipeline Company of America (1942), and
4. Hope Natural Gas Company (1944).

In the case of *Munn v. People of Illinois*, 94 U.S. 113 (1877), the Court found that:

> . . . when private property is "affected with a public interest, it ceases to be *juris privati* only" . . . . Property does become clothed with a public interest when used in a manner to make it of public consequence, and affect the community at large. When, therefore, one devotes his property to a use in which the public has an interest, he, in effect, grants to the public an interest in that use, and must submit to be controlled by the public for the common good, to the extent of the interest he has thus created. Id at 126.

The *Munn* decision is important because it states the conceptual basis for regulation of both utility and non-utility industries.

In the case of *Bluefield Water Works and Improvement Company v. Public Service Commission of the State of West Virginia*, 262 U.S. 679 (1923), the Supreme Court ruled that a fair return would be:

1. A return "generally being made at the same time" in that "general part of the country";
2. A return achieved by other companies with "corresponding risks and uncertainties";

3. A return "sufficient to assure confidence in the financial soundness of the utility"; and

4. A fair return can change with economic conditions and capital markets.

The Court specifically stated:

> A public utility is entitled to such rates as will permit it to earn a return on the value of the property which it employs for the convenience of the public equal to that generally being made at the same time and in the same general part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties; but it has no constitutional right to profits such as are realized or anticipated in highly profitable enterprises or speculative ventures. The return should be reasonably sufficient to assure confidence in the financial soundness of the utility and should be adequate, under efficient and economical management, to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its public duties. A rate of return may be reasonable at one time and become too high or too low by changes affecting opportunities for investment, the money market and business conditions generally. Id at 692-3.

In *Federal Power Commission et al. v. Natural Gas Pipeline Company of America et al.*, 315 U.S. 575 (1942), the Court decided that:

> The Constitution does not bind rate-making bodies to the service of any single formula or combination of formulas . . . . If the Commission's order, as applied to the facts before it and viewed in its entirety, produces no arbitrary result, our inquiry is at an end. Id at 586.

The U.S. Supreme Court also discussed the reasonableness of a return for a utility in the case of *Federal Power Commission et al. v. Hope Natural Gas Company*, 320 U.S. 591 (1944). The Court stated that:

> The rate-making process . . ., i.e., the fixing of "just and reasonable" rates, involves a balancing of the investor and the consumer interests. Thus we stated . . . that "regulation does not insure that the business shall produce net revenues" . . . it is important that there be enough revenue not only for operating expenses but also for the capital costs of the business. These

> include service on the debt and dividends on the stock . . . . By that standard the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks. That return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital. Id at 603.

Hope restates the concept of comparable returns to include those achieved by any other enterprises that have "corresponding risks." The Supreme Court also noted in this case that regulation does not guarantee profits to a utility company.

A more recent case heard by the Supreme Court of Pennsylvania further clarifies the *Hope* decision beyond balancing the interests of the investors and the consumers. The Supreme Court of Pennsylvania stated that:

> We do not believe, however, . . . that the end result of a rate-making body's adjudication *must* be the setting of rates at a level that will, in any given case, guarantee the continued financial integrity of the utility concerned . . . . In cases where the balancing of consumer interests against the interests of investors causes rates to be set at a "just and reasonable" level which is insufficient to ensure the continued financial integrity of the utility, it may simply be said that the utility has encountered one of the risks that imperil any business enterprise, namely the risk of financial failure. *Pennsylvania Electric Company, et al. v. Pennsylvania Public Utility Commission*, 502 A.2d 130, 133-34 (1985), cert. denied, 476 U.S. 1137 (1986).

Pennsylvania is included in my testimony to illustrate the following point: captive ratepayers of public utilities should not be forced to bear the brunt of poor or inept management that results in unnecessarily higher costs. I do not believe that utility companies should be casually subjected to risk of financial failure in a rate case proceeding. However, in the case of poor management, I do not believe it would always be appropriate for a regulatory agency to provide sufficient funds to continue operations no matter what the costs are to the ratepayers.

Through these and other court decisions, it has generally been recognized that public utilities can operate more efficiently when they operate as monopolies. It has also been recognized that regulation is required to offset the lack of competition and maintain prices at a reasonable level. It is the regulatory agency's duty to determine a fair rate of return and the appropriate revenue requirement for the utility, while maintaining reasonable prices for the public consumer.

The courts today still believe that a fair return on common equity should be similar to the return for a business with similar risks, but not as high as a highly profitable or speculative venture requires. The authorized return should provide a fair and reasonable return to the investors of the company, while ensuring that excessive earnings do not result from the utility's monopolistic powers. However, this fair and reasonable rate does not necessarily guarantee revenues or the continued financial integrity of the utility.

It should be noted that the courts have determined that a reasonable return may vary over time as economic and business conditions change. Therefore, it is important to take into consideration the concepts presented by the U. S. Supreme Court, as well as, the historical and projected economic conditions and the business operations of a utility in order to calculate a fair and reasonable rate of return.

