BEFORE THE

OKLAHOMA CORPORATION COMMISSION

IN THE MATTER OF THE APPLICATION OF EMPIRE DISTRICT ELECTRIC CO. FOR APPROVAL OF A GENERAL RATE CHANGE FOR ELECTRIC SERVICE)	**)** **)** **)**	**CAUSE NO. PUD 2003-00121**

DIRECT TESTIMONY OF

NEIL H. TALBOT

ON BEHALF OF THE

OKLAHOMA ATTORNEY GENERAL

JULY 2, 2003

REGARDING RATE OF RETURN

TABLE OF CONTENTS

Comment:

I. INTRODUCTION AND QUALIFICATIONS

Q. PLEASE STATE YOUR NAME, OCCUPATION AND ADDRESS.

A. My name is Neil H. Talbot. I am an economic and financial consultant affiliated with Synapse Energy Economics, Inc. My business address is 22 Pearl Street, Cambridge MA 02139.

Q. WHAT ARE YOUR EDUCATIONAL QUALIFICATIONS?

A. In addition to earlier degrees in government and law from the University of Cape Town, South Africa, I obtained master's degree in economics from Cambridge University, England in 1972, and a Master of Science in Finance (MSF) degree from Boston College in 1992.

Q. PLEASE OUTLINE YOUR WORK EXPERIENCE.

A. I was employed as an economist by consulting companies for a period of 28 years -- from 1968 to 1972 with the Economist Intelligence Unit, London; from 1973 to 1979 with Arthur D. Little, Inc., Cambridge, MA; and from 1980 to 1994 with Tellus Institute (formerly Energy Systems Research Group), Boston, MA. In 2000, I became affiliated with Synapse Energy Economics, Inc, after a period as an independent consultant.

Q. PLEASE OUTLINE YOUR EXPERIENCE WITH UTILITY CASES SUCH AS THE PRESENT PROCEEDING.

A. Since 1973, my consulting work has focused on electric utility planning, rates, regulation and finance, and for the past several years I have

concentrated on issues related to the restructuring of the electric industry. As will be readily apparent from a review of my professional biography attached as **Exhibit___(NHT-1)**, I have testified in many utility regulatory proceedings and I have testified on rate of return and financial matters in a number of cases.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS PROCEEDING?

A. I am testifying on behalf of the Oklahoma Attorney General.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS CASE?

A. My testimony addresses Empire District Electric Company's ("Empire") cost of common equity and proposes a reasonable rate of return.

Q. PLEASE EXPLAIN HOW YOUR TESTIMONY IS ORGANIZED.

A. **Section II** presents a summary of the points made in my testimony and my recommendations. The remainder of my testimony is presented in four sections, as follows:

- **Section III** describes the application of the DCF method to a group of electric utility companies comparable to Empire;
- **Section IV** applies the CAPM method to the comparable group of electric utility companies;

- **Section V** contains a brief critique of Dr. Murry's cost of common equity testimony on behalf of the Company; and
- **Section VI** discusses other issues pertaining to Empire's cost of capital, and presents my conclusions.

II. SUMMARY AND RECOMMENDATIONS

Q. WHAT IS THE SCOPE OF YOUR TESTIMONY?

A. My testimony addresses Empire's cost of capital with a focus on the cost of common equity.

A. PLEASE SUMMARIZE YOUR TESTIMONY REGARDING THE COST OF COMMON EQUITY CAPITAL.

A. The major points made in my testimony are the following:

1. My primary approach in developing a cost estimate for common equity capital for Empire is the DCF method. This is the most widely-used method and is, in my opinion, the most reliable. However, when applied to a single company, it often produces anomalous results. For this reason, I applied it to a group of nine Small Cap electric utilities, not to Empire itself. While some of these companies, considered individually, appear to be more or less risky than Empire, as a group they have risk characteristics that are,

considered collectively, closely comparable to those of Empire. My DCF analysis produced an estimate of 9.2% investor-required return on Empire's common equity capital.

2. As a check, I also applied the Capital Asset Pricing Model (CAPM). My CAPM analysis produced an estimate of 8.9%. While the interest rate component of the CAPM analysis reflects current conditions, the risk premium component is based on long-term risk premiums of stocks over bonds and varies from time to time. Accordingly, there is a greater degree of imprecision in a CAPM-derived estimate than in a DCF-derived estimate. However, the CAPM analysis clearly supports the more precise DCF-derived estimate.

