Exhibit No.:
Issues: *Rate of Return*
Witness: *David P. Broadwater*
Sponsoring Party: *MoPSC Staff*
Type of Exhibit:
Case No.: *EO-2000-845*

MISSOURI PUBLIC SERVICE COMMISSION

UTILITY SERVICES DIVISION

REBUTTAL TESTIMONY

OF

DAVID P. BROADWATER

ST. JOSEPH LIGHT & POWER COMPANY

CASE NO. EO-2000-845

Jefferson City, Missouri
October 2000

Exhibit No. 11 NP
Date 10-26-00 Case No. EO-2000-845
Reporter M

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Rebuttal Testimony of

David P. Broadwater

REBUTTAL TESTIMONY OF

DAVID P. BROADWATER

ST. JOSEPH LIGHT & POWER COMPANY

CASE NO. EO-2000-845

Q. Please state your name.

A. My name is David P. Broadwater.

Q. Please state your business address.

A. My business address is 3675 Noland Road, Independence, Missouri 64055.

Q. What is your present occupation?

A. I am employed as a Financial Analyst for the Missouri Public Service Commission (Commission). I accepted this position in March 1995. From December 1993 to February 1995, I was employed as a Management Services Specialist with the Commission. I would note that while a member of the Management Services Department, I assisted with cost of capital reviews for the Financial Analysis Department.

Q. What has been the nature of your duties while in the employ of this Commission?

A. Principally, I have analyzed the cost of capital of public utility companies operating within the state of Missouri. Please refer to Schedule 1 for a listing of the major cases in which I have previously filed testimony. In addition to the cases listed in Schedule 1, I have analyzed the cost of capital for numerous small water, sewer and telephone utilities.

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

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

Q. What is your educational background?

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

Q. Are you a member of any professional associations?

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

Q. Do you hold any professional designations?

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

Q. What is the purpose of this testimony?

A. The purpose of my testimony is to provide a capital structure and rate of return for St. Joseph Light & Power Company (St. Joseph) for the Staff's recommendation contained in the rebuttal testimony of Staff witness V. William Harris.

Rate of Return for St. Joseph

Q. Why have you developed a rate of return for St. Joseph?

A. The Staff is proposing that the Commission expand its criteria for approval of an Accounting Authority Order. One of the criteria Staff is proposing to be used is the adequacy of current earnings to cover the extraordinary costs. Refer to Staff witness V. William Harris for a complete discussion of the criteria Staff is proposing. As part of the Staff's analysis of St. Joseph's current earnings, Staff reviewed St. Joseph's current earnings as submitted in its surveillance report for the twelve-month period ending July 31, 2000. This analysis required an overall rate of return to determine if St. Joseph had earnings in excess of what investors would require of St. Joseph. I am sponsoring an overall rate of return for St. Joseph that is essentially the same as the testimony I filed in Case No. EM-2000-292. Staff believes that even though this testimony was filed approximately four months ago, the economic environment has not significantly changed.

Historical Economic Conditions

Q. Please discuss the relevant historical economic conditions in which St. Joseph 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 interest rate charged by the Federal Reserve for loans of reserves to depository institutions) and the Fed Funds Rate (the overnight lending rate between banks). At the end of 1982, the U.S. economy was in the early stages of an economic expansion, following 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 (see Schedule 2). This reduction in the discount rate 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% in June 1982, to 11.50% in December 1982. The economic expansion continued for approximately eight years until July 1990, when the economy entered into a recession.

In December 1990, the Federal Reserve responded to the slumping economy by lowering the discount rate to 6.50%. Over the next year-and-one-half, the Federal Reserve lowered the discount rate another six times to a low of 3.00%, which had the effect of lowering the prime interest rate to 6.00%. (See Schedule 3)

By the fourth quarter of 1993, the rate of economic growth was one 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 to restrict the economy by increasing interest rates. As a result, on March 24, 1994, the prime interest rate increased to 6.25%. 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%. The Federal Reserve took action on May 17, 1994, by raising the discount rate to 3.5%. Three additional restrictive monetary actions were taken by the Federal Reserve with the last occurring on February 1, 1995. These actions raised the discount rate to 5.25% and, in turn, banks raised the prime interest rate to 9.00%.

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%. On January 31, 1996, the Federal Reserve lowered the discount rate to a rate of 4.50%.

The actions of the Federal Reserve over the last five years have been primarily focused at keeping the level of inflation under control, and they have been successful. The inflation rate, as measured by the Consumer Price Index (CPI), was at 2.90% in January 1995, and it had remained below 3.00% for much of the last five years (see Schedule 4-1). Only recently has the increase in CPI climbed significantly above the 3.00% level. The low inflation rate has been coupled with a low unemployment rate for much of the last five years. The fact that both unemployment and inflation remained at historically low levels for an extended period of time is an indicator that the Federal Reserve has been largely successful for much of the last five years at managing the economy to allow sustainable growth in the economy while keeping the pressure on prices low. In the last quarter of 1999 and the first quarter of 2000 the rate of growth in the economy has increased to a level the Federal Reserve believes is not sustainable. This has caused the Fed to increase interest rates. This is one of the factors that has led to the radical swings in the stock market.

Current economic topics revolve around the speculation about the Federal Reserve's next move on interest rates. On March 21, 2000, the Federal Reserve raised the targeted federal funds rate from 5.75% to 6.00%. This is the fifth time that the Federal Reserve has raised the federal funds rate since mid-1999. The Federal Reserve also increased the discount rate from 5.25% to 5.50%. The main reason for these increases has been the Federal Reserve's desire to slow the pace of economic growth in order to keep inflation under control.

As of March 2000, the economy has been growing at a record-breaking pace for the past 108 months. The economy grew at a rate of 6.9% for the final three months of

1999 and many economists believe growth in the current quarter will be around 5%. However, the Federal Reserve would like to keep growth around the 3.5% mark, so this could imply further adjustments to both the short-term interest rates and the discount rate. On April 25, 2000, the 30-year Treasury bond yielded 5.87%.

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 30-year U.S. Treasury Bonds (see Schedules 5-1 and 5-2). Schedule 5-3 shows how closely Moody's "Public Utility Bond Yields" have followed the yields of 30-year U.S. Treasury Bonds during the period from 1983 to the present. The average spread for this time period between these two composite indices has been 129 basis points, with the spread ranging from a low of 80 basis points to a high of 283 basis points (see Schedule 5-4). These spread parameters can be utilized with numerous published forecasts of 30-year U.S. Treasury Bond yields to estimate future long-term debt costs for utility companies. Moody's "Public Utility Bond Yields" are also graphically compared to both Standard & Poor's "Utilities Stock Yields" and Standard & Poor's "Industrials Stock Yields" (see Schedule 6).

Economic Projections

Q. What are the inflationary expectations for the remainder of 2000 and beyond?

A. The latest inflation rate, as measured by the *Consumer Price Index-All Urban Consumers* (CPI), was 3.7% for the 12 months ended March 31, 2000. *The Value Line Investment Survey: Selection & Opinion*, March 3, 2000, predicts inflation to be 2.1% for 1999, 2.5% for 2000 and 2.3% for 2001. One of the major fears of the Federal

Reserve is that the United States will experience a severe labor shortage that will eventually drive up wages and cause an inflationary spiral.

Q. What are interest rate forecasts for 1999, 2000 and 2001?

A. Short-term interest rates, those measured by three-month U.S. Treasury Bills, are expected to be 5.7% in 2000, and 5.4% in 2001 according to Value Line's predictions. Value Line expects long-term interest rates, those measured by the 30-year U.S. Treasury Bond, to average from 6.2% in 2000 and 5.8% in 2001.

The current rates as of April 25, 2000, are 5.60% for three-month T-Bills and 5.87% for 30-year T-Bonds, as stated in *The Wall Street Journal*. *The Wall Street Journal* reported that as of March 22, 2000 the Treasury yield curve was "inverted," with the two-year Treasury note yielding more than the 30-year Treasury bond. This means that on March 22, 2000, the yield for the 30-year Treasury bond was 53 basis points below the 6.49% yield reported for the two-year Treasury note on that same date. This inversion began in January of this year and is "the widest such inversion in more than a decade" according to *The Wall Street Journal*.

Q. What are the growth expectations for real Gross Domestic Product (GDP) in the future?

A. GDP is a benchmark utilized by the Commerce Department to measure economic growth within the United States' borders. Real GDP is measured by the actual GDP adjusted for inflation. During the first quarter of 2000, real GDP increased by 5.4%. Value Line stated that real GDP growth increased by 4.1% in 1999, and expects real GDP to increase by 3.6% in 2000, and by 3.0% in 2001. Salomon Smith Barney

stated that real GDP increased by 3.7% in 1999 and expects real GDP to increase by 2.1% in 2000.

Q. Please summarize the expectations of the economic conditions for the next few years.

A. In summary, when combining the previously mentioned sources, inflation is expected to be in the range of 2.1% to 3.7%, the increase in real GDP in the range of 2.1 to 5.4%, and long-term interest rates are expected to range from 5.8% to 6.2%. *The Value Line Investment Survey: Selection & Opinion*, April 21, 2000, stated that:

> **The news on inflation has turned mixed.** For example, oil prices have fallen sharply in recent weeks, in response to higher production levels by the world's major oil exporting countries. But other inflation gauges, including prices for tobacco, medical care, and airline tickets, have shown sharp increases in recent surveys. In fact, it was a sharp upward move in the cost of each of these items – which contributed to a surprisingly large overall rise in the March Consumer Price Index – that sparked a record drop in the Dow Jones Industrial Average on Friday, April 14th.
>
> . . . .
>
> **Hopefully, the rate of economic growth will begin to slow before much longer.** But, as yet, we have seen little to suggest that such a deceleration is at hand. Indeed, the latest data on retail spending and employment show that the economy is still roaring ahead. Nevertheless, it does seem likely that the higher costs of financing a home, a car, and other retail purchases will start to put some pressure on the economy before too much longer. In fact, we continue to believe that the heady pace of growth currently being experienced will mark the high point for the year.

Business Operations of St. Joseph

Q. Please describe St. Joseph's business operations.

A. In St. Joseph Power and Light Company's 1999 Stockholders' Annual Report, St. Joseph states:

> As an investor-owned utility, St. Joseph Light and Power Company serves more than 3,300 square miles in all or part of 10 northwest Missouri counties.
>
> Light and Power provides electric energy to nearly 63,000 customers in 74 cities, towns and villages, and in a large rural area. The home office is in St. Joseph, a city of about 73,000, which represents about one-half the population of the service territory. Electric retail revenues represented about 72 percent of the company's 1999 revenues
>
> The company supplies natural gas to almost 6,400 natural gas customers in Maryville, a state university town of about 10,000 and 14 other communities. Light & Power does not provide natural gas to St. Joseph. The company also supplies industrial steam to six customers in St. Joseph.
>
> Light & Power owns SJLP Inc., a non-regulated investment subsidiary.
>
> St. Joseph Light & Power Company has been in the public utility business since 1883. It became an independent, investor-owned business in 1950. St. Joseph Light & Power has more than 4,700 shareholders, representing all 50 states. The company's stock is traded on the New York Stock Exchange under the symbol SAJ.