Historical Economic Conditions

Q. Please discuss the relevant historical economic conditions in which AmerenUE has operated.

A. One of the most commonly accepted indicators of economic conditions is the Discount Rate set by the Federal Reserve Board (Federal Reserve). The Federal

Reserve tries to achieve its monetary policy objectives by controlling the Discount Rate (the discount rate is the rate at which member banks borrow directly from the Federal Reserve) and the Fed Funds Rate (the federal funds rate is the interest rate that banks charge each other for overnight lending). At the end of 1982, the U.S. economy was in the early stages of recovery from the longest post-World War II recession. This economic expansion began when the Federal Reserve reduced the Discount Rate seven times in the second half of 1982 in an attempt to stimulate the economy. This also led to a reduction in the Prime Interest Rate (the rate charged by banks on short-term loans to borrowers with high credit ratings) from 16.50 percent in June 1982, to 11.50 percent in December 1982. The economic expansion continued for approximately eight years until July of 1990, when the economy entered into a recession.

In December of 1990, the Federal Reserve responded to the slumping economy by lowering the Discount Rate to 6.50 percent. Over the next year and a half the Federal Reserve lowered the Discount Rate another six times to a low of 3.00 percent, which had the result of lowering the Prime Interest Rate to 6.00 percent. (See Schedule 3.)

In 1993, newly elected President Clinton implemented a plan to raise additional revenues, by increasing certain corporate and personal income tax rates, but perhaps the most important factor for the U.S. economy in 1993 was the passage of the North American Free Trade Agreement (NAFTA). NAFTA created a free trade zone consisting of the United States, Canada and Mexico. The rate of economic growth for the fourth quarter of 1993, was one which the Federal Reserve believed could not be sustained without experiencing higher inflation. In the first quarter of 1994, the Federal

Reserve took steps to try and restrict the economy by increasing interest rates. As a result, on March 24, 1994, the Prime Interest Rate increased to 6.25 percent. On April 18, 1994, the Federal Reserve announced its intention to raise its targeted interest rates which resulted in the Prime Interest Rate being increased to 6.75 percent. The Federal Reserve took action on May 17, 1994, by raising the Discount Rate to 3.5 percent. The Federal Reserve took three additional restrictive monetary actions, with the last occurring on February 1, 1995. These actions raised the Discount Rate to 5.25 percent and, in turn, banks raised the Prime Interest Rate to 9.00 percent.

The Federal Reserve then reversed its policy in late 1995, by lowering its target for the Fed Funds Rate 0.25 percentage points on two different occasions. This had the effect of lowering the Prime Interest Rate to 8.50 percent. On November 17, 1998, the Federal Reserve lowered the Discount Rate to a rate of 4.50 percent.

The actions of the Federal Reserve over the last five years have been primarily focused on keeping the level of inflation under control, and they have been successful. The inflation rate, as measured by the *Consumer Price Index - All Urban Consumers* (CPI), was at a high of 3.70 percent in March 2000. The increase in CPI stood at 3.3 percent for the period ending December 31, 2000 (see Schedule 4-1). What is significant about the low inflation rate is that while inflation has been at historically low levels, the unemployment rate has also dropped to historically low levels. In January 1993, the unemployment rate stood at 7.30 percent and gradually dropped to 4.20 percent for the period ending February 28, 2001 (see Schedule 6).

The combination of low inflation and low unemployment has led to a prosperous economy, as evidenced by the real gross domestic product of the United States. Over the time period of 1993 through the present, real GDP has increased every quarter, although at a slower level as of recently. The stock market, as measured by the Dow Jones Composite Index, has increased by 81.23 percent between August 1, 1996 and February 22, 2001, while the Dow Jones Industrial Index has increased by 88.16 percent over that same time frame. The stock market has increased 18.36 percent as measured by The Value Line Geometric Averages Composite Index from August 1, 1996 through February 22, 2001. It should be noted that the Value Line Composite Index is an equally weighted geometric average of 1,594 companies as compared to the Dow Jones Composite Index, which is a price-weighted arithmetic average of 65 companies. Although the stock market has increased significantly since August 1, 1996, it should be noted that the stock market suffered set backs last year when looking at calendar year returns for the major indexes.

In both August and September 2000, energy movements dominated the CPI. After falling by 2.90 percent in August, energy prices shot up 3.80 percent in September, the biggest advance since a 5.60 percent surge in June 2000. The big rise in energy prices, which consumers felt in sharply rising gasoline prices and home heating oil costs, prompted President Clinton to order a release of oil from the government's Strategic Petroleum Reserve. While steep price increases have been contained in the energy sector, economists worried about a spillover effect that could send overall inflation higher, thus setting off alarms at the Federal Reserve.