3. Long-term and short-term U.S. interest rates are at their lowest levels in over four decades. After the bursting of the stock market bubble in 2000, and a recession in 2001, the U.S. economy is in a period of stagnation. At this point, it is unclear whether the economy will turn down again, remain stagnant, or enjoy a recovery. Inflation is likely to remain subdued, and interest rates are likely to remain low, according to the Federal Reserve Board's most recent statement on June 25, 2003, which accompanied its latest cut in the short-term interest rate. In sum, the cost of capital is currently

very low.

4. A review of Dr. Murry's cost of capital testimony for the Company shows that he has placed reliance on his DCF analysis, not his CAPM analysis, which receives only cursory treatment. His DCF approach relies upon an analysis of a rather small group of six companies, and is overly influenced by some outlying and implausible data points. It also relies upon somewhat outdated information. Absent these factors, Dr. Murry's DCF analysis would not support his recommendation of 12% cost of common equity.

5. The electric utility industry has been through a period of turmoil associated with partial deregulation and restructuring. Utilities like Empire that are still fully regulated are, however, relatively stable from an investor standpoint.

6. Empire itself is emerging from a difficult financial period. On May 7, 2001, Moody's Investors Service downgraded the Company's First Mortgage Bonds from A2 to Baa1 with negative outlook. On July 2, 2002, Standard & Poor's ("S&P") downgraded the Company's First Mortgage Bonds from A- to BBB. However, at the same time S&P revised the Company's outlook from negative to stable. The Company is rebuilding its balance sheet and now appears to have a stable or improving financial outlook.

Q. PLEASE STATE YOUR RECOMMENDATION WITH REGARD TO THE COST OF COMMON EQUITY CAPITAL FOR EMPIRE.

A. I recommend a cost of common equity capital of 9.2%, which is my DCF result. My CAPM result of 8.9% tends to support the reasonableness of my DCF result. I am aware that an estimate of 9.2% is low by regulatory standards in recent decades. I am convinced, however, that this estimate is fully supported by current and prospective financial conditions in the U.S. and reduced business risks in the still-regulated portions of the electric utility industry, as well as by Empire's stable or improving financial outlook.

Q. WHAT IS THE WEIGHTED AVERAGE COST OF CAPITAL FOR EMPIRE CORRESPONDING WITH THIS ESTIMATE?

A. Using the Company’s capital structure and cost rates for debt and preferred stock, Empire’s weighted average cost of capital is 8.49%, derived as follows:

	Percent of Capital	Cost Rate	Weighted Cost Rate
Long-Term Debt	48.28%	7.77%	3.75%
Trust Preferred Securities	6.67	8.94	0.60
Common Equity	45.05	9.20	4.14
WEIGHTED AVERAGE COST =			8.49%

The source for the capital structure and Long-Term Debt and Trust Preferred cost rates is Dr. Murry's Pro Forma as of November 30, 2002, contained in Schedule DAM-21.

Q. IN DOLLAR TERMS, HOW LARGE IS YOUR ADJUSTMENT, I.E., THE DIFFERENCE BETWEEN THE ROE OF 12% REQUESTED BY THE COMPANY, AND YOUR PROPOSAL OF 9.2%?

A. My adjustment is approximately $390,000. This is calculated as the difference between 12% and 9.2%, i.e. 2.8 percentage points after taxes, adjusted by the income tax factor of 1.63666, giving a gross adjustment of 4.58 percentage points. Applied to the equity component of jurisdictional rate base (45.05% of $18,894,715), this yields a revenue requirement adjustment of approximately $390,000 less than the Company's request.

III. DCF ANALYSIS

Methodology and Data

Q. PLEASE OUTLINE THE DCF APPROACH YOU USED.

A. The Discounted Cash Flow (DCF) method estimates the return required from an investment in common stocks by finding the rate of return or discount rate that is implied by the current price of the stock and the dividends expected to be paid by the stock. For example, if an investor is willing to pay $100 for a stock paying a dividend of $10 per year in perpetuity, then the required return that is implied by the relationship between the price and the dividend stream is 10%. In this example, the *dividend yield* of 10% is all that needs to be considered; in practice, dividends tend to increase over time and it is necessary to add a term to the DCF equation to account for the *growth* of dividends in the future. Where a constant growth rate is assumed, the formula for the DCF calculation is:

$$k = D_1/P_0 + g$$

where

k is the required return;

D_1 is the dividend in the next year;

P_0 is the current price of the stock; and

g is the growth rate.