St. Joseph's total operating revenues were $120,949,000 for the 12-month period ended December 31, 1999, of which approximately 75% ($90,499,000) was accounted for by the Company's electric utility operations. These total-operating revenues resulted in an overall net income of $6,127,000. These revenues and net incomes were generated from a net utility plant in service with a book value of $169,224,369 on December 31, 1999. These figures were taken from St. Joseph's response to Staff Data Request No. 3801 and the *St. Joseph Light & Power Company 1999 Annual Report.*

Q. Please describe the credit rating of St. Joseph.

A. Currently, St. Joseph's corporate credit rating from Standard & Poor's Corporation is "A-/Stable," and categorizes St. Joseph's business profile rating as a "6"

(on a scale of 1 through 10 with 1 being strong and 10 being weak). This rating is considered to be "investment grade" ("investment grade" as defined as a "BBB" rating or higher). The Corporate Credit Rating issued by Standard & Poor's reflects a stable outlook for St. Joseph.

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

A. Standard & Poor's Corporation's *Global Utilities Ratings Service*, July 1998, provides a summary explaining the outlook. Specifically, the report states:

> Credit stability is envisioned for SAJ, reflecting low production costs and competitive rates, tight cost controls, conservative financing practices, no stranded investment, and a rebounding service area. Significant dependence on one generating station and absence of a fuel adjustment clause restrain upward rating potential, Sizeable purchased power commitments in early 2000 could negatively impact the company's financial position and pressure ratings.

Q. Please provide some historical financial information for St. Joseph.

A. Schedules 7 and 8 present historical capital structures and selected financial ratios from 1995 to 1999 for St. Joseph. St. Joseph's common equity ratio has ranged from a high of 54.19% to a low of 51.10% over the time period of 1995 though 1999. *The Value Line Investment Survey: Ratings & Reports* April 7, 2000, reported that the average common equity ratio (figured excluding short-term debt) for the electric industry for 1998 was 44.5% and is estimated to be 46.0% for 1999. St. Joseph's common equity ratio is higher than the "industry average," but that is one factor that has led to St. Joseph's solid credit rating. St. Joseph's return on year-end common equity (ROE) has fluctuated during this time period ranging from a high of 13.56% in 1995 to a low of 6.37% in 1999. *The Value Line Investment Survey: Ratings & Reports*, April 7,

2000, estimates that St. Joseph's return on equity for 2000 will be 11.0%, which is in line with their reports that the average projected return on common equity for the electric utility industry will be 12.5% for 2000. St. Joseph's market-to-book ratio has varied from a high of 1.76 times to a low of 1.41 for the time period 1995 through 2000.

Capital Structure and Embedded Costs

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

A. My analysis is based upon St. Joseph's capital structure as of December 31, 1999. Schedule 11 presents St. Joseph's capital structure and associated capital ratios. The resulting capital structure consists of 54.92% common stock equity, 0.00% preferred stock, 38.17% long-term debt and 6.91% short-term debt. St. Joseph had no preferred stock outstanding at December 31, 1999. The amount of long-term debt includes current maturities due within one year and was reduced by $1,238,415 (see Schedules 12-2 and 12-3) for the net balance associated with losses on reacquired debt and unamortized debt issuance expenses.

Q. Is this the capital structure you are recommending that the Commission adopt in this case, or are you recommending a hypothetical capital structure?

A. No. In the past the Staff has used a hypothetical capital structure for St. Joseph due to the excessive amount of common equity that was used in their capital structure. However, as of December 31, 1999, St. Joseph's capital structure did not contain an excessive amount of common equity based on the methodology Staff has historically used to make this determination. Therefore, Staff is recommending that the Commission adopt St. Joseph's actual capital structure as of December 31, 1999.

Q. Would you please explain the methodology Staff used to determine if a company's capital structure contains an excessive amount of common equity?

A. First the Staff applies appropriate criteria to select a group of companies that are comparable to the company being analyzed. In this case that company is St. Joseph. Once the comparable companies have been selected, the Staff calculates an average capital structure for the comparable company group as well as the standard deviation. From the average capital structure for the comparable companies the equity ratio is taken and then a range of one standard deviation on each side of the average is determined. If the company being analyzed has a common equity ratio that falls within this range of one standard deviation from the average, then the common equity ratio for the company being analyzed considered reasonable.

Q. What was the embedded cost of debt for St. Joseph on December 31, 1998?

A. I determined it to be 8.44% (see Schedule 12). I also determined the embedded cost of short-term debt to be 6.32%. The embedded cost of short-term debt is equal to St. Joseph's cost of short-term debt for the month of December 1999.

Cost of Equity

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

A. I have selected the Discounted Cash Flow (DCF) model as the primary tool to determine the cost of equity for St. Joseph.

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 St. Joseph. 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.

Flowing from these, it is further assumed 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 St. Joseph?

A. Yes. In order to arrive at a company-specific DCF result, the company must have common stock that is market-traded and must pay dividends. St. Joseph's stock is publicly traded on the New York Stock Exchange under the ticker symbol of "SAJ" and St. Joseph has paid cash dividends each year since 1950. However, St. Joseph is in the process of merging with UtiliCorp. The merger agreement states that UtiliCorp will pay the shareholders of St. Joseph $23.00 in UtiliCorp stock for each share of St. Joseph stock they own. Therefore, the Staff has assumed that St. Joseph's stock is currently trading based on the anticipation of receiving $23.00 in UtiliCorp stock for each share of St. Joseph stock they own, and not the value of St. Joseph as an ongoing company. Based on this assumption Staff has used the return on common equity range developed by Staff in St. Joseph's last rate case and used that as the starting point for the return on equity range for this analysis. Staff then developed a group of five comparable companies. Once the comparable companies were selected the Staff then estimated the return on common equity for the comparable companies using the DCF model and the Capital Asset Pricing Model (CAPM) to either justify the range or indicate that deviation was necessary.

Q. Please explain the cost of equity analysis performed on other utility companies?

A. Yes. I have selected a group of comparable electric companies to analyze for the purpose of determining the reasonableness of the return on common equity range developed by Staff in St. Joseph's last rate case. Schedule 13 presents a list of 74

market-traded electric companies followed by Value Line of which St. Joseph is one. This list was reviewed for the following criteria:

1. Stock publicly traded and information printed in Value Line: This criterion did not eliminate any companies;

2. S&P Utility Credit Rating between A+ and BBB: This criterion eliminated eighteen companies;

3. Nuclear Operations 10% or Less of Total Generation: This criterion eliminated twenty-seven additional companies;

4. Electric Revenues greater than 60% of Total Revenues: This criterion eliminated six additional companies;

5. Total Capital < $2.5 billion: This criterion eliminated twelve additional companies;

6. Positive Dividends Per Share Annual Compound Growth Rate for the period of 1989 through 1999: This criterion eliminated four additional companies; and

7. No Missouri Operations: This criterion eliminated St. Joseph and The Empire District Electric Company.

On average, this final group of five publicly traded electric companies (comparable companies) is comparable to St. Joseph because of similar business operations and financial conditions. The five comparable companies are listed on Schedule 14.

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

A. I have calculated a DCF cost of equity for each of the five comparable companies. The first step was to calculate a growth rate. The first step in determining an appropriate growth rate is to calculate the historical compound growth rate of dividends, earnings and, book value for each company (see Schedule 15). The next step was to

review projected growth rates for each company. The Staff reviewed projected growth rates from three different sources: I/B/E/S Inc.'s *Institutional Brokers Estimate System*, March 16, 2000; Standard & Poor's Corporation's *Earnings Guide*, April 2000; and *Value Line's Investment Survey; Ratings & Reports*, February 16, 2000, and April 7, 2000. The historical growth rates ranged from 0.95% to 5.24% with an overall average of 3.09% for the group (Column 1 of Schedule 16). The projected growth rates ranged from 2.00% to 9.00% with an average of 4.84%. Taking into account the projected and historical growth rates, an average growth rate of 3.96% (see Schedule 16) was used in the DCF calculation for the comparable companies.

The next step was to calculate an expected yield term (D_1/P_0) for each of the comparable companies. The expected yield term 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 for each of the comparable companies. Schedule 17 shows the high/low stock price for each of the comparable companies for the time period December 1, 1999, through March 31, 2000. This averaging technique is an attempt to minimize the effects on the dividend yield that can occur due to daily volatility in the stock market.

The Value Line Investment Survey: Ratings & Reports, February 16, 2000 and April 7, 2000, report estimates of the common dividend for each of the comparable companies for the next 12 months. Column 3 of Schedule 18 shows that the projected

dividend yields ranged from 4.81% to 8.79% for the five comparable companies with the average at 6.45%.

The projected growth rates and projected dividend yields were then added together to reach an estimated DCF cost of equity for each of the five comparable companies (see Column 5 of Schedule 18). These estimates produced a DCF cost of equity ranging from 9.52% to 11.68% for the comparable companies with an average of 10.41%. This solidly supports the return on equity range developed by Staff in St. Joseph's last rate case of 9.27% to 10.51%.

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 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 general form of the CAPM is as follows:

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

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 approximated 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 5.87% as of April 25, 2000, as published in *The Wall Street Journal.*

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. This causes a higher beta security to be riskier and therefore requires a higher return in order to attract investor capital away from a lower beta security. For purposes of this analysis, the appropriate beta for each of the comparable companies was determined to be the beta published in *The Value Line Investment Survey: Ratings & Reports*, February 16, 2000 and April 7, 2000. The betas for the comparable companies ranged from 0.50 to 0.40 with an average of 0.47 (see Schedule 19).

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 the market risk premium for the time period 1926 through 1998 as calculated in Ibbotson Associates, Inc.'s *Stocks, Bonds, Bills, and Inflation: 1999 Yearbook.*

Schedule 19 presents the CAPM analysis with regard to the comparable companies. The CAPM analysis produces an estimated cost of equity range of 8.87% to

9.62% for the comparable companies with an average of 9.39%. This provides support to the DCF cost of equity estimate developed by Staff in St. Joseph's last rate case, and proposed to be used by Staff in this analysis of St. Joseph

Rate of Return for St. Joseph

Q. Please explain how the returns developed for each capital component are used in the ratemaking approach you have adopted to be applied to St. Joseph's 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 20).

It is my responsibility to calculate and recommend a rate of return that should be authorized on the rate base of St. Joseph. Under the cost of service ratemaking approach, a weighted cost of capital in the range of 8.75% to 9.43% was developed for St. Joseph's operations (see Schedule 21). This rate was calculated by applying an embedded cost of short-term debt of 6.32%, an embedded cost of long-term debt of 8.44%, and a return on common equity range of 9.27% to 10.51% to a capital structure consisting of 6.91% short-term debt, 38.17% long-term debt, and 54.92% common equity. Therefore, as I suggested earlier, I am recommending that St. Joseph Light & Power's Missouri utility operations be allowed to earn a return on its original cost rate base in the range of 8.75% to 9.43%.