After raising the federal funds rate six times in 1999 and 2000 to hold down inflation in a rapidly growing economy, Federal Reserve policy-makers began expressing concern about a slowdown in December 2000. On January 3, 2001, the Federal Open Market Committee lowered the federal funds rate by 50 basis points to 6 percent. In a related action, the Board of Governors approved a decrease in the discount rate to 5.75 percent. These actions were taken in light of further weakening of sales and production, and in the context of lower consumer confidence, tight conditions in some segments of financial markets, slowing of real GDP and high energy prices weakening household and business purchasing power. On January 31, 2001, the Federal Reserve again lowered the federal funds rate by 50 basis points to 5.5 percent in an attempt to provide lower rates for many business and consumer loans. At the same time, the discount rate was also lowered by 50 basis points to 5 percent (see Schedule 2-1). In cutting its benchmark rate by a full point in the first month of 2001, the Federal Reserve has taken its most aggressive action to boost the economy since December 1991. The Federal Reserve justified its actions by citing eroding consumer and business confidence and rising energy costs. Further weakening in the economy prompted the Federal reserve to reduce interest rates more. On March 20, 2001, the discount rate was lowered to 4.50 percent, and to 4.00 percent on April 18, 2001.

The Federal Reserve claims it does not make interest rate decisions based on stock market activity. However, it is important to reflect on the results of the major indexes in the past year. Based on *The Value Line Investment Survey, Selection and Opinion*, April 27, 2001, the 12-month percentage change in market stock price averages shows the S&P 500 suffered a 12.20 percent decline and the NASDAQ suffered a 41.10

percent decline, as of April 19, 2001. Therefore, as mentioned earlier, the stock market has faired well since 1996, although, it has suffered some set backs when compared to more recent levels.

These economic changes have resulted in cost of capital changes for utilities and are closely reflected in the yields on public utility bonds and yields of Thirty-Year U.S. Treasury Bonds (see Schedules 5-1 and 5-2). Schedule 5-3 shows how closely the Mergent "Public Utility Bond Yields" have followed the yields of Thirty-Year U.S. Treasury Bonds during the period from 1984 to the present. The average spread for this time period between these two composite indices has been 131 basis points, with the spread ranging from a low of 80 basis points and a high of 241 basis points (see Schedule 5-4). These spread parameters can be utilized with numerous published forecasts of Thirty-Year U.S. Treasury Bond yields to estimate future long-term debt costs for utility companies.

Economic Projections

Q. What are the inflationary expectations for the remainder of 2001 and beyond?

A. The latest inflation rate, as measured by the *Consumer Price Index-All Urban Consumers* (CPI), was 2.90 percent for the 12 months ended March 2001. *The Value Line Investment Survey: Selection & Opinion*, March 2, 2001, predicts inflation to be 2.60 percent for 2001, 2.50 percent for 2002 and 2.60 percent for 2003. One of the major fears of the Federal Reserve is the United States will experience weakness in key areas of the economy that could lead to a recession.

Q. What are the interest rate forecasts for 2001, 2002 and 2003?

A. Short-term interest rates, those measured by Three-Month U.S. Treasury Bills, are expected to be 4.80 percent in 2001, 5.10 percent in 2002 and 5.20 percent in 2003 according to Value Line's predictions. Value Line expects long-term interest rates, those measured by the Thirty-Year U.S. Treasury Bond, to average 5.50 percent in 2001, 5.80 percent in 2002 and 6.00 percent in 2003. The current rates for the period ending April 30, 2001 are 3.97 percent for 3-month T-Bills and 5.64 percent for 30-year T-Bonds, as noted on the Federal Reserve website.

Q. What are the growth expectations for real GDP in the future?

A. Value Line expects real GDP to increase by 1.90 percent in 2001, 3.40 percent in 2002, and by 3.50 percent in 2003. The Budget and Economic Outlook, Fiscal Years 2002-2011 published by the Congressional Budget Office in January 2001 stated that real GDP is expected to increase by 2.40 percent in 2001, 3.40 percent in 2002 and 3.30 percent in 2003. (See Schedule 7.)

Q. Please summarize your projections of the economic conditions that will affect AmerenUE for the next few years.

A. Considering the previously mentioned sources, inflation is expected to be in the range of 2.50 to 2.80 percent, increase in real GDP in the range of 1.90 to 3.50 percent and long-term interest rates are expected to range from 5.50 to 6.00 percent. *The Value Line Investment Survey: Selection & Opinion*, April 27, 2001, states that:

> **The Federal Reserve Board's recent decision to reduce interest rates before its May 15th Federal Open Market Committee meeting suggests that the central bank is still worried about the health of the economy.** Those worries are, in fact, well founded, as the economy is now showing weakness in such areas as manufacturing, housing, consumer confidence, and employment. At the same time, inflation is muted, in part, because companies, beset by falling demand, are having difficulty raising prices.