This formula boils down to the addition of the current dividend yield (adjusted for one year's expected growth of dividends) and the growth rate.

Q. WHAT SOURCES OF DATA DID YOU USE?

A. I obtained current dividends and spot prices from Barron's dated June 23, 2003. As an estimator of dividend growth in the future, I used Value Line's five-year earnings forecasts contained in their April 4, May 16 and June 6, 2003 issues. A review of the dividends and earnings of my group of comparable companies showed that dividend payouts are relatively low by historical standards, averaging 58%. Clearly, it should not be difficult for these utilities to sustain dividend increases in step with earnings increases. (See Schedule 4.)

Selection of a Risk-Comparable Group of Companies

Q. DID YOU APPLY THE DCF METHOD TO EMPIRE ITSELF OR TO A GROUP OF COMPANIES?

A. It is certainly possible to apply the method directly to the company in question. For statistical reasons, however, it is preferable to place reliance on an analysis of a group of companies. The data for any one company may contain random elements or "noise," which tends to be averaged out

in the data for a group of companies.

Q. WHICH COMPANIES DID YOU SELECT?

A. The guiding criterion in the selection process should be to find a group of companies that have similar risk profiles to that of Empire. I believe that investors take into account both quantitative and qualitative considerations when assessing the risks of companies. Importantly, I draw a distinction between regulated and non-regulated companies. While some regulated companies may have similar quantitative profiles to those of some non-regulated companies, investors rightly believe that the regulated monopoly context provides a safety net for a regulated company that does not apply to other companies. A simple example makes this point: a non-regulated company has no protection against "bypass" by other suppliers and customers often switch back and forth between competitive suppliers, while Empire does not face the likelihood of retail competition in any of its jurisdictions. Likewise, a non-regulated company has no such thing as an "allowed rate of return," while a regulated utility can request a rate increase if its return falls below a cost of capital benchmark. Distinctions between industries are recognized by investment services, which usually present their discussions of stocks on an industry-by-industry basis and commence the analysis of the stocks in each industry by discussing the general situation of that industry. For these reasons, I selected a group of

electric utility companies.

Q. FROM WHICH SOURCE DID YOU SELECT THESE COMPANIES?

A. I selected companies from Value Line's list of electric utilities.

Q. WHAT KINDS OF RISKS ARE IDENTIFIED BY INVESTORS?

A. By risk, investors are primarily concerned about the possibility of losing money, *i.e.*, the chance of suffering a loss. More generally, however, risk can be defined as the uncertainty, variability or variance of a security's returns. A risk-free security is one that has fixed or certain returns, while a risky security has uncertain returns. The variability of common stock returns reflects both the *business risk* facing the company as a whole, and the additional *financial risk* resulting from the company's degree of debt leverage.

Q. DID RISK CONSIDERATIONS LEAD YOU TO SELECT A SUB-GROUP OF THE VALUE LINE ELECTRIC UTILITY COMPANIES, RATHER THAN THE WHOLE GROUP?

A. Yes. There is evidence that investors regard smaller company stocks as more risky and therefore require higher rates of return from investments in smaller companies. This is, I believe, partly true of smaller electric utilities, even though they are regulated and relatively long-lived and low risk when compared with other small companies. "Small Cap" electric utilities also are larger than most small non-utility companies. In any

event, I used as my "universe" of companies those electric utilities that are described as "Small Cap" by Value Line, which means that their market capitalization is less than approximately $1 billion. Although Empire's market capitalization is given as $400 million by Value Line, at its current stock price of about $22, and with about 22 million shares outstanding, Empire's capitalization is closer to $500 million. The Value Line Investment Survey lists 19 electric utility companies as Small Cap. Excluding Empire itself, and Northwestern Corp., which is mostly involved in non-utility businesses, there are 17 companies in the Small Cap group.

Q DID YOU APPLY ANY FURTHER SCREEN TO THESE SMALL CAP COMPANIES?

A. Yes. I eliminated those companies that did not have positive earnings and dividend growth according to Value Line. Since the DCF method requires projections of dividends (or earnings as a proxy for dividends), the lack of positive growth projections can be problematic. In this group of companies, in which eight of the seventeen companies did not show positive growth, I believe the inclusion of these companies would have prodcued unreliable results. This left nine companies on my comparable company list, which is a reasonable number. The screening process is shown in **Schedule 1**.