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 9.27% to

10.51%. My return range is based on the current 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 allow St. Joseph to raise the money necessary for the proper discharge of its public duties.

Q. Would it be appropriate for Staff to update St. Joseph's capital structure?

A. Yes. Staff believes that its analysis concerning the embedded cost of long-term debt and short-term debt as well as the expected return on equity are reasonably accurate. The capital structure has changed and is reflected in Staff witness V. William Harris' rebuttal testimony. The capital structure contains more debt currently than it did as of December 31, 1999. Therefore, the overall rate of return is currently lower than what I recommend as of December 31, 1999. Staff believes that this approach is appropriate in this case.

Q. Does this conclude your rebuttal testimony?

A. Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the Application of St. Joseph Light & Power Company for the issuance of an Accounting Order relating to its Electrical Operations.	))))	Case No. EO-2000-845

AFFIDAVIT OF DAVID P. BROADWATER

STATE OF MISSOURI)
) ss.
COUNTY OF JACKSON)

David P. Broadwater, is, of lawful age, and on his oath states: that he has participated in the preparation of the foregoing Rebuttal Testimony in question and answer form, consisting of 21 pages to be presented in the above case; that the answers in the foregoing Rebuttal 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 10th day of October, 2000

ANGELA LEE
Notary Public Notary Seal
STATE OF MISSOURI
Commissioned in Jackson County
My Commission Expires October 6, 2003

Angela Lee
Notary Public
My Commission Expires Oct 6, 2003

DAVID BROADWATER

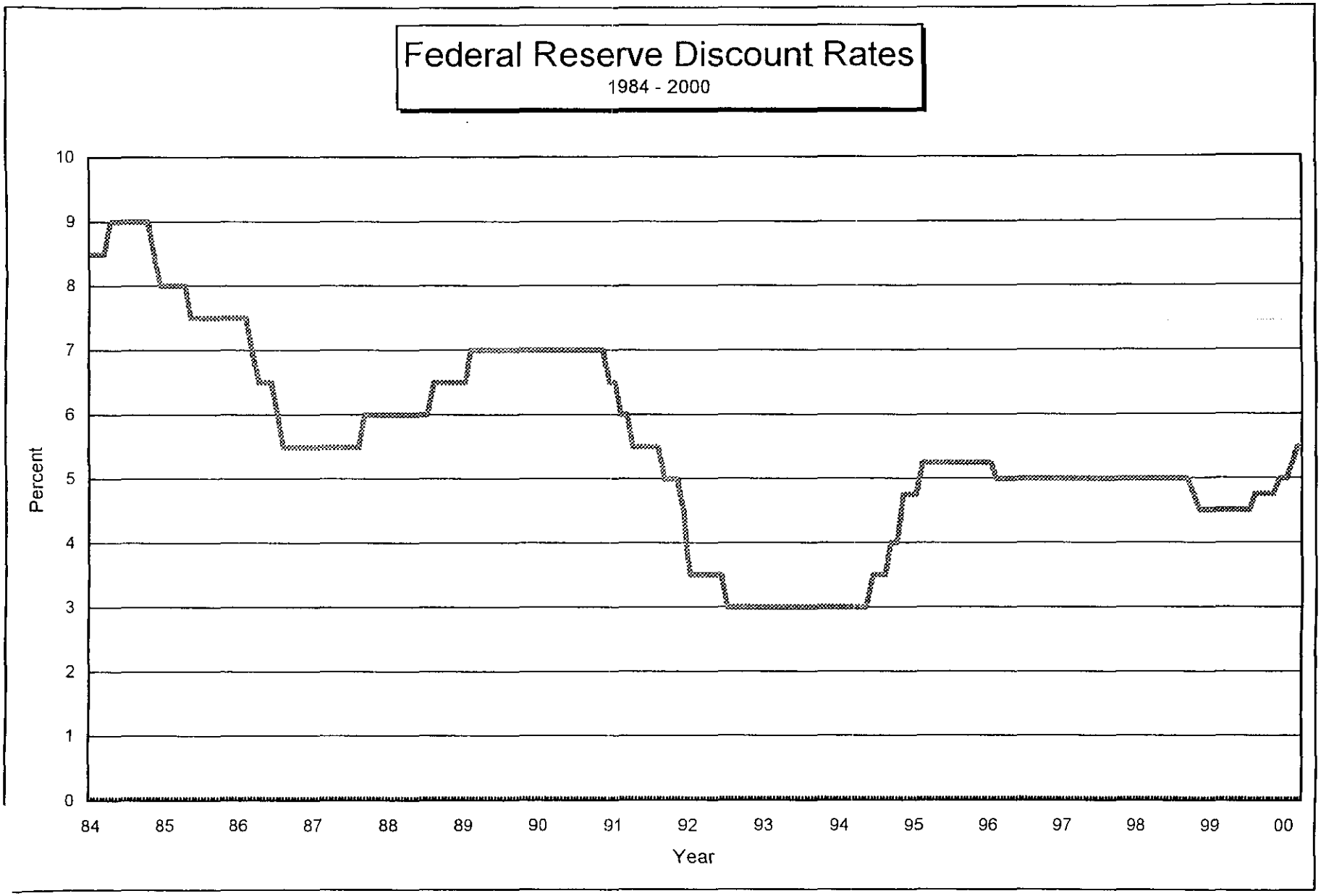
COMPANY	CASE NO.
Empire District Electric	ER-95-279
Laclede Gas Company	GR-96-193
Missouri Gas Energy	GR-96-285
Empire District Electric	ER-97-81
Empire District Electric	ER-97-82
Kansas City Power & Light	EO-97-84
Union Electric	EO-97-86
Missouri-American Water Company	WR-97-237
St. Louis County Water	WR-97-382
Laclede Gas Company	GR-98-374
Laclede Gas Company	GR-99-315
GTE Midwest /Spectra Communications	TM-2000-182
AmerenUE	EO-2000-205
Kansas City Power & Light	EO-2000-210
Atmos Energy Corp./Associated Natural Gas Company	GM-2000-312
UtiliCorp United Inc. and St. Joseph Light & Power Company Merger	EM-2000-292

UNION ELECTRIC COMPANY
dba AmerenUE
CASE NO. GR-2000-512

Federal Reserve Discount Rate Changes

Date	Discount Rate
01/01/83	8.50%
12/31	8.50%
04/09/84	9.00%
11/21	8.50%
12/24	8.00%
05/20/85	7.50%
03/07/86	7.00%
04/21	6.50%
07/11	6.00%
08/21	5.50%
09/04/87	6.00%
08/09/88	6.50%
02/24/89	7.00%
12/19/90	6.50%
02/01/91	6.00%
04/30	5.50%
09/13	5.00%
11/06	4.50%
12/20	3.50%
07/02/92	3.00%
01/01/93	3.00%
12/31	3.00%
05/17/94	3.50%
08/16	4.00%
11/15	4.75%
02/01/95	5.25%
01/31/96	5.00%
12/12/97	5.00%
01/09/98	5.00%
03/06/98	5.00%
10/15/98	4.75%
11/17/98	4.50%
06/30/99	4.50%
08/24/99	4.75%
11/16/99	5.00%
02/02/00	5.25%
03/21/00	5.50%

Sources: Federal Reserve Bulletin & The Wall Street Journal.


Federal Reserve Discount Rates
1984 - 2000
Percent
10
9
8
7
6
5
4
3
2
1
0
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
00
Year