> Moreover, we think economic activity will continue to founder in months ahead, with the threat of a recession continuing into the second half.
> [Emphasis added]

S&P states the following in the April 25, 2001, issue of *The Outlook*:

> With inflation low and the dollar strong, the Fed has room to lower rates aggressively to keep the economy out of recession. S&P chief economist David Wyss expects the central bank to continue to take full advantage of this leeway, a clear plus for the market.

S&P also stated in the May 2, 2001 issue of *The Outlook*:

> ...What we believe will prove to be the trump card in the intermediate term, however, is the Fed's aggressive monetary easing. The four half-point cuts in the fed funds target since early January, which we expect to be augmented by another half-point reduction by summer, will have an increasingly stimulative effect on the economy starting in the third quarter and continuing into 2002.

Business Operations of Ameren

Q. Please describe Union Electric's business operations.

A. After their merger, Union Electric (UE) and Central Illinois Power Supply (CIPS) became subsidiaries of St. Louis, MO-based Ameren, a registered public utility holding company created on December 31, 1997. UE (doing business as AmerenUE) remains headquartered in St. Louis and CIPS (doing business as AmerenCIPS) in Springfield, IL. Ameren's unregulated operations include the recently formed unregulated generation subsidiary, AmerenEnergy Generating Company (AEGC) and other unregulated businesses, such as energy marketing and trading.

UE, incorporated in Missouri in 1922, supplies electric service in Missouri and Illinois. UE accounts for 72 percent of Ameren's revenues, 75 percent of operating income, and 77 percent of total assets. UE mainly engages in selling electricity

(96 percent of UE's operating revenues) in Missouri and in a small area of Illinois. The Missouri service territory covers 24,500 square miles, including the metropolitan St. Louis area, and has an estimated customer base of 2.6 million. Retail natural gas (4 percent of operating revenues) is distributed in 90 Missouri communities and in Alton, Illinois and its surrounding area. [Source: S&P's *Ratings Direct*, dated November 10, 2001.]

Q. Please describe the credit ratings of AmerenUE.

A. Currently, Standard & Poor's Corporation gives AmerenUE a corporate credit rating of A+ and a first mortgage bond rating of A+. These ratings are considered to be of "investment grade" ("investment grade" is defined as a "BBB" rating or higher). The Corporate Credit Rating issued by Standard & Poor's reflects a stable outlook for AmerenUE.

Q. Please provide Standard & Poor's Corporation's most recent outlook concerning the credit rating assigned to AmerenUE.

A. Standard & Poor's Corporation's *Ratings Direct*, dated November 10, 2001, provides a summary explaining the outlook. Specifically, the report states:

> The stable outlook for UE mirrors that of the parent Ameren. Specifically, the outlook reflects a healthy stand-alone, consolidated financial profile, a competitive generation system, excellent nuclear performance, strong transmission ties, and a multiyear, full-requirement contract between the unregulated generation/marketing companies and their affiliated delivery company. Upside ratings potential will be limited by commodity price risks associated with Ameren's growing unregulated generation business. Ameren's long-term goal is to expand its generation business to 20,000 MW, including UE's capacity, from about 11,000 MW currently.

Q. What historical financial information have you relied upon for AmerenUE?

A. Schedules 8 and 9 present historical capital structures and selected financial ratios from 1996 to 2000 for AmerenUE. AmerenUE's common equity ratio has ranged from a high of 57.30 percent to a low of 53.85 percent over the time period of 1996 through 2000. *The Value Line Investment Survey: Ratings & Reports* dated April 6, 2001, reported that the average common equity ratio (figured excluding short-term debt) for the electric utility (central) industry for 1999 was 41.90 percent and estimated to be 44.50 percent, 44.50 percent, 45.00 percent for 2000, 2001, 2002, respectively, and 47.5 percent for the period 2004 to 2006. According to Standard & Poor's Corporation: *Ratings Direct,* dated November 10 2001, "UE's common equity layer remains strong at about 53 percent of total capital."

AmerenUE's reported return on year-end common equity (ROE) has fluctuated during this time period ranging from a low of 12.38 percent in 1996 to a high of 14.00 percent in 2000 (see Schedule 9). AmerenUE's ROE of 14.60 percent for 2000 is above the estimated average of 12.50 percent for the electric utility (central) industry according to *The Value Line Investment Survey: Ratings & Reports*, April 6, 2001. *The Value Line Investment Survey: Ratings & Reports,* April 6, 2001 estimates that Ameren's return on equity for 2001 will be 14.00 percent. AmerenUE's market-to-book ratio has varied from a low of 1.46 times in 1999 to a high of 1.99 in year 2000 (see Schedule 9).

Determination of the Cost of Capital

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

A. The total dollars of capital for a utility company are determined for a specific point in time. This total dollar amount is proportioned into each specific capital component. A weighted cost for each capital component is determined by multiplying each capital component ratio by the appropriate embedded cost or the estimated cost of common equity. The individual weighted costs are summed to arrive at a total weighted cost of capital. This total weighted cost of capital is synonymous with the fair rate of return for the utility company.