Q. ARE THESE COMPANIES COMPARABLE TO EMPIRE IN TERMS OF INVESTOR-PERCEIVED RISK?

A. Yes. As shown in **Schedule 2**, the average risk indicators for the group are very similar to Empire's. I should note that the companies individually display a range of risks as measured by particular indicators. However, the group as a whole is comparable to Empire, taking all the indicators into account. Empire is very close to the group according to all but one of the indicators, Empire's before-tax interest coverage. This is (or was) significantly below the group average – 2.3 times interest earned versus the average 3.7 times interest earned by the group. However, this Value Line calculation is based on historical earnings data for the twelve months ending Dec. 31, 2002, and is not reflective of Empire's current situation.

Implementation of the DCF Approach

Q. IN IMPLEMENTING THE DCF APPROACH, PLEASE EXPLAIN HOW YOU CALCULATED CURRENT DIVIDEND YIELD.

A. For each company, I obtained the latest quarterly dividend from Barron's dated June 23, 2003. I annualized the dividend and projected it one year ahead to reflect a year's growth. I then averaged the latest current spot prices for the companies' stocks as of June 20, 2003, with the beginning-

of-month prices for the four months March to June, 2003, i.e., I calculated the simple average of the five data points.

Q. PLEASE COMMENT ON YOUR USE OF AVERAGE STOCK PRICES RATHER THAN RELYING EXCLUSIVELY ON THE LATEST "SPOT" STOCK PRICES.

A. There has been considerable debate on this issue over the years. On the one hand, it is desirable to stabilize the stock price data by averaging over a period of time. On the other hand, it is useful to incorporate the up-to-date information contained in the latest spot price. In this case, since there has been a run-up in stock prices in recent months, I thought it wiser to use an average rather than rely upon spot prices that could change quite considerably from one month to the next. The use of averages has the effect of matching prices and dividends, and, in this particular case, tends to slightly increase the DCF estimates for the group (see **Schedule 3**.)

Q. PLEASE EXPLAIN HOW YOU ESTIMATED DIVIDEND GROWTH FOR THE SMALL CAP GROUP OF ELECTRIC UTILITIES.

A. I used Value Line's earnings forecasts as the best indicator of future dividend growth. As can be seen in **Schedule 4**, this resulted in earnings growth projections averaging 4.7% per year (dividend growth projections averaged 4.0% per year).

Q. WHY DO YOU BELIEVE THAT THE USE OF EARNINGS GROWTH PROJECTIONS IS A REASONABLE PROXY FOR DIVIDEND GROWTH FOR THESE COMPANIES?

A. With low dividend payout ratios (ratio of dividends to earnings) averaging 58%, dividends can grow as fast as earnings in the future. Curiously, Value Line's analysts are expecting lower, not higher, growth of dividends than of earnings – 4.0% versus 4.7%. They must be assuming, implicitly or explicitly, that electric utilities will be restraining dividend growth in order to strengthen their balance sheets. For the long term, however, it seems reasonable to assume that earnings growth is the best guideline for dividend growth.

Q. HOW DO THESE DIVIDEND YIELD AND GROWTH PROJECTIONS TRANSLATE TO YOUR SUGGESTED ROE?

A. Recall that the standard DCF formula is as follows:

$$k = D_1/P_0 + g$$

where

k is the required return;

D_1 is the dividend in the next year;

P_0 is the current price of the stock; and

g is the growth rate.

For the comparable group of companies, a summary calculation is as follows. Please see **Schedule 5** for a more detailed calculation by company.

$D_1 / P_0 = 1.09/24.16 = .045$, which is the yield term.

$g = .047$, which is the growth term.

From the above, $k = 0.045 + 0.047 = 0.092$ or 9.2%.

IV. CAPM APPLICATION

Q. DID YOU DEVELOP ANY SUPPORTING EQUITY COST ESTIMATES USING OTHER METHODS?

A. Yes. I used the CAPM approach to obtain an alternative estimate as a check on my DCF results. I generally do not believe that this method or other risk-premium approaches are as reliable as the DCF method, owing partly to the instability of the risk premium itself. However, I believe it is useful, at a minimum, to test the reasonableness of DCF-derived results by using other methods such as the CAPM method as a check.