Schedule 2-2

UNION ELECTRIC COMPANY
dba AmerenUE
CASE NO. GR-2000-512

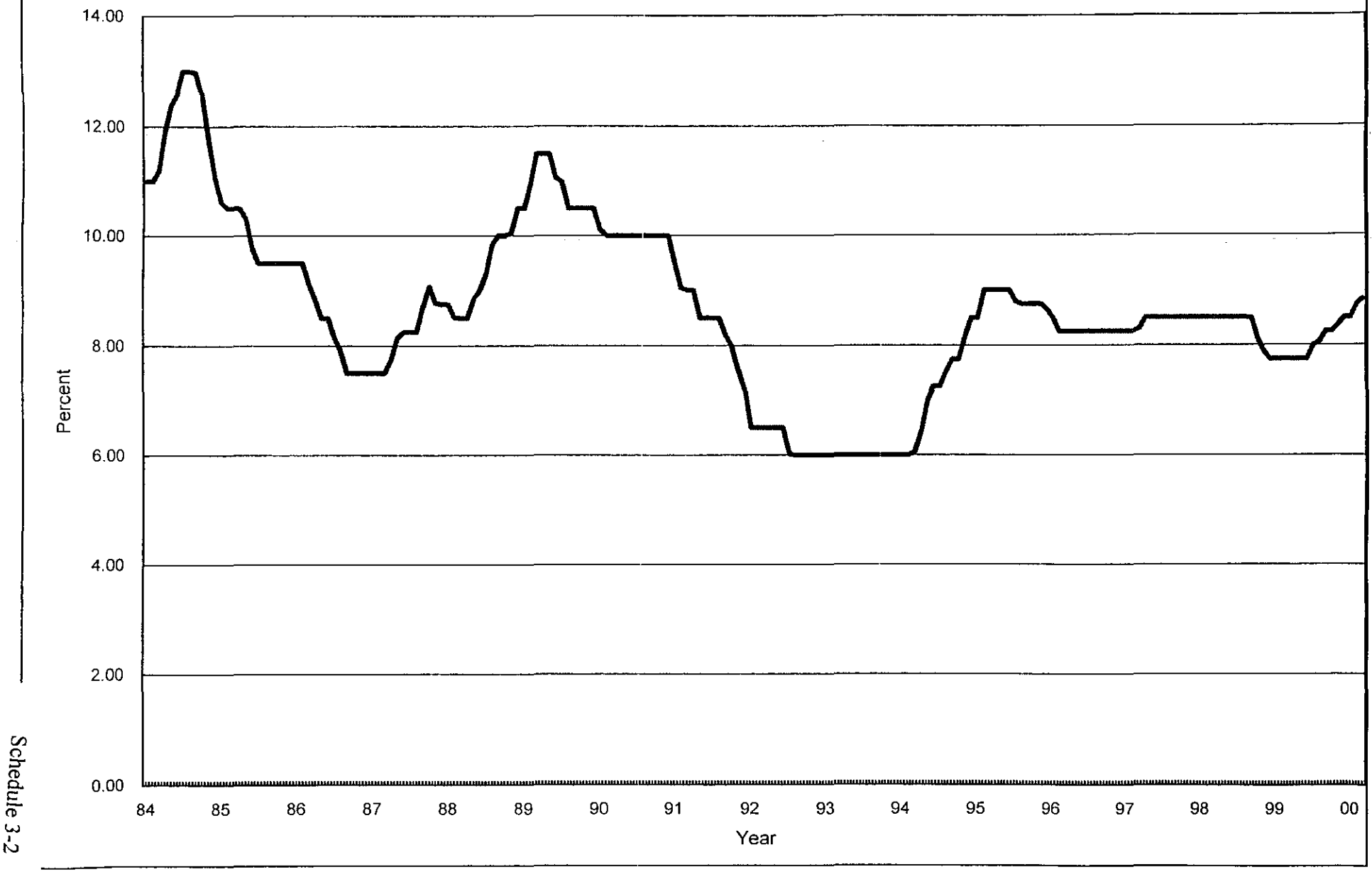
Average Prime Interest Rates

Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)
Jan 1984	11.00	Jan 1988	8.75	Jan 1992	6.50	Jan 1996	8.50
Feb	11.00	Feb	8.51	Feb	6.50	Feb	8.25
Mar	11.21	Mar	8.50	Mar	6.50	Mar	8.25
Apr	11.93	Apr	8.50	Apr	6.50	Apr	8.25
May	12.39	May	8.84	May	6.50	May	8.25
Jun	12.60	Jun	9.00	Jun	6.50	Jun	8.25
Jul	13.00	Jul	9.29	Jul	6.02	Jul	8.25
Aug	13.00	Aug	9.84	Aug	6.00	Aug	8.25
Sep	12.97	Sep	10.00	Sep	6.00	Sep	8.25
Oct	12.58	Oct	10.00	Oct	6.00	Oct	8.25
Nov	11.77	Nov	10.05	Nov	6.00	Nov	8.25
Dec	11.06	Dec	10.50	Dec	6.00	Dec	8.25
Jan 1985	10.61	Jan 1989	10.50	Jan 1993	6.00	Jan 1997	8.26
Feb	10.50	Feb	10.93	Feb	6.00	Feb	8.25
Mar	10.50	Mar	11.50	Mar	6.00	Mar	8.30
Apr	10.50	Apr	11.50	Apr	6.00	Apr	8.50
May	10.31	May	11.50	May	6.00	May	8.50
Jun	9.78	Jun	11.07	Jun	6.00	Jun	8.50
Jul	9.50	Jul	10.98	Jul	6.00	Jul	8.50
Aug	9.50	Aug	10.50	Aug	6.00	Aug	8.50
Sep	9.50	Sep	10.50	Sep	6.00	Sep	8.50
Oct	9.50	Oct	10.50	Oct	6.00	Oct	8.50
Nov	9.50	Nov	10.50	Nov	6.00	Nov	8.50
Dec	9.50	Dec	10.50	Dec	6.00	Dec	8.50
Jan 1986	9.50	Jan 1990	10.11	Jan 1994	6.00	Jan 1998	8.50
Feb	9.50	Feb	10.00	Feb	6.00	Feb	8.50
Mar	9.10	Mar	10.00	Mar	6.06	Mar	8.50
Apr	8.83	Apr	10.00	Apr	6.45	Apr	8.50
May	8.50	May	10.00	May	6.99	May	8.50
Jun	8.50	Jun	10.00	Jun	7.25	Jun	8.50
Jul	8.16	Jul	10.00	Jul	7.25	Jul	8.50
Aug	7.90	Aug	10.00	Aug	7.51	Aug	8.50
Sep	7.50	Sep	10.00	Sep	7.75	Sep	8.49
Oct	7.50	Oct	10.00	Oct	7.75	Oct	8.12
Nov	7.50	Nov	10.00	Nov	8.15	Nov	7.89
Dec	7.50	Dec	10.00	Dec	8.50	Dec	7.75
Jan 1987	7.50	Jan 1991	9.52	Jan 1995	8.50	Jan 1999	7.75
Feb	7.50	Feb	9.05	Feb	9.00	Feb	7.75
Mar	7.50	Mar	9.00	Mar	9.00	Mar	7.75
Apr	7.75	Apr	9.00	Apr	9.00	Apr	7.75
May	8.14	May	8.50	May	9.00	May	7.75
Jun	8.25	Jun	8.50	Jun	9.00	Jun	7.75
Jul	8.25	Jul	8.50	Jul	8.80	Jul	8.00
Aug	8.25	Aug	8.50	Aug	8.75	Aug	8.06
Sep	8.70	Sep	8.20	Sep	8.75	Sep	8.25
Oct	9.07	Oct	8.00	Oct	8.75	Oct	8.25
Nov	8.78	Nov	7.58	Nov	8.75	Nov	8.37
Dec	8.75	Dec	7.21	Dec	8.65	Dec	8.50
						Jan 2000	8.50
						Feb	8.73
						Mar	8.83

Sources: Federal Reserve Bulletin & The Wall Street Journal.

Average Prime Interest Rate

1984 - 2000



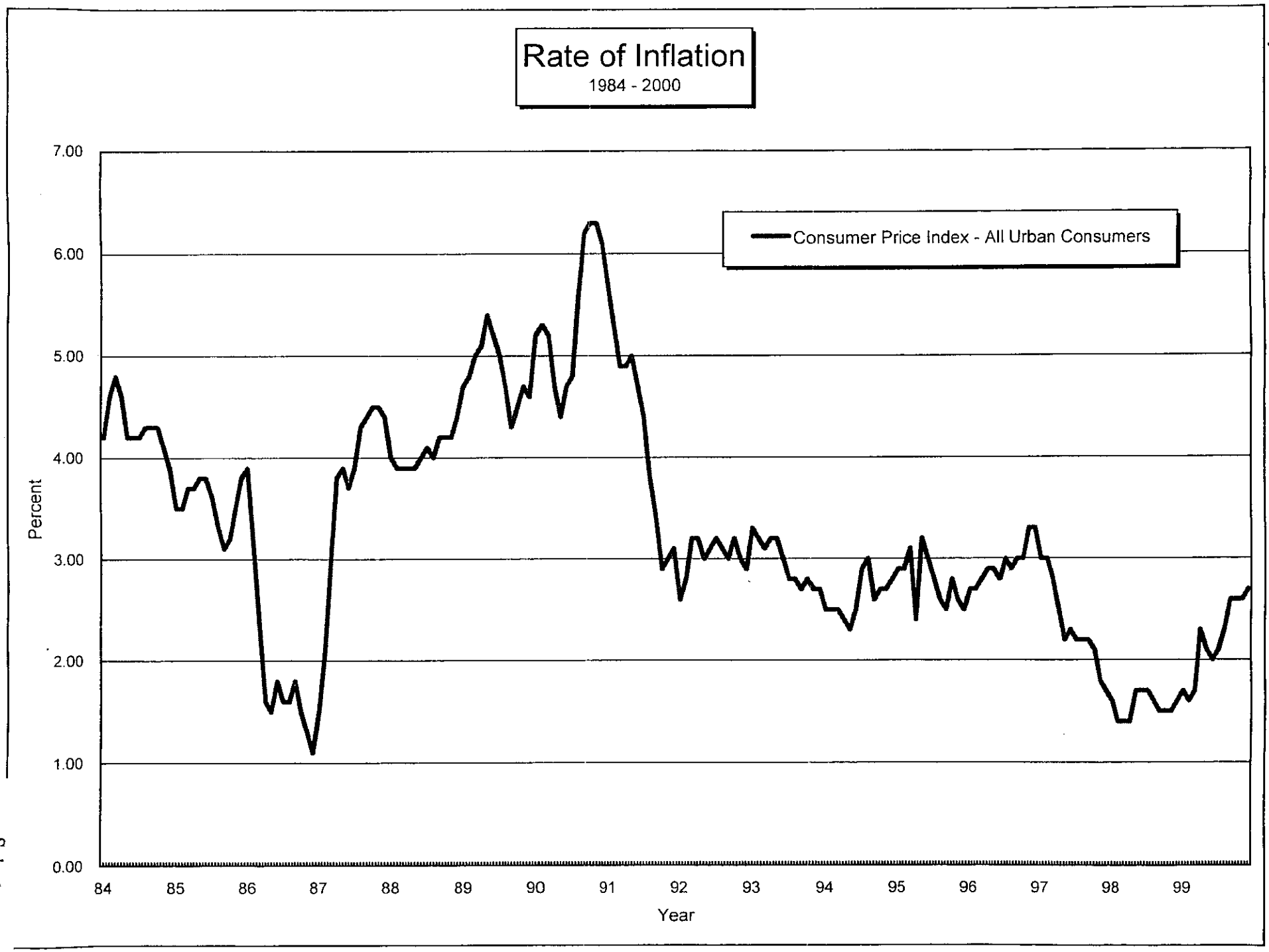
Schedule 3-2

UNION ELECTRIC COMPANY
dba AmerenUE
CASE NO. GR-2000-512

Rate of Inflation

Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)
Jan 1984	4.20	Jan 1988	4.00	Jan 1992	2.60	Jan 1996	2.70
Feb	4.60	Feb	3.90	Feb	2.80	Feb	2.70
Mar	4.80	Mar	3.90	Mar	3.20	Mar	2.80
Apr	4.60	Apr	3.90	Apr	3.20	Apr	2.90
May	4.20	May	3.90	May	3.00	May	2.90
Jun	4.20	Jun	4.00	Jun	3.10	Jun	2.80
Jul	4.20	Jul	4.10	Jul	3.20	Jul	3.00
Aug	4.30	Aug	4.00	Aug	3.10	Aug	2.90
Sep	4.30	Sep	4.20	Sep	3.00	Sep	3.00
Oct	4.30	Oct	4.20	Oct	3.20	Oct	3.00
Nov	4.10	Nov	4.20	Nov	3.00	Nov	3.30
Dec	3.90	Dec	4.40	Dec	2.90	Dec	3.30
Jan 1985	3.50	Jan 1989	4.70	Jan 1993	3.30	Jan 1997	3.00
Feb	3.50	Feb	4.80	Feb	3.20	Feb	3.00
Mar	3.70	Mar	5.00	Mar	3.10	Mar	2.80
Apr	3.70	Apr	5.10	Apr	3.20	Apr	2.50
May	3.80	May	5.40	May	3.20	May	2.20
Jun	3.80	Jun	5.20	Jun	3.00	Jun	2.30
Jul	3.60	Jul	5.00	Jul	2.80	Jul	2.20
Aug	3.30	Aug	4.70	Aug	2.80	Aug	2.20
Sep	3.10	Sep	4.30	Sep	2.70	Sep	2.20
Oct	3.20	Oct	4.50	Oct	2.80	Oct	2.10
Nov	3.50	Nov	4.70	Nov	2.70	Nov	1.80
Dec	3.80	Dec	4.60	Dec	2.70	Dec	1.70
Jan 1986	3.90	Jan 1990	5.20	Jan 1994	2.50	Jan 1998	1.60
Feb	3.10	Feb	5.30	Feb	2.50	Feb	1.40
Mar	2.30	Mar	5.20	Mar	2.50	Mar	1.40
Apr	1.60	Apr	4.70	Apr	2.40	Apr	1.40
May	1.50	May	4.40	May	2.30	May	1.70
Jun	1.80	Jun	4.70	Jun	2.50	Jun	1.70
Jul	1.60	Jul	4.80	Jul	2.90	Jul	1.70
Aug	1.60	Aug	5.60	Aug	3.00	Aug	1.60
Sep	1.80	Sep	6.20	Sep	2.60	Sep	1.50
Oct	1.50	Oct	6.30	Oct	2.70	Oct	1.50
Nov	1.30	Nov	6.30	Nov	2.70	Nov	1.50
Dec	1.10	Dec	6.10	Dec	2.80	Dec	1.60
Jan 1987	1.50	Jan 1991	5.70	Jan 1995	2.90	Jan 1999	1.70
Feb	2.10	Feb	5.30	Feb	2.90	Feb	1.60
Mar	3.00	Mar	4.90	Mar	3.10	Mar	1.70
Apr	3.80	Apr	4.90	Apr	2.40	Apr	2.30
May	3.90	May	5.00	May	3.20	May	2.10
Jun	3.70	Jun	4.70	Jun	3.00	Jun	2.00
Jul	3.90	Jul	4.40	Jul	2.80	Jul	2.10
Aug	4.30	Aug	3.80	Aug	2.60	Aug	2.30
Sep	4.40	Sep	3.40	Sep	2.50	Sep	2.60
Oct	4.50	Oct	2.90	Oct	2.80	Oct	2.60
Nov	4.50	Nov	3.00	Nov	2.60	Nov	2.60
Dec	4.40	Dec	3.10	Dec	2.50	Dec	2.70