Q. Why is a total weighted cost of capital synonymous with a fair rate of return?

A. From a financial viewpoint, a company employs different forms of capital to support or fund the assets of the company. Each different form of capital has a cost and these costs are weighted proportionately to fund each dollar invested in the assets.

Assuming that the various forms of capital are within a reasonable balance and are costed correctly, the resulting total weighted cost of capital, when applied to rate base, will provide the funds necessary to service the various forms of capital. Thus, the total weighted cost of capital corresponds to a fair rate of return for the utility company.

Capital Structure and Embedded Costs

Q. Can an investor directly invest in AmerenUE?

A. No. An investor can only indirectly invest in AmerenUE through a direct investment in Ameren, AmerenUE's parent company. As a result, potential investors can only look at the earnings potential of the entire consolidated corporate entity of Ameren when evaluating decisions such as whether or not to invest in AmerenUE's common stock. Ultimately, that investor is purchasing the earnings power of the entire

consolidated corporation, consisting of its operating divisions and its subsidiaries. Therefore, in order to analyze AmerenUE's divisional cost of capital, an investor must derive AmerenUE's divisional cost of capital from Ameren's overall cost of capital.

Q. What capital structure have you employed in developing a weighted cost of capital for AmerenUE?

A. I employed AmerenUE's capital structure as of June 30, 2000, which is the end of the test year period, and as of December 31, 2000, which is the end of the update period. Schedules 10 and 11 present AmerenUE's capital structure and associated capital ratios. The resulting capital structure consists of 56.45 percent common stock equity, 3.63 percent preferred stock and 39.92 percent long-term debt for June 2000, and 58.00 percent common stock equity, 3.48 percent preferred stock and 38.52 percent long-term debt for December 2000.

It is the Staff's opinion that only the short-term debt that exceeds the amount of construction work in progress (CWIP) should be included in the capital structure. An assumption is made that CWIP, which is not yet included in rate base, is financed with short-term debt. In this case, AmerenUE's CWIP at June 30, 2000 and December 31, 2000 exceeded the amount of short-term debt; therefore, no short-term debt is being included in the capital structure.

Q. What was the embedded cost of long-term debt for AmerenUE on June 30, 2000 and December 31, 2000?

A. I determined the embedded cost of long-term debt, for AmerenUE to be 6.95 percent on June 30, 2000 and 7.04 percent on December 31, 2000. I arrived at these figures by adopting AmerenUE's response to Staff Data Request No. 3802.

Q. What was the embedded cost of preferred stock for AmerenUE on June 30, 2000 and December 31, 2000?

A. I determined the embedded cost of preferred stock for AmerenUE to be 5.72 percent on June 30, 2000 and 5.72 percent on December 31, 2000. I arrived at these figures by adopting AmerenUE's response to Staff Data Request No. 3802.

Cost of Equity

Q. How do you propose to analyze those factors by which the cost of equity for AmerenUE may be determined?

A. I have selected the discounted cash flow model (DCF) model as the primary tool to determine the cost of equity for AmerenUE.

The DCF Model

Q. Please describe the DCF model.

A. The DCF model is a market-oriented approach for deriving the cost of equity. The return on equity calculated from the DCF model is inherently capable of attracting capital. This results from the theory that security prices adjust continually over time, so that an equilibrium price exists, and the stock is neither under-valued nor over-valued. It can also be stated that stock prices continually fluctuate to reflect the required and expected return for the investor.

The continuous growth form of the DCF model was used in estimating the cost of equity for AmerenUE. This model relies upon the fact that a company's common stock price is dependent on the expected cash dividends and on cash flows received through capital gains or losses that result from stock price changes. The rate that

discounts the sum of the future expected cash flows to the current market price of the common stock is the calculated cost of equity. This can be expressed algebraically as:

$$\text{Present Price} = \underset{\text{Discounted by k}}{\underline{\text{Expected Dividends}}} + \underset{\text{Discounted by k}}{\underline{\text{Expected Price in 1 year}}} \quad (1)$$

Since the expected price of a stock in one year is equal to the present price multiplied by one plus the growth rate, equation (1) can be restated as:

$$\text{Present Price} = \frac{\text{Expected Dividends}}{(1+k)} + \frac{\text{Present Price}\,(1+g)}{(1+k)} \quad (2)$$

where g equals the growth rate, and k equals the cost of equity. Letting the present price equal P_0 and expected dividends equal D_1, the equation appears as:

$$P_0 = \frac{D_1}{(1+k)} + \frac{P_0(1+g)}{(1+k)} \quad (3)$$

The cost of equity equation may also be algebraically represented as:

$$k = \frac{D_1}{P_0} + g \quad (4)$$

Thus, the cost of common stock equity (k), is equal to the expected dividend yield (D_1/P_0) plus the expected growth in dividends (g) continuously summed into the future. The growth in dividends and implied growth in earnings will be reflected in the current price. Therefore, this model also recognizes the potential of capital gains or losses associated with owning a share of common stock.