Q. PLEASE EXPLAIN THE IDEA UNDERLYING THE CAPM APPROACH.

A. The CAPM method uses a formula to estimate the return required for a stock based upon the risk level of the stock as compared to the market as a

whole. Earlier, I described investors' concerns about risk as the fear of losing money, or more generally, uncertainty about the future returns of an investment. Modern portfolio theory has taken the analysis of risk a step further by dividing variability into company-specific and "systematic" components. The idea underlying this distinction is that in a portfolio of investments, it is possible to diversify away company-specific risk by investing in a number of companies. This leaves only variability that *cannot* be diversified away because it reflects the risk that *all* securities share, *i.e.*, the risk that the whole investment market (in practice usually the whole stock market) will rise and fall together.

The Capital Asset Pricing Model (CAPM) formalizes systematic or market risk in the concept of "beta." The stock market as a whole has a beta of one, by definition. Individual securities range from having a negative beta ("hedge" securities that change in value in the opposite direction to the market), to a positive beta less than one (relatively low-risk securities) and a positive beta greater than one (relatively risky securities). The CAPM formula is as follows:

$$k = r_f + (b \times (r_m - r_f))$$

where k is the required rate of return on common equity,

r_f is the risk-free rate of return,

b is the "beta" measure of market risk for these

companies, and

r_m is the required return on the market as a whole.

Note that in this formula (r_m - r_f) is the difference between the expected return on the market and the risk-free rate of return, *i.e.*, it is the risk premium required on the market basket of securities as a whole. When multiplied by the appropriate beta for the group of stocks being analyzed, the risk premium on the market basket is calibrated to the appropriate level for the group of stocks. This calibrated risk premium is added to the risk-free rate to obtain the total return required for this group of stocks.

Q. WHAT SOURCES OF DATA DID YOU USE?

A. I obtained current estimates of the risk-free rate of return using Three-Month Treasury bill and Thirty-Year Treasury bond rates, which (as of June 20, 2003, as reported in the New York Times dated June 21, 2003) are at 0.80% and 4.43% respectively. To these, I added long-term historical risk premiums reported by Ibbotson Associates, in their *2003 Yearbook*, for large-company and small-company stocks. These premiums above Treasury bill and Treasury bond rates range from 6.18 to 11.53 percentage points – see **Schedule 6**.

Q. WHAT DOES YOUR CAPM EXERCISE INDICATE WITH REGARD TO THE COST OF COMMON EQUITY FOR SMALL CAP ELECTRIC UTILITY COMPANIES?

A. The average beta for the group of Small Cap companies that I identified in **Schedule 1** as comparable to Empire is 0.64. A critical variable in the analysis is the distinction between small and large companies because in the Ibbotson Associates data, the long-term market return for small companies is 16.9%, compared with only 12.2% for large companies. The main issue then is where on the spectrum between "small" and "large" do the comparable companies belong? The average market capitalization for the group is $528 million (see **Schedule 2**). The Ibbotson data has used different sources of information for different time periods. For earlier years it defines "small" companies as those that were in the bottom quintile of New York Stock Exchange stocks, i.e., the smallest fifth. For more recent years it has included NASDAQ and other stocks. Currently, the cut-off is a market cap of $483 million, and the weighted average cap of "small" stocks is $239 million. It seems clear that Small Cap utilities combine features of large companies – larger size than the average "small" stock, longevity, relatively secure markets, and good coverage by rating agencies and securities analysts – with size characteristics close to those of Ibbotson Associates' "small" companies. In these circumstances, I chose to simply average the returns by using small and large company risk premiums in my CAPM analysis. The results – see **Schedule 6** -- support those of my DCF analysis. The CAPM result is 8.9%, versus 9.2% obtained in the

DCF analysis.

V. CRITIQUE OF DR. MURRY'S TESTIMONY

A. HOW DOES YOUR APPROACH TO ESTIMATING THE COST OF COMMON EQUITY CAPITAL FOR EMPIRE COMPARE WITH THE APPROACH PRESENTED ON BEHALF OF THE COMPANY BY DR. MURRY?