Source: U.S. Department of Labor, Bureau of Labor Statistics, Consumer Price Index - All Urban Consumers, Change for 12-Month Period, Bureau of Labor Statistics Website and Wall Street Journal.


Rate of Inflation
1984 - 2000
Consumer Price Index - All Urban Consumers
Percent
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
Year

Schedule 4-2

UNION ELECTRIC COMPANY
dba AmerenUE
CASE NO. GR-2000-512

Average Yields on Moody's Public Utility Bonds

Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)
Jan 1984	13.40	Jan 1988	10.75	Jan 1992	8.67	Jan 1996	7.20
Feb	13.50	Feb	10.11	Feb	8.77	Feb	7.37
Mar	14.03	Mar	10.11	Mar	8.84	Mar	7.72
Apr	14.30	Apr	10.53	Apr	8.79	Apr	7.88
May	14.95	May	10.75	May	8.72	May	7.99
Jun	15.16	Jun	10.71	Jun	8.64	Jun	8.07
Jul	14.92	Jul	10.96	Jul	8.46	Jul	8.02
Aug	14.29	Aug	11.09	Aug	8.34	Aug	7.84
Sep	14.04	Sep	10.56	Sep	8.32	Sep	8.01
Oct	13.68	Oct	9.92	Oct	8.44	Oct	7.76
Nov	13.15	Nov	9.89	Nov	8.53	Nov	7.48
Dec	12.96	Dec	10.02	Dec	8.36	Dec	7.58
Jan 1985	12.88	Jan 1989	10.02	Jan 1993	8.23	Jan 1997	7.79
Feb	13.00	Feb	10.02	Feb	8.00	Feb	7.68
Mar	13.66	Mar	10.16	Mar	7.85	Mar	7.92
Apr	13.42	Apr	10.14	Apr	7.76	Apr	8.08
May	12.89	May	9.92	May	7.78	May	7.94
Jun	11.91	Jun	9.49	Jun	7.68	Jun	7.77
Jul	11.88	Jul	9.34	Jul	7.53	Jul	7.52
Aug	11.93	Aug	9.37	Aug	7.21	Aug	7.57
Sep	11.95	Sep	9.43	Sep	7.01	Sep	7.50
Oct	11.84	Oct	9.37	Oct	6.99	Oct	7.37
Nov	11.33	Nov	9.33	Nov	7.30	Nov	7.24
Dec	10.82	Dec	9.31	Dec	7.33	Dec	7.16
Jan 1986	10.66	Jan 1990	9.44	Jan 1994	7.31	Jan 1998	7.03
Feb	10.16	Feb	9.66	Feb	7.44	Feb	7.09
Mar	9.33	Mar	9.75	Mar	7.83	Mar	7.13
Apr	9.02	Apr	9.87	Apr	8.20	Apr	7.12
May	9.52	May	9.89	May	8.32	May	7.11
Jun	9.51	Jun	9.69	Jun	8.31	Jun	6.99
Jul	9.19	Jul	9.66	Jul	8.47	Jul	6.99
Aug	9.15	Aug	9.84	Aug	8.41	Aug	6.96
Sep	9.42	Sep	10.01	Sep	8.65	Sep	6.88
Oct	9.39	Oct	9.94	Oct	8.88	Oct	6.88
Nov	9.15	Nov	9.76	Nov	9.00	Nov	6.96
Dec	8.96	Dec	9.57	Dec	8.79	Dec	6.84
Jan 1987	8.77	Jan 1991	9.56	Jan 1995	8.77	Jan 1999	6.87
Feb	8.81	Feb	9.31	Feb	8.56	Feb	7.00
Mar	8.75	Mar	9.39	Mar	8.41	Mar	7.18
Apr	9.30	Apr	9.30	Apr	8.30	Apr	7.16
May	9.82	May	9.29	May	7.93	May	7.42
Jun	9.87	Jun	9.44	Jun	7.62	Jun	7.70
Jul	10.01	Jul	9.40	Jul	7.73	Jul	7.66
Aug	10.33	Aug	9.16	Aug	7.86	Aug	7.86
Sep	11.00	Sep	9.03	Sep	7.62	Sep	7.87
Oct	11.32	Oct	8.99	Oct	7.46	Oct	8.02
Nov	10.82	Nov	8.93	Nov	7.40	Nov	7.86
Dec	10.99	Dec	8.76	Dec	7.21	Dec	8.04

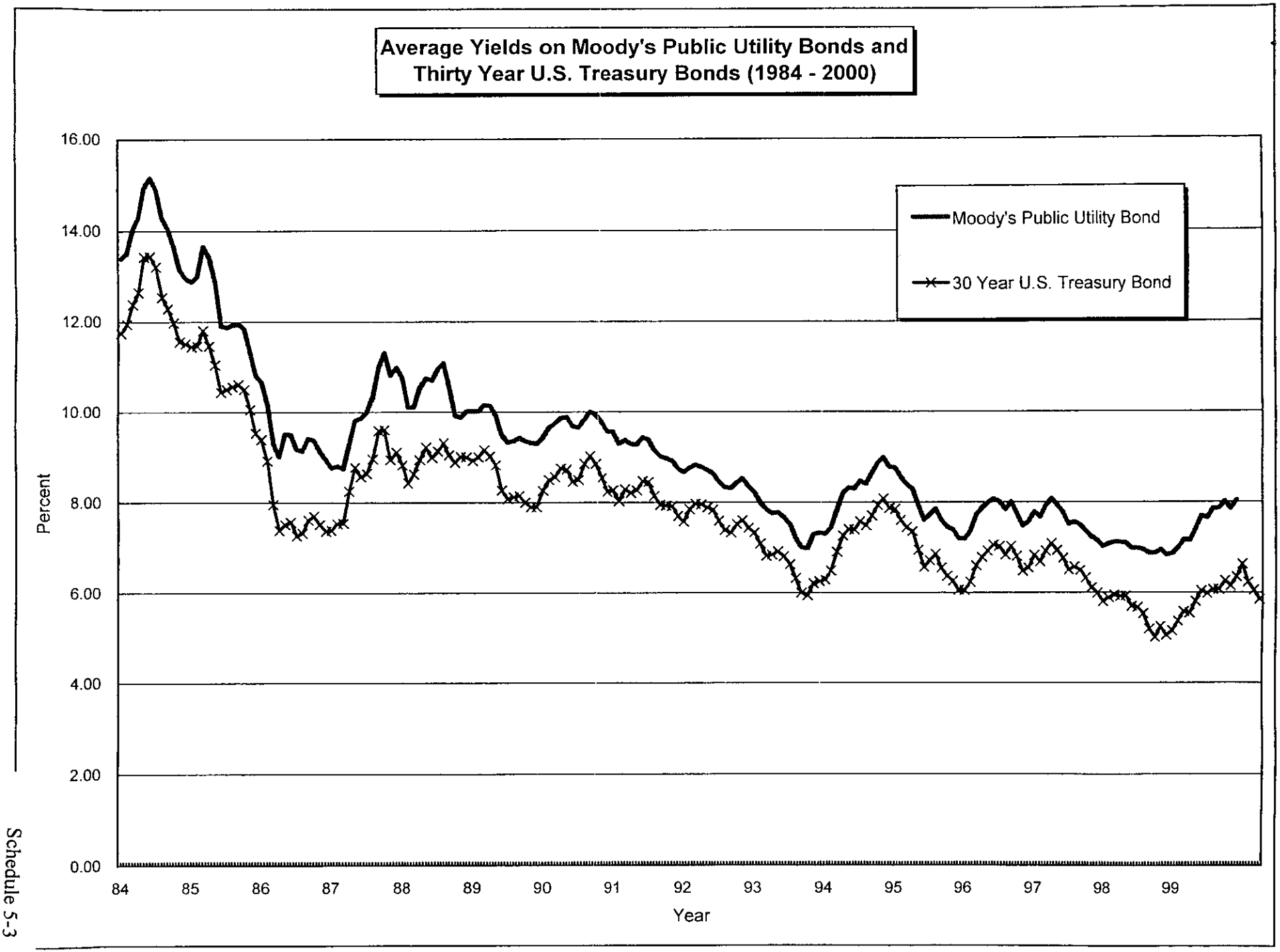
Source: Moody's Bond Record.