The DCF method is a continuous stock valuation model. The DCF theory is based on the following assumptions:

1. Market equilibrium,

2. Perpetual life of the company,

3. Constant payout ratio,

4. Payout of less than 100% earnings,

5. Constant price/earnings ratio,

6. Constant growth in cash dividends,

7. Stability in interest rates over time,

8. Stability in required rates of return over time; and

9. Stability in earned returns over time.

The DCF method also assumes that an investor's growth horizon is unlimited and that earnings, book values and market prices grow hand-in-hand. Even though the entire list of above assumptions is rarely met, the DCF model is a reasonable working model describing an actual investor's expectations and resulting behaviors.

Q. Can you directly analyze the cost of equity for AmerenUE?

A. No. In order to arrive at a company-specific DCF result, the company must have common stock that is publicly-traded and must pay dividends. AmerenUE's stock is not publicly traded. However, Ameren Corporation, AmerenUE's parent company, is publicly traded on the New York Stock Exchange under the ticker symbol of "AEE." Therefore, I used Ameren as a surrogate for AmerenUE in the DCF model.

Q. Please explain how you determined for Ameren a value range for the growth term of the DCF formula.

A. I reviewed Ameren's actual dividends per share (DPS), earnings per share (EPS) and book values per share (BVPS) as well as projected growth rates for Ameren. Schedule 13 lists annual compound growth rates calculated for DPS, EPS and BVPS for the periods of 1990 through 2000 and 1995 through 2000. Schedule 14 presents the

historical DPS, EPS and BVPS growth rates and projected growth rates for Ameren. The projected growth rates were obtained from two outside sources. I/B/E/S Inc.'s *Institutional Brokers Estimate System*, March 15, 2001, projects a five-year growth in EPS of 3.00 percent for Ameren. Standard & Poor's Corporation's *Earnings Guide*, April 2001, projects a five-year EPS growth rate of 4.00 percent for Ameren. The average of the two outside sources produces a projected EPS growth rate of 3.50 percent. Combining the average of the historical DPS, EPS and BVPS of 1.52 percent with the projected EPS growth rates produces a reasonable growth rate range of 2.00 to 3.00 percent. This range of growth (g) is the range that I used in the DCF model to calculate a cost of common equity for Ameren. (see Schedule 16)

Q. Please explain how you determined for Ameren the yield term of the DCF formula.

A. The expected yield term (D_1/P_0) of the DCF model is calculated by dividing the amount of common dividends per share expected to be paid over the next 12 months (D_1) by the current market price per share of the firm's common stock (P_0). Even though the model requires the use of a current or spot market price, I have chosen to use a monthly high/low average market price of Ameren's common stock for the period of January 1, 2000, through June 30, 2000 and July 1, 2000 through December 31, 2000 to represent separately the test year and update periods. This averaging technique is an attempt to minimize the effects on the dividend yield, which can occur due to daily volatility in the stock market.

Schedule 15 presents the monthly high/low average stock market prices from January 1, 2000, through June 30, 2000. Ameren's common stock price has ranged

from a low of $27.563 per share to a high of $38.000 per share for this time period. This has produced a range for the monthly average high/low market price of $29.376 to $36.157 per share and reflects recent market conditions for the price term (P_0) in the DCF model.

Schedule 15 presents the monthly high/low average stock market prices from July 1, 2000, through December 31, 2000. Ameren's common stock price has ranged from a low of $34.063 per share to a high of $46.930 per share for this time period. This has produced a range for the monthly average high/low market price of $35.532 to $44.900 per share and reflects more recent market conditions for the price term (P_0) in the DCF model.

The Value Line Investment Survey: Ratings & Reports, April 6, 2001, is estimating that Ameren's common dividend declared per share will be $2.54 for 2001 and $2.54 for 2002. This compares with the actual dividend Ameren paid in 2000 of $2.54. Therefore, I have chosen to use the value of $2.54 for the amount of common dividends per share (D_1) expected to be paid by Ameren for my analysis.

Combining the expected dividend of $2.54 per share and an average market price range of $29.376 to $36.157 per share produces an expected dividend yield of 7.71 percent for June 30, 2000.

Combining the expected dividend of $2.54 per share and an average market price range of $35.532 to $44.900 per share produces an expected dividend yield of 6.36 percent for December 31, 2000.

Q. Please summarize the results of your expected dividend yield and growth rate analysis for the DCF return on common equity for Ameren.