A. I agree with Dr. Murry's broad approach; we both rely upon DCF and CAPM methods. However, his estimate of 12.0% cannot be supported in current financial circumstances, and his analysis should be modified in certain ways. Let me start with certain similarities between his DCF analysis and mine. Dr. Murry and I both analyzed a group of smaller electric utility companies covered by Value Line Investment Survey. I took the 19 electric utilities defined by Value Line as "Small Cap," i.e., with market capitalization under about $1 billion. From that group I excluded Empire itself and one other company (Northwestern) because it is engaged predominantly in non- regulated businesses. From the remaining 17 companies, I excluded eight that Value Line does not expect to have positive earnings and dividend growth in the future, and that therefore have data that might be unreliable for use in a DCF analysis, which depends upon growth projections. (I should note that in certain

circumstances it may be appropriate to include zero or negative growth projections in a DCF analysis. In this sample of companies, however, the data is quite volatile and could distort the analysis.)

A. WHERE DOES YOUR APPROACH DIFFER FROM DR. MURRY'S?

B. Dr. Murry's group of comparable companies is rather small – six, compared with nine in my group. The smaller the number of companies, the more likely it is that the results for the group will be affected by anomalous data for one or two companies. My nine companies include five of his six (plus four that he did not include). His sixth company is Hawaiian Electric, which I excluded, because it has a capitalization of $1.5 billion and is defined as "Mid Cap" by Value Line. My larger group provides more reliable DCF estimates. I will illustrate this point below.

Q. PLEASE COMMENT ON DR. MURRY'S DCF SUMMARY IN SCHEDULE DAM-16.

A. Schedule DAM-16 contains DCF estimates that are all based on the use of dividend yields based on current prices, and earnings growth used as a proxy for dividend growth. I have no major quarrel with either of these components of the analysis. However, I consider this summary potentially misleading, because it presents four ranges of estimates (eight different estimates) and implies that they have equal significance. The most serious problem is that two of the four ranges (four of the eight estimates) are

based on an analysis of Empire alone, rather than for a group of companies. As noted above, statistical reliability is potentially impaired when a DCF analysis is restricted to a group of *six* companies, let alone *one* company. I suggest that the two ranges (four estimates) based on a one-company analysis of Empire be given little if any weight. In other words, the implausibly high range of 13.35-17.01% (as well as the 10.27-10.43% range) should be given little if any weight.

Q. PLEASE COMMENT ON THE OTHER FOUR ESTIMATES.

A. The two remaining ranges (four estimates) reflect Comparable Companies' Averages and are based on a combination of historical and projected earnings (10.51-10.67%) and projected earnings only (9.99-12.14%).

Q. DO YOU REGARD THESE ESTIMATES AS RELIABLE?

A. Yes and no. In other words, while they are not unreasonable, they have certain problems that the Commission should be aware of. Firstly, Dr. Murry's data on stock prices and earnings projections is somewhat dated and could usefully be brought up to date. Secondly, Dr. Murry relied upon S&P earnings growth projections as well as Value Line's. S&P earnings projections are available for only *four* of his six companies and are on average fully two percentage points higher than Value Line. Frankly, the S&P estimates, which average 7%, seem implausibly high. The highest is 11% growth for Black Hills Corporation, which accounts for most of the

difference between S&P and Value Line, illustrating the problem of having a small sample of companies. According to Value Line, Black Hills earned 11.9% on common equity in 2002. In the absence of a need to play catch-up, it seems unlikely that regulators would allow that company's return to *increase* by 11% per year.

To further illustrate the problem of using a small sample of companies, Dr. Murry's implausibly high estimate of nearly 17% for the cost of capital of Central Vermont Public Service has a large effect on his result. If that one company is excluded from his sample, his average drops from the range 9.99% - 12.14% to the range 8.61% - 11.18%, reductions of 1.4 and 1.0 percentage points respectively to the lower and upper ends of the ranges. Incidentally, Dr. Murry's earnings projection of 12% for Central Vermont Public Service is taken from Value Line (none was available from S&P), which has since reduced it to 9% (in its June 6, 2003 issue), which seems more plausible.

Q. WHAT IS THE SIGNIFICANCE OF THESE PROBLEMS?

A. A review of Schedule DAM-15 shows that the high S&P earnings growth projection of 11% for Black Hills and the Value Line projection of 12% (since reduced to 9%) for Central Vermont Public Service provide the only DCF support for Dr. Murry's 12% cost of equity recommendation. These weak reeds cannot support the weight Dr. Murry has placed on them.