UNION ELECTRIC COMPANY
dba AmerenUE
CASE NO. GR-2000-512

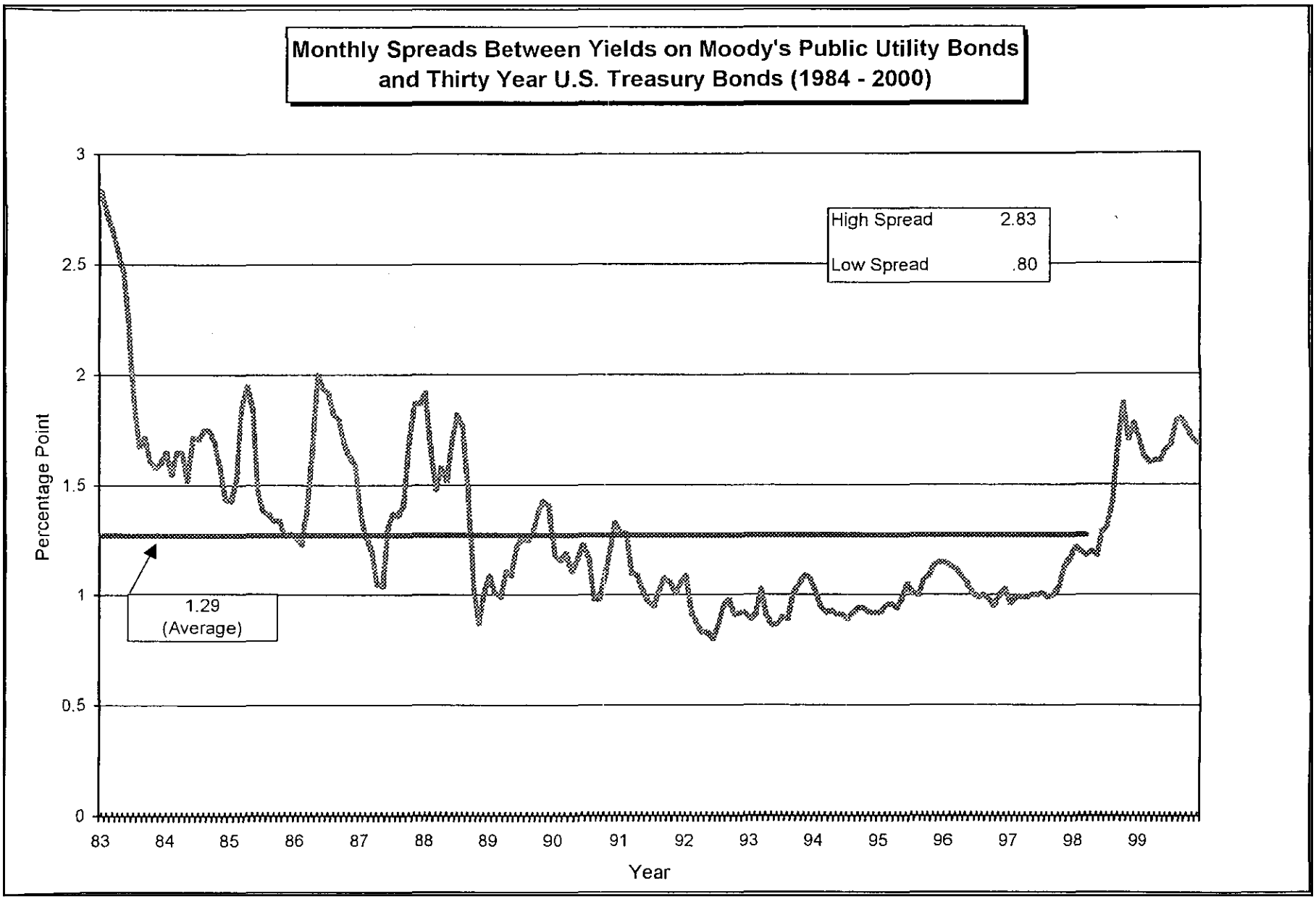
Average Yields on Thirty Year U.S. Treasury Bonds

Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)
Jan 1984	11.75	Jan 1988	8.83	Jan 1992	7.58	Jan 1996	6.05
Feb	11.95	Feb	8.43	Feb	7.85	Feb	6.24
Mar	12.38	Mar	8.63	Mar	7.97	Mar	6.60
Apr	12.65	Apr	8.95	Apr	7.96	Apr	6.79
May	13.43	May	9.23	May	7.89	May	6.93
Jun	13.44	Jun	9.00	Jun	7.84	Jun	7.06
Jul	13.21	Jul	9.14	Jul	7.60	Jul	7.03
Aug	12.54	Aug	9.32	Aug	7.39	Aug	6.84
Sep	12.29	Sep	9.06	Sep	7.34	Sep	7.03
Oct	11.98	Oct	8.89	Oct	7.53	Oct	6.81
Nov	11.56	Nov	9.02	Nov	7.61	Nov	6.48
Dec	11.52	Dec	9.01	Dec	7.44	Dec	6.55
Jan 1985	11.45	Jan 1989	8.93	Jan 1993	7.34	Jan 1997	6.83
Feb	11.47	Feb	9.01	Feb	7.09	Feb	6.69
Mar	11.81	Mar	9.17	Mar	6.82	Mar	6.93
Apr	11.47	Apr	9.03	Apr	6.85	Apr	7.09
May	11.05	May	8.83	May	6.92	May	6.94
Jun	10.44	Jun	8.27	Jun	6.81	Jun	6.77
Jul	10.50	Jul	8.08	Jul	6.63	Jul	6.51
Aug	10.56	Aug	8.12	Aug	6.32	Aug	6.58
Sep	10.61	Sep	8.15	Sep	6.00	Sep	6.50
Oct	10.50	Oct	8.00	Oct	5.94	Oct	6.33
Nov	10.06	Nov	7.90	Nov	6.21	Nov	6.11
Dec	9.54	Dec	7.90	Dec	6.25	Dec	5.99
Jan 1986	9.40	Jan 1990	8.26	Jan 1994	6.29	Jan 1998	5.81
Feb	8.93	Feb	8.50	Feb	6.49	Feb	5.89
Mar	7.96	Mar	8.56	Mar	6.91	Mar	5.95
Apr	7.39	Apr	8.76	Apr	7.27	Apr	5.92
May	7.52	May	8.73	May	7.41	May	5.93
Jun	7.57	Jun	8.46	Jun	7.40	Jun	5.70
Jul	7.27	Jul	8.50	Jul	7.58	Jul	5.68
Aug	7.33	Aug	8.86	Aug	7.49	Aug	5.54
Sep	7.62	Sep	9.03	Sep	7.71	Sep	5.20
Oct	7.70	Oct	8.86	Oct	7.94	Oct	5.01
Nov	7.52	Nov	8.54	Nov	8.08	Nov	5.25
Dec	7.37	Dec	8.24	Dec	7.87	Dec	5.06
Jan 1987	7.39	Jan 1991	8.27	Jan 1995	7.85	Jan 1999	5.16
Feb	7.54	Feb	8.03	Feb	7.61	Feb	5.37
Mar	7.55	Mar	8.29	Mar	7.45	Mar	5.58
Apr	8.25	Apr	8.21	Apr	7.36	Apr	5.55
May	8.78	May	8.27	May	6.95	May	5.81
Jun	8.57	Jun	8.47	Jun	6.57	Jun	6.04
Jul	8.64	Jul	8.45	Jul	6.72	Jul	5.98
Aug	8.97	Aug	8.14	Aug	6.86	Aug	6.07
Sep	9.59	Sep	7.95	Sep	6.55	Sep	6.07
Oct	9.61	Oct	7.93	Oct	6.37	Oct	6.26
Nov	8.95	Nov	7.92	Nov	6.26	Nov	6.15
Dec	9.12	Dec	7.70	Dec	6.06	Dec	6.35

Source: Federal Reserve Bulletin and Federal Reserve Website: http://www.stls.frb.org/fred/data/irates/gs30

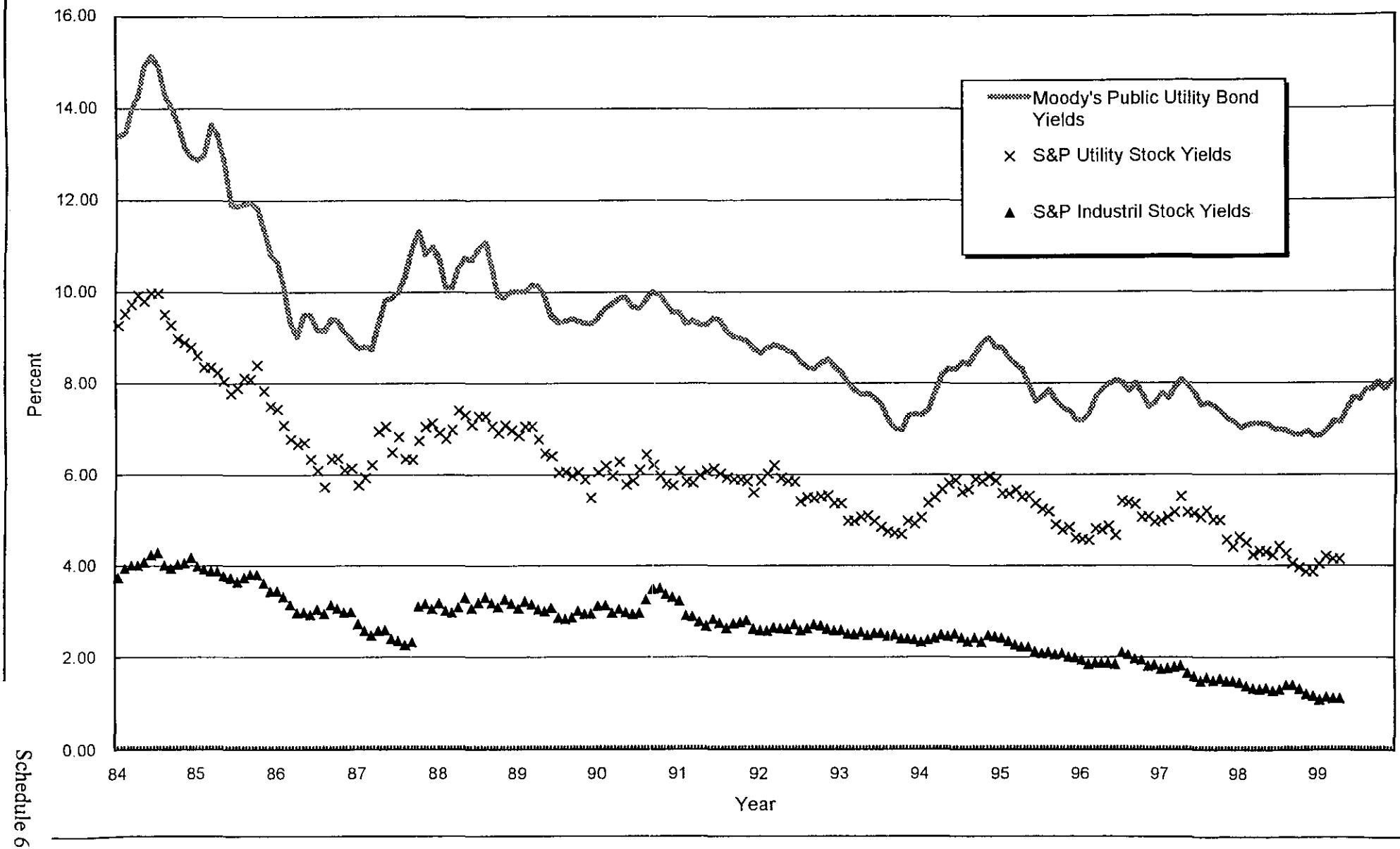

Average Yields on Moody's Public Utility Bonds and Thirty Year U.S. Treasury Bonds (1984 - 2000)
16.00
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
Percent
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
Year
Moody's Public Utility Bond
30 Year U.S. Treasury Bond