A. The summarized DCF cost of equity estimate for the period January 1, 2000 through June 30, 2000 for Ameren is presented as follows:

Yield (D_1/P_0)	+	Growth Rate (g)	=	Cost of Equity(k)
7.71%	+	2.00%	=	9.71%
7.71%	+	3.00%	=	10.71%

The summarized DCF cost of equity estimate for the period July 1, 2000 through December 31, 2000 for Ameren is presented as follows:

Yield (D_1/P_0)	+	Growth Rate (g)	=	Cost of Equity(k)
6.36%	+	2.00%	=	8.36%
6.36%	+	3.00%	=	9.36%

Averaging the range of return on common equity for these two time periods produces a range of return on common equity of 9.04 to 10.04 percent, with a mid-point of 9.54 percent and is the company-specific cost of equity range for Ameren.

As mentioned previously, the expected yield term (D_1/P_0) of the DCF model is calculated by dividing the amount of common dividends per share expected to be paid over the next 12 months (D_1) by the current market price per share of the firm's common stock (P_0). Even though the model requires the use of a current or spot market price, I have used an averaging technique in an attempt to minimize the effects on the dividend yield, which can occur due to daily volatility in the stock market. Using the spot price of $41.98, as assumed by the model, for June 21, 2001, produces a dividend yield of 6.05 percent, which is lower than the dividend yield used in my DCF estimates and would decrease the recommended return on common equity.

I also looked at the monthly high/low average stock price for Ameren for the period January 1, 2001 through May 31, 2001. Using this time period produces a dividend yield of 6.12 percent, which is also lower than the dividend yield used in my DCF estimate and would also decrease the recommended return on common equity.

Reasonableness of DCF Returns for AmerenUE

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

A. I performed a risk premium cost of equity analysis for Ameren. The risk premium concept implies that the required return on common equity is found by adding an explicit premium for risk to a current interest rate. Schedule 17 shows the average risk premium above the yield of 30-Year Treasury Bonds for Ameren's expected return on common equity. This analysis shows, on average, Ameren's expected return on equity as reported by *The Value Line Investment Survey: Ratings & Reports* is 620 basis points higher than the yield on 30-Year Treasury Bonds for the period of January 1990 to December 2000 (see Schedule 17).

The average yield for 30-Year Treasury Bonds on December 11, 2000 was 5.54 percent. Adding 620 basis points to this yield produces an estimated cost of equity of 11.74 percent. (See Schedule 18.)

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

A. Yes. I performed a Capital Asset Pricing Model (CAPM) cost of equity analysis for Ameren. The CAPM describes the relationship between a security's investment risk and its market rate of return. This relationship identifies the rate of return

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,

β = 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 5.54 percent for the period December 11, 2000, as published on www.marketwatch.com.

The second term of the CAPM is beta (β). 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 5, 2001.

The final term of the CAPM is the market risk premium ($R_m - R_f$). The market risk premium represents the expected return from holding the entire market portfolio less the expected return from holding a risk-free investment. For purposes of this analysis, the appropriate market risk premium was determined to be 7.80 percent for the period 1926-1999 and 9.41 percent for the period 1990-1999, as calculated in Ibbotson Associates, Inc.'s *Stocks, Bonds, Bills, and Inflation: 2000 Yearbook.*

Schedule 19 presents my CAPM analysis for Ameren. My CAPM analysis produces an estimated cost of equity range of 9.83 to 10.72 percent for Ameren.

Q. Did you perform any cost of equity analysis on other utility companies?

A. Yes. I have selected a group of comparable electric utility companies to analyze for determining the reasonableness of the company-specific DCF results for Ameren. Value Line categorizes Ameren as a large cap stock. Therefore, I searched the Value Line database for large cap electric utility companies. Schedule 20 presents a list of 19 market-traded large cap electric utility companies. This list was reviewed for the following criteria:

1. Information printed in Value Line: This criterion eliminated no companies;

2. Standard & Poor's Utility Credit Rating of AA- to BBB+: This criterion eliminated five companies;

3. Total capital greater than $5 billion and less than $6 billion: This criterion eliminated nine additional companies;

4. Positive Dividends Per Share Annual Compound Growth Rate for the period of 1990 through 2000: This criterion eliminated one additional company; and

5. No Missouri Operations: This criterion eliminated Ameren.

On average, this final group of three publicly traded electric utility companies (comparable electric utility companies) is comparable to Ameren because of similar business operations and financial conditions. The three comparable electric utility companies are listed on Schedule 21.

Q. Please explain how you approached the determination of the cost of equity for the comparable electric utility companies.

A. I have calculated a DCF cost of equity for each of the three comparable electric utility companies. The first step was to calculate a growth rate. Basically, I used the same approach of obtaining a growth rate estimate for the three comparable electric companies as I used in calculating a growth rate for Ameren (see Schedules 22 and 23). The comparable electric utility companies' average historical growth rates ranged from 0.06 to 2.99 percent with an overall average of 1.29 percent for the group (Column 1 of Schedule 23). The projected growth rates ranged from 5.17 to 10.00 percent with an average of 7.06 percent (Schedule 23). Taking into account the projected and historical growth rates, a proposed range of growth of 2.61 to 6.50 percent (Column 6 of Schedule 23) was used in the DCF calculation for the comparable companies. The growth rate range of 2.00 to 3.00 percent as calculated for Ameren (see Schedule 14) falls within and below the proposed range of growth for the three comparable electric utility companies.