Q. PLEASE COMPARE YOUR RISK PREMIUM OR CAPM ANALYSIS WITH DR. MURRY'S.

A. At the outset, I should point out an error – or perhaps it is a reliance on outdated information – in Dr. Murry's assessment of today's capital markets. He states that "the interest rates on long-term bonds have been relatively constant throughout the same period (the past year)." (Direct Testimony, page 26, lines 8-9) This is important, he goes on to explain, because "it is the long-term interest rate that will have the most influence on investors in the relevant securities, including the common stock of regulated electric utilities such as Empire." (ibid., lines 14-16) In fact, however, as measured by the 10-year Treasury note or 30-year Treasury bond, long-term interest rates are at their lowest levels in over four decades. Their current (June 20, 2003) levels are 3.36% and 4.43% respectively, down from 4.77% and 5.40% respectively a year ago. (New York Times, June 21, 2003, p. C5) This is a far cry from being "relatively constant." A review of the Economic Report of the President, February 2003, shows that the 10-year Treasury note's yield to maturity last fell below 3.36% on an annual basis in 1958. And the 30-year Treasury bond's yield to maturity has been above 4.43% throughout the period since 1977 for which the data series is provided.

Q. WHAT IS THE SIGNIFICANCE OF LOW LONG-TERM INTEREST

RATES?

A. Low long-term rates suggest that the cost of equity (the other principal form of long-term capital) is also low, as discussed in the following section of my testimony. More immediately, the CAPM method relies upon current estimates of risk-free interest rates.

Q. PLEASE DESCRIBE DR. MURRYS CAPM ANALYSIS.

A. Dr. Murry does not appear to place much reliance on his CAPM analysis, and his testimony contains only a cursory discussion of it. Regarding its actual application, all he says is that, "Since I used two different approaches to estimate a CAPM cost of capital, I developed two separate calculations based on slightly different interpretations of the theory." (Direct Testimony, p. 25, lines 12-14) Period. This contrasts with his DCF analysis, which he describes carefully, including sources of information and reasons for preferring some approaches over others, e.g., preferring earnings growth to dividend growth. Dr. Murry's dismissive approach to his CAPM analysis suggests that the Commission should not place much reliance on it, or on the two estimates he has derived from it – 10.76% and 10.20%.

VI. OTHER CONSIDERATIONS AND CONCLUSION

Q. HOW DO YOU PROPOSE TO RECONCILE THE ABOVE

ESTIMATES?

A. I reviewed certain broader sources of information as a guide to the use of estimates derived from these detailed calculations. First, I note that the actual earned returns on common equity (ROEs) of this group of electric utility companies currently average 10.6%. However, market to book ratios for the stocks of these companies currently average 139% (see **Schedule 7**), which suggests that their current returns are a bit rich. (A ratio closer to 100% would be adequate to enable investors to sell their stocks and recover the actual book costs of their investments.)

Q. DID YOU REVIEW OTHER SOURCES OF INFORMATION ON THE COST OF CAPITAL TODAY?

A. Yes. As shown in the table below, I reviewed the broad trends in interest rates, leading up to the current interest rates I used in my CAPM analysis. (The current data is presented in my CAPM discussion above; year ago data is from the New York Times, June 21, 2003; five-year average data for 1997-2001 data are averaged annual data from *Economic Report of the President*, February 2003; and long-term data are from Ibbotson Associates for 1926-2002.)

	Current	Year Ago	1990-1994 Average	1926-2002 Average
90-day T. Bill Rate	0.80	1.68	4.77	3.80
30-yr T. Bond Rate	4.43	5.40	5.90	5.80

It is apparent that current interest rates are very low compared with last year and the five-year period before that. They are also significantly lower than the long-term averages used by Ibbotson Associates to calculate the long-term risk premiums of common stocks over Treasury bills and Treasury bonds. It is evident that short-term interest rates have dropped most dramatically, by three or four percentage points from longer-term averages. However, long-term interest rates, as reflected in the 30-year Treasury bond rate, have also fallen significantly. It follows that the cost of equity capital is also likely to be at historically low levels. The low level of interest rates provides support for lower estimates of the cost of equity capital than would have been reasonable in regulatory proceedings only a year or two ago before the Fed's interest rate cuts and the drop in inflation.