Schedule 5-3


Monthly Spreads Between Yields on Moody's Public Utility Bonds and Thirty Year U.S. Treasury Bonds (1984 - 2000)
High Spread 2.83
Low Spread .80
1.29
(Average)
Percentage Point
Year
0
0.5
1
1.5
2
2.5
3
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99

Schedule 5-4

Average Yields on Public Utility Bonds and S&P Utility Stock & S&P Industrial Stock Yields



Schedule 6

St. Joseph Light & Power Company
EO-2000-845

Historical Consolidated Capital Structures for St. Joseph Light and Power Company
(Consolidated Basis)
(Thousands of Dollars)

Capital Components	1995	1996	1997	1998	1999
Common Equity	$ 81,394.0	$ 86,170.0	$ 91,168.0	$ 95,805.0	$ 96,188.0
Preferred Stock	$ -	$ -	$ -	$ -	$ -
Long-Term Debt	$ 73,100.0	$ 73,100.0	$ 77,372.0	$ 77,372.0	$ 74,282.0
Short-Term Debt	$ -	$ -	$ 2,621.0	$ 3,621.0	$ 17,762.0
Total	$154,494.0	$159,270.0	$171,161.0	$176,798.0	$188,232.0

Capital Structure	1994	1995	1996	1997	1998
Common Equity	52.68%	54.10%	53.26%	54.19%	51.10%
Preferred Stock	0.00%	0.00%	0.00%	0.00%	0.00%
Long-Term Debt	47.32%	45.90%	45.20%	43.76%	39.46%
Short-Term Debt	0.00%	0.00%	1.53%	2.05%	9.44%
Total	100.00%	100.00%	100.00%	100.00%	100.00%

Source: St. Joseph Light and Power Company's Shareholder Annual Reports

Schedule 7

Selected Financial Ratios for St. Joseph Light and Power Company (Consolidated Basis)

Financial Ratios	1995	1996	1997	1998	1999
Return on Year-End Common Equity	13.56%	12.02%	11.89%	11.13%	6.37%
Earnings Per Common Share	$ 1.41	$ 1.32	$ 1.36	$ 1.32	$ 0.75
Common Dividend Payout Ratio	65.25%	71.21%	70.59%	74.81%	133%
Year-End Market Price Per Common Share	$ 17.75	$ 15.38	$ 17.75	$ 17.94	$ 20.50
Year-End Book Value Per Common Share	$ 10.42	$ 10.87	$ 11.34	$ 11.76	$ 11.63
Year-End Market to Book Ratio	1.70 x	1.41 x	1.57 x	1.53 x	1.76 x
Pre-Tax Interest Coverage Ratio	3.78 x	3.59 x	3.60 x	3.38 x	2.34 x
Credit Rating (Standard & Poor's Corporation)	A-	A-	A-	A-	A-

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: St. Joseph Light and Power Company's Shareholder Annual Reports, Standard & Poor's Corporation's Utility Rating Service, July, 1998

Schedule 8

There are no schedules 9-10

St. Joseph Light & Power Company
EO-2000-845

Capital Structure as of December 31, 1999
for St. Joseph Light and Power Company (Consolidated Basis)

Capital Component	Amount in Dollars	Percentage of Capital
Common Stock Equity	$96,187,816	54.92%
Preferred Stock	0	0.00%
Long-Term Debt	66,861,585	38.17%
Short-Term Debt	12,101,424	6.91%
Total Capitalization	**$175,150,825**	**100.00%**

Financial Ratio Benchmarks
Total Debt / Total Capital - Including Preferred Stock

Standard & Poor's Corporation's Utility Rating Service 9/30/98	AA	A	BBB
Electric Utility Companies (Average Business Position)	42%	56%	63%

Schedule 11

St. Joseph Light & Power Company
EO-2000-845

Embedded Cost of Long-Term Debt as of December 31, 1999 for St. Joseph Light and Power Company

Long-Term Debt	(1) Interest Rate	(2) Prinicipal Amount Outstanding (12/31/98)	(3) Annualized Cost to Company (1 * 2)
First Mortgage Bonds:			
9.44% Series due February 1, 2021	9.440%	$22,500,000	$2,124,000
5.85% Series due February 1, 2013	5.850%	5,600,000	327,600
Medium-Term Notes			
7.13% Series due November 29, 2013	7.130%	1,000,000	71,300
7.16% Series due November 29, 2013	7.160%	3,000,000	214,800
7.16% Series due November 29, 2013	7.160%	3,000,000	214,800
7.16% Series due November 29, 2013	7.160%	3,000,000	214,800
7.17% Series due December 1, 2023	7.170%	2,000,000	143,400
7.17% Series due December 1, 2023	7.170%	5,000,000	358,500
7.33% Series due November 30, 2023	7.330%	3,000,000	219,900
8.36% Series due March 15, 2005	8.360%	20,000,000	1,672,000
Less: Unamortized Debt Issuance Expense		(438,009)	
Less: Unamortized Losses on Reacquired Debt		(800,406)	
Add: Annual Amortized Debt Issuance Expense			35,774
Add: Annual Amortized Losses on Reacquired Debt Expense			48,100
Total		$66,861,585	$5,644,974

Embedded Cost of Long-Term Debt = $5,644,974 / $66,861,585

= **8.44%**

Notes:

See Schedule 12-2 for the amounts of the Unamortized Premium & Debt Discount and the Annual Amortized Debt Discount Expense.

Sources: St. Joseph Light and Power Company's response to Staff's Data Information Requests No. 3802.

St. Joseph Light & Power Company
EO-2000-845

Annual Amortized Debt Issuance Expense
as of December 31, 1999 for St. Joseph Light and Power Company

Long-Term Debt	Maturity Date	(1) Number of Months to Maturity (12/31/99)	(2) Unamortized Debt Issuance Expense (12/31/99)	(3) Annualized Debt Issuance Expense (1) (12/31/99)
First Mortgage Bonds:				
9.44% Series due February 1, 2021	(02/01/21)	256.8	$81,445	$3,806
5.85% Series due February 1, 2013	(02/01/13)	159.4	114,685	8,636
Medium-Term Notes				
7.13% Series due November 29, 2013	(11/29/13)	169.4	7,788	552
7.16% Series due November 29, 2013	(11/29/13)	169.4	23,365	1,655
7.16% Series due November 29, 2013	(11/29/13)	169.4	23,365	1,655
7.16% Series due November 29, 2013	(11/29/13)	169.4	23,365	1,655
7.17% Series due December 1, 2023	(12/01/23)	291.2	17,878	737
7.17% Series due December 1, 2023	(12/01/23)	291.2	44,694	1,842
7.33% Series due November 30, 2023	(11/30/23)	291.2	26,797	1,104
8.36% Series due March 15, 2005	(03/15/05)	63.4	74,627	14,132
Total			$438,009	$35,774

Notes:

(1) Column 3 = [(Column 2 / Column 1) * 12].

Source: St. Joseph Light and Power Company's response to Staff's Data Information Request No. 3802

Schedule 12-2

St. Joseph Light & Power Company
EO-2000-845

Annual Amortized of Losses on Reaquired Debt as of December 31, 1999 for St. Joseph Light and Power Company

Long-Term Debt	Maturity Date	(1) Number of Months to Maturity (12/31/99)	(2) Unamortized Debt Issuance Expense (12/31/99)	(3) Annualized Debt Issuance Expense (1) (12/31/99)
First Mortgage Bonds:				
9.44% Series due February 1, 2021	(02/01/21)	256.8	$196,340	$9,176
5.85% Series due February 1, 2013	(02/01/13)	159.4	281,100	21,166
Medium-Term Notes				
7.13% Series due November 29, 2013	(11/29/13)	169.4	15,014	1,064
7.16% Series due November 29, 2013	(11/29/13)	169.4	45,043	3,191
7.16% Series due November 29, 2013	(11/29/13)	169.4	45,043	3,191
7.16% Series due November 29, 2013	(11/29/13)	169.4	45,043	3,191
7.17% Series due December 1, 2023	(12/01/23)	291.2	34,598	1,426
7.17% Series due December 1, 2023	(12/01/23)	291.2	86,495	3,564
7.33% Series due November 30, 2023	(11/30/23)	291.2	51,730	2,132
Total			**$800,406**	**$48,100**

Notes:

(1) Column 3 = [(Column 2 / Column 1) * 12].

Source: St. Joseph Light and Power Company's response to Staff's Data Information Request No. 3804

Company	Stock Publicly Traded & Information Printed in Value Line	S & P Utility Credit Rating between A+ and BBB	Nuclear Operations 10% or Less of Total Generation	Electric Revenues > 60% of Total Revenues	Total Capital < $2.5 billion	Positive DPS annual Compound Growth Rate (1990 - 1999)	No Missouri Operations	Comparable Company
AES Corp	YES	NA						
Allegheny Energy	YES	YES	YES	YES	NO			
Alliant Energy	YES	YES	NO					
Ameren Corp	YES	YES	NO					
Avista Corp	YES	YES	YES	NO				
Black Hills	YES	YES	YES	YES	YES	YES	YES	YES
Carolina Power & Light	YES	YES	NO					
Central and South West Corporation	YES	YES	YES	YES	NO			
Central Vermont Public Service	YES	NO						
CH Energy Group	YES	YES	NO					
Cinergy Corp	YES	YES	YES	YES	NO			
Cleco Corp	YES	YES	YES	YES	YES	YES	YES	YES
CMS Energy Corp	YES	NO						
Conectiv	YES	YES	NO					
Consolidated Edison, Inc	YES	YES	YES	YES	NO			
Constellation Energy Group	YES	YES	NO					
Dominion Resources	YES	YES	NO					
DPL Inc	YES	YES	YES	YES	NO			
DQU	YES	YES	NO					
DTE Energy Company	YES	YES	NO					
Duke Energy	YES	YES	NO					
Eastern Utilities Associates	YES	NA						
Edison International	YES	YES	NO					
El Paso Electric	YES	NO						
Empire District Electric Company	YES	YES	YES	YES	YES	YES	NO	
Energy East Corp	YES	YES	YES	YES	YES	NO		
Entergy Corp	YES	YES	NO					
FirstEnergy Corp	YES	NO						
Florida Progress Corp	YES	YES	NO					
FPL Group, Inc	YES	YES	NO					
Green Mountain Power	YES	NO						