The next step was to calculate an expected dividend yield for each of the three comparable electric utility companies. Schedule 24 presents the average high/low stock price for the period of September 1, 2000, through December 31, 2000, for each

electric utility company. Column 3 of Schedule 25 shows that the projected dividend yields ranged from 3.88 to 6.96 percent for the three comparable electric utility companies with the average at 5.54 percent. Ameren's proposed dividend yields of 6.36 and 7.71 percent (see Schedules 13 and 14) falls within and above the average for the three comparable electric utility companies.

The projected growth rates and projected dividend yields were then added together to reach an estimated DCF cost of equity for each of the three comparable electric utility companies. These estimates produced a DCF cost of equity ranging from 8.38 to 10.38 percent for the comparable electric utility companies with an average of 9.71 percent (see Column 5 of Schedule 25).

Q. What analysis was performed to determine the reasonableness of your DCF model derived return on common equity for the comparable company group?

A. I performed a CAPM cost of equity analysis for the comparable company group. The betas for the three comparable electric utility companies averaged 0.53, very close to Ameren's beta of 0.55. This suggests that Ameren is comparable in risk as measured by beta and relative to the market and the comparable companies on average. The CAPM analysis implies that, on average, the required return on equity for the three comparable electric utility companies falls within the range of 9.70 to 10.56 percent (see Schedule 26). This provides support for my DCF cost of equity analysis for the comparable company group and the proposed required return on common equity range of 9.04 percent to 10.04 percent for AmerenUE.

Q. Did you perform an analysis on AmerenUE's resulting pre-tax interest coverage ratios?

A. Yes. A pro forma pre-tax interest coverage calculation was completed for AmerenUE (see Schedule 27) utilizing the proposed range and midpoint ROE for Ameren. It reveals that the return on common equity range of 9.04 to 10.04 percent would yield a pre-tax interest coverage ratio in the range of 4.30 times to 4.65 times. This interest coverage range is in line with Standard & Poor's range for an "AA to BBB" rated electric utility company, which is 4.17 to 2.33 times. AmerenUE's midpoint of 4.47 times makes it consistent with an "AA" rating.

Rate of Return for AmerenUE

Q. Please explain how the returns developed for each capital component are used in the ratemaking approach you have adopted to be applied to AmerenUE's electric utility operations.

A. The cost of service ratemaking method was adopted in this case. This approach develops the public utility's revenue requirement. The cost of service (revenue requirement) is based on the following components: revenues, prudent operation costs, rate base and a return allowed on the rate base (see Schedule 28).

It is my responsibility to calculate and recommend a rate of return that should be authorized on the rate base of AmerenUE. Under the cost of service ratemaking approach, a weighted cost of capital in the range of 8.14 to 8.72 percent was developed for AmerenUE's electric utility operations (see Schedule 29). This rate was calculated by applying an average embedded cost of long-term debt for June 30, 2000 and December 31, 2000 of 7.00 percent, an embedded cost of preferred stock of 5.72 percent and a return on common equity range of 9.04 to 10.04 percent to a capital structure consisting of 38.52 percent long-term debt, 3.48 percent preferred stock and

58.00 percent common equity. Therefore, as I suggested earlier, I am recommending that AmerenUE's electric utility operations be allowed to earn a return on its original cost rate base in the range of 8.14 to 8.72 percent.

Through this analysis, I believe I have developed a fair and reasonable rate of return. My rate of return is based on a return on common equity range of 9.04 to 10.04 percent. My return range is based on the historical and projected economic conditions. This range is sufficient to assure confidence in the financial soundness of the utility and will be adequate, under efficient and economical management, to maintain and support its financial standing, as well as allow AmerenUE the opportunity to earn the revenue requirement developed in this rate case.

Q. Does this conclude your prepared direct testimony?

A. Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

The Staff of the Missouri Public Service Commission,	)	Case No. EC-2002-1
Complainant,	)	
vs.	)	
Union Electric Company, d/b/a AmerenUE,	)	
Respondent.	)	

AFFIDAVIT OF RONALD L. BIBLE

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

Ronald L. Bible, is, of lawful age, and on his oath states: that he has participated in the preparation of the foregoing Direct Testimony in question and answer form, consisting of 31 pages to be presented in the above case; that the answers in the foregoing Direct 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.

Ronald L. Bible

Ronald L. Bible

Subscribed and sworn to before me this 29th day of June, 2001.

Toni M. Charlton

Notary Public

TONI M. CHARLTON
NOTARY PUBLIC STATE OF MISSOURI
COUNTY OF COLE
My Commission Expires December 28, 2004