Q. DO YOU HAVE ANY OBSERVATIONS ON THE ECONOMIC OUTLOOK?

A. The economy now seems set for slow growth with low inflation, according to consensus forecasts. U.S. interest rates are at their lowest levels in four

decades. The cost of money to utility companies like Empire that can issue investment grade securities is also very low. After the bursting of the stock market bubble in 2000, and a recession in 2001, the U.S. economy is in a period of stagnation. At this point, it is unclear whether the economy will turn down again, remain stagnant, or enjoy a recovery. Inflation is likely to remain subdued. This is clear from the Federal Reserve Board's statement of June 25, 2003, explaining its latest reduction in short-term interest rates.

Q. WHAT IS THE FED'S VIEW?

A. The Fed reported that, "the economy has yet to exhibit sustainable growth…The (Fed) perceives that the upside and downside risks to the attainment of sustainable growth for the next few quarters are roughly equal. In contrast, the probability, though minor, of an unwelcome substantial fall in inflation exceeds that of a pick-up in inflation from its already low level." (New York Times, June 26, 2003) The purpose of this statement appears to be to assure the financial markets that inflation and interest rates are going to stay low for a protracted period, *even if the economy recovers*. Until recently, the Fed assumed that an economic recovery would tend to increase inflation and interest rates. Recently, however, it has drawn a distinction between growth in economic activity and inflation, i.e., between products and services on the one hand and

prices on the other.

Q. HOW DOES THE CONDITION OF THE ELECTRIC UTILITY INDUSTRY AFFECT EMPIRE'S COST OF CAPITAL?

A. The electric utility industry has, as is well known, been through a period of turmoil associated with partial deregulation and restructuring. This period may not be fully behind us. However, utilities like Empire that are still fully regulated and likely to remain so for the time being are quite stable from an investor standpoint. Empire can benefit from the development of the competitive wholesale electricity market without facing severe competition in its regulated retail market. In addition, Empire is learning to protect itself by hedging against the vagaries of fuel prices.

Q. PLEASE COMMENT ON EMPIRE'S FINANCIAL SITUATION AND OUTLOOK.

A. Empire itself is emerging from a difficult financial period. It incurred expenses as a result of a terminated merger with UtilitiCorp United (now known as Aquila, Inc.), and its rates in Missouri, which account for over 80 percent of its revenues, lagged behind increases in costs. The Company suffered erosion of its equity and an increase in the proportion of debt on its balance sheet. On May 7, 2001, Moody's Investors Service downgraded the Company's First Mortgage Bonds from A2 to Baa1 with negative outlook. On July 2, 2002, Standard & Poor's downgraded the Company's

First Mortgage Bonds from A- to BBB. However, at the same time S&P revised the Company's outlook from negative to stable. With rate relief in Missouri and other jurisdictions, the issuance of new stock, and sales growth, the Company is rebuilding its balance sheet and now appears to have a stable and improving financial outlook. After adding to generating capacity in recent years, its construction budget is now diminishing, which should also help to ease its financial situation.

Q. WOULD AN EQUITY RETURN OF 9.2% GIVE EMPIRE ADEQUATE DEBT INTEREST COVERAGE?

A. Yes. On a pro forma basis, the Company would have after-tax interest coverage of 2.3 times interest earned. This is calculated from the table on page 6, above, dividing the weighted returns of 8.49 percentage points by debt cost of 3.75. If the common equity return component is grossed up for income taxes by the tax factor of 1.63666, the pre-tax return would be approximately 3.0 times interest earned. These are adequate coverage ratios.

Q. PLEASE EXPLAIN HOW YOUR RECOMMENDATIONS ARE AFFECTED BY THESE CONSIDERATIONS.

A. My DCF and CAPM calculations, although producing estimates that would have seemed low in regulatory proceedings in recent years, are supported by a review of economic conditions in the country, financial

conditions in the still-regulated portion of the electric utility industry, and the risk profile of Empire itself.

Q. IN THESE CIRCUMSTANCES, WHAT IS YOUR RECOMMENDATION TO THE COMMISSION REGARDING THE COST OF COMMON EQUITY FOR EMPIRE DISTRICT ELECTRIC?

A. I believe that the point estimate of 9.2% derived from my DCF analysis is the best estimate of cost of equity capital for Empire. The data is reasonable in itself, and the estimate is supported by a CAPM analysis and by the current capital market conditions.

Q. DOES THAT COMPLETE YOUR TESTIMONY?

A. Yes, thank you.