Schedule 13-1

St. Joseph Light Power Comapny
EO-2000-845

GUP, Inc.	YES	YES	NO					
Hawaiian Electric Industries	YES	YES	YES	YES	YES	YES	YES	YES
IDACORP, Inc.	YES	YES	YES	YES	YES	NO		
IPALCO Enterprises, Inc	YES	YES	YES	YES	YES	NO		
Kansas City Power & Light	YES	YES	NO					
LG&E Energy Corp	YES	YES	YES	YES	NO			
MDU Resources Group, Inc	YES	YES	YES	NO				
Minnesota Power	YES	YES	YES	YES	YES	YES	YES	YES
Montana Power Company	YES	YES	YES	NO				
New Century Energies	YES	YES	YES	YES	NO			
Niagara Mohawk Holdings Inc	YES	YES	NO					
NiSource, Inc.	YES	YES	YES	NO				
Northeast Utilities	YES	NO						
Northern States Power	YES	NO						
NorthWestern Corp	YES	NA						
NSTAR	YES	YES	YES	YES	NO			
OGE:Energy	YES	YES	YES	YES	YES	YES	YES	YES
Otter Tail Power	YES	NO						
PECO Energy Company	YES	YES	NO					
PG&E Corp	YES	YES	YES					
Pinnacle West Capital Corp	YES	YES	NO					
Potomac Electric Power Company	YES	YES	YES	YES	NO			
PPL Corp	YES	YES	NO					
Public Service Company of New Mexico	YES	NO						
Public Service Enterprise Group, Inc.	YES	YES	NO					
Puget Sound Energy, Inc	YES	YES	YES	YES	NO			
Reliant Energy	YES	YES	YES	YES	NO			
RGS Energy Group	YES	YES	NO					
SCANA Corp	YES	YES	NO					
Sempra Energy	YES	YES	NO					
Sierra Pacific Resources	YES	YES	YES	YES	YES	NO		
SIGCORP Inc	YES	NO	YES	NO				
Southern Company	YES	YES	NO					
St, Joseph Light & Power	YES	YES	YES	YES	YES	YES	NO	
TECO Energy	YES	NO	YES	YES	NO			
Texas Utlities	YES	YES	NO					
Unicom Corp	YES	YES	YES					
UniSource Energy	YES	NO						
United Illuminating	YES	YES	NO					
UtiliCorp United	YES	YES	YES	NO				
Western Resources	YES	NO						
Wisconsin Energy	YES	NO						
WPS Resources	YES	NO						

Schedule 13-2

St. Joseph Light & Power Company
EO-2000-845

Five Comparable Electric Utility Companies

	Comparable Company	Ticker
1	Black Hills Corp	BKH
2	Cleco Corp	CNL
3	Hawaiian Electric Industries	HE
4	Minnesota Power	MPL
5	OGE Energy	OGE

St. Joseph Light & Power Company
EO-2000-845

Dividends Per Share, Earnings Per Share & Book Value Per Share Growth Rates for the Five Comparable Companies

	Dividends Per Share		Earnings Per Share		Book Value Per Share	
Company Name	1989	1999	1989	1999	1989	1999
Black Hills Corporation	$0.68	$1.04	$1.07	$1.72	$6.21	$10.35
Cleco Corporation	$1.21	$1.65	$1.78	$2.37	$13.74	$18.88
Hawaiian Electric Industries	$2.07	$2.48	$3.06	$2.89	$21.27	$32.21
Minnesota Power	$0.89	$1.07	$1.01	$1.49	$8.73	$10.96
OGE Energy	$1.21	$1.33	$1.53	$1.94	$10.64	$13.09

Annual Compound Growth Rates

	DPS	EPS	BVPS
Company Name	1989-1999	1989-1999	1989-1999
Black Hills Corporation	4.34%	4.86%	5.24%
Cleco Corporation	3.15%	2.90%	3.23%
Hawaiian Electric Industries	1.82%	-0.57%	4.24%
Minnesota Power	1.86%	3.96%	2.30%
OGE Energy	0.95%	2.40%	2.09%
Average	**2.42%**	**2.71%**	**3.42%**
Standard Deviation	1.19%	1.85%	1.19%

Source: The Value Line Ratings and Reports, February 18, 2000 and April 7, 2000.

Schedule 15

St. Joseph Light & Power Company
EO-2000-845

Historical and Projected Growth Rates for the Five Comparable Companies

Company Name	(1) Average 10 Year Annual Compound	(2) Projected 5 Year Growth IBES (Mean)	(3) Projected 5 Year EPS Growth (S&P)	(4) Projected 3-5 Year EPS Growth (Value Line)	(6) Average Projected Growth	(7) Average of Historical & Projected Growth
Black Hills Corporation	4.81%	4.00%	4.00%	6.00%	4.67%	4.74%
Cleco Corporation	3.09%	5.30%	5.00%	6.00%	5.43%	4.26%
Hawaiian Electric Industries	3.03%	3.23%	3.00%	2.00%	2.74%	2.89%
Minnesota Power	2.71%	5.62%	6.00%	9.00%	6.87%	4.79%
OGE Energy	1.82%	4.38%	4.00%	5.00%	4.46%	3.14%
Average	**3.09%**	**4.51%**	**4.40%**	**5.60%**	**4.84%**	**3.96%**

Notes: Column 6 = [(Column 2 + Column 3 + Column 4 + Column 5) / 4].

Column 7 = [(Column 1 + Column 6) / 2].

Sources: Column 1 = Average of 10 Year Annual Compound Growth Rates from Schedule 21.

Column 2 = I/B/E/S Inc.'s Institutional Brokers Estimate System, March 16, 2000.

Column 3 = Standard & Poor's Corporation's Earnings Guide, April 2000.

Column 4 = The Value Line Ratings & Reports, February 18, 2000 and April 7, 2000.

Schedule 16

St. Joseph Light & Power Company
EO-2000-845

Average High / Low Stock Price for December 1, 1999 through March 31, 2000 for the Five Comparable Companies

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	---- December ----		---- January ----		----February ----		---- March ----		
Company Name	High Stock Price	Low Stock Price	High Stock Price	Low Stock Price	High Stock Price	Low Stock Price	High Stock Price	Low Stock Price	High/Low Stock Price (12/1/98 - 3/31/98)
Black Hills Corporation	23.000	21.500	25.000	21.125	25.187	20.437	23.437	21.500	22.648
Cleco Corporation	33.500	31.125	34.125	30.125	34.312	30.937	34.250	30.500	32.359
Hawaiian Electric Industries	30.625	18.687	30.500	27.687	31.125	27.750	31.437	27.812	28.203
Minnesota Power	17.437	16.000	17.750	16.000	17.750	14.750	17.437	17.750	16.859
OGE Energy	21.687	18.437	20.312	17.812	20.875	17.000	18.875	16.500	18.937

Notes:

Column 9 = [(Column 1 + Column 2 + Column 3 + Column 4 + Column 5 + Column 6 + Column 7 + Column 8) / 8].

Source: Standard & Poor's Comstock

Schedule 17

St. Joseph Light & Power Company
EO-2000-845

DCF Estimated Costs of Common Equity for the Five Comparable Companies

Company Name	(1) Expected Annual Dividend	(2) Average High/Low Stock Price	(3) Projected Dividend Yield	(4) Average of Historical & Projected Growth	(5) Estimated Cost of Common Equity
Black Hills Corporation	$1.09	$22.648	4.81%	4.74%	9.55%
Cleco Corporation	$1.70	$32.359	5.25%	4.26%	9.52%
Hawaiian Electric Industries	$2.48	$28.203	8.79%	2.89%	11.68%
Minnesota Power	$1.07	$16.859	6.35%	4.79%	11.14%
OGE Energy	$1.33	$18.937	7.02%	3.14%	10.16%
Average			**6.45%**	**3.96%**	**10.41%**

Notes: Column 1 = Estimated Dividends Declared per share represents the average projected dividends for the last three quarters of 1999 and the first quarter of 2000.

Column 3 = (Column 1 / Column 2).

Column 5 = (Column 3 + Column 4).

Sources: Column 1 = The Value Line Investment Survey: Ratings & Reports, February 18, 2000 and April 7, 2000.

Column 2 = Schedule 23.

Column 4 = Schedule 22.

Schedule 18

Capital Asset Pricing Model (CAPM) Costs of Common Equity Estimates for the Five Comparable Companies

Company Name	(1) Risk Free Rate	(2) Company's Value Line Beta	(3) Market Risk Premium (1926-1997)	(4) CAPM Cost of Common Equity Estimate
Black Hills Corporation	5.87%	0.50	7.50%	9.62%
Cleco Corporation	5.87%	0.50	7.50%	9.62%
Hawaiian Electric Industries	5.87%	0.50	7.50%	9.62%
Minnesota Power	5.87%	0.45	7.50%	9.24%
OGE Energy	5.87%	0.40	7.50%	8.87%
Average		**0.47**		**9.39%**

Sources: Column 1 = The Risk Free Rate of Interest which is equal to the 30-year U.S. Treasury Rate as quoted in the Wall Street Journal, April 25, 2000.

Column 2 = Beta is a measure of the movement and relative risk of an individual stock to the market as a whole as reported by the Value Line Investment Survey: Ratings & Reports, February 18, 2000; and April 7, 2000.

Column 3 = The Market Risk Premium is the amount over the Risk Free Rate that is demanded by investors for holding a portfolio of equal risk to the market for 1989 - 1998 and was reported by Ibbotson Associates, Inc.'s Stocks, Bonds, Bills, and Inflation: 1999 Yearbook

Public Utility Revenue Requirement

or

Cost of Service

The formula for the revenue requirement of a public utility may be stated as follows :

Equation 1 : **Revenue Requirement = Cost of Service**

or

Equation 2 : **R R = O + (V - D) R**

The symbols in the second equation are represented by the following factors :

R R	=	Revenue Requirement
O	=	Prudent Operating Costs, including Depreciation and Taxes
V	=	Gross Valuation of the Property Serving the Public
D	=	Accumulated Depreciation
(V - D)	=	Rate Base (Net Valuation)
(V - D) R	=	Return Amount ($$) or Earnings Allowed on Rate Base
R	=	i L + d P + k E or Overall Rate of Return (%)
i	=	Embedded Cost of Debt
L	=	Proportion of Debt in the Capital Structure
d	=	Embedded Cost of Preferred Stock
P	=	Proportion of Preferred Stock in the Capital Structure
k	=	Required Return on Common Equity (ROE)
E	=	Proportion of Common Equity in the Capital Structure

St. Joseph Light & Power Company
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Weighted Cost of Capital as of December 31, 1999 for St. Joseph Light and Power Company (Consolidated Basis)

Capital Component	Percentage of Capital	Embedded Cost	Weighted Cost of Capital Using Common Equity Return of: 9.27%	9.89%	10.51%
Common Stock Equity	54.92%	-----	5.09%	5.43%	5.77%
Preferred Stock	0.00%	0.00%	0.00%	0.00%	0.00%
Long-Term Debt	38.17%	8.44%	3.22%	3.22%	3.22%
Short-Term Debt	6.91%	6.32%	0.44%	0.44%	0.44%
Total	**100.00%**		**8.75%**	**9.09%**	**9.43%**

Notes:

See Schedule 11 for the Capital Structure Ratios.

See Schedule 12-1 for the Embedded Cost of Long-Term Debt.