Exhibit No.:
Issue: Cost of Capital
Sponsoring Party: Empire District
Type of Exhibit: Direct Testimony
Case No.:
Date Prepared: October 25, 2000

# THE EMPIRE DISTRICT ELECTRIC COMPANY

## BEFORE THE MISSOURI PUBLIC SERVICE COMMISSION

## DIRECT TESTIMONY

## OF

## DONALD A. MURRY, Ph.D.

Exhibit No. 13
Date 5/29/01 Case No. ER-2001-299
Reporter KEM

OCTOBER 2000

C. H. GUERNSEY & COMPANY
ENGINEERS - ARCHITECTS - CONSULTANTS
OKLAHOMA CITY, OKLAHOMA

THE EMPIRE DISTRICT ELECTRIC COMPANY
BEFORE THE MISSOURI PUBLIC SERVICE COMMISSION
CASE NO. _____

Direct Testimony
Of
Donald A. Murry, Ph.D.

Q. Please state your name and business address.

A. My name is Donald A. Murry. My address is 5555 North Grand Blvd., Oklahoma City, Oklahoma 73112.

Q. By whom are you employed and in what position?

A. I am a Professor of Economics on the faculty of the University of Oklahoma. I have also been affiliated with C. H. Guernsey & Company in Oklahoma City for the purpose of preparing this testimony.

Q. What is your educational background?

A. I have a B. S. in Business Administration, and an M.A. and a Ph.D. in Economics from the University of Missouri - Columbia.

Q. Please describe your professional background.

A. From 1964 to 1974, I was an Assistant and Associate Professor and Director of Research on the faculty of the University of Missouri - St. Louis. For the period 1974-98, I was a Professor of Economics at the University of Oklahoma and since 1998 I have been Professor Emeritus at the University of Oklahoma. Until 1978, I also served as Director of the Center for Economic and Management Research. In

each of these positions, I directed and performed academic and applied research projects related to energy and regulatory policy. During this time, I also served on several state and national committees associated with energy policy and regulatory matters and published and presented a number of papers in the field of regulatory economics in the energy industries.

Q. Please describe your regulatory experience.

A. Since 1964, I have consulted for a number of private and public utilities, state and federal agencies, and other industrial clients regarding energy and regulatory matters in the United States, Canada and other countries. In 1971-72, I served as Chief of the Economic Studies Division, Office of Economics of the Federal Power Commission. From 1978 to early 1981, I was Vice President and Corporate Economist for Stone & Webster Management Consultants, Inc. I am now a Vice President with C. H. Guernsey & Company. In all of these positions I have directed and performed a wide variety of applied research projects and conducted other projects related to regulatory matters. Recently, I have assisted both private and public companies and government officials in areas related to the regulatory, financial and competitive issues associated with the restructuring of the utility industry in the United States and other countries.

Q. Have you previously testified before or been an expert witness in proceedings before regulatory bodies?

A. Yes, I have appeared before the U.S. District Court-Western District of Louisiana, U.S. District Court-Western District of Oklahoma, District Court-Fourth Judicial District of Texas, U.S. Senate Select Committee on Small Business, Federal Power

Commission, Federal Energy Regulatory Commission, Interstate Commerce Commission, Alabama Public Service Colorado Public Utilities Commission, Florida Public Service Commission, Georgia Public Service Commission, Illinois Commerce Commission, Iowa Commerce Commission, Kansas Corporation Commission, Kentucky Public Service Commission, Louisiana Public Service Commission, Maryland Public Service Commission, Missouri Public Service Commission, New Mexico Public Service Commission, New York Public Service Commission, Power Authority of the State of New York, Nevada Public Service Commission, North Carolina Utilities Commission, Oklahoma Corporation Commission, South Carolina Public Service Commission, Tennessee Public Service Commission, Texas Public Utilities Commission, the Railroad Commission of Texas, the State Corporation Commission of Virginia and the Public Service Commission of Wyoming.

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

A. I have been retained by The Empire District Electric Company, also referred to as "Empire" or the "Company," to analyze the current cost of capital and to recommend a rate of return that is appropriate for the Company in this proceeding.

Q. How did you proceed in developing your analysis and recommendation?

A. I reviewed the current economic environment, including the current level of interest rates, and how these factors would affect the rate of return for the Company. I analyzed the critical financial characteristics of the Company especially with regard to the relative risk of the Company. I reviewed Empire's capital structure and its relative financial risk. I identified the Company's permanent common stock equity

and long-term debt components of its capital structure. Then I estimated the costs of the various capital components.

Q. Are you sponsoring any exhibits with your testimony?

A. Yes. I am sponsoring several documents which are attached to my testimony as Schedule DAM-1 through Schedule DAM-20.

Q. Were these schedules prepared by you or under your direct supervision?

A. Yes, they were.

Q. In preparing your cost of capital testimony in this proceeding, did you have in mind a rationale, or principal objective, for regulation that influenced your analysis?

A. Yes. I used the historical justification for regulation, which is the presumed existence of market power in pricing of a franchised monopoly, as the principle that guided the development of my testimony. Although the division between regulated enterprise and competitive enterprise in the electric utility industry is changing, there remains the regulatory purpose of substituting for the lack of competitive pressures in retail electric utility service. In this way, analysts view that economies of scale, in at least transmission and distribution, are causes of this market power.

The presence of a single firm providing key utility services in some markets is still the basis for regulation. Duplication of production and distribution facilities by more than one firm may be economically inefficient. Therefore, market pressure cannot achieve the same pricing and service results as in competitive markets.

Q. Given this role of regulation, what is the principal objective of regulation in setting an allowed return?

A. The objective in setting an allowed return is to set a return that is sufficient, but not larger than necessary, to allow a utility to recover the costs of providing service and to earn a "fair" rate of return on its invested capital.

Q. What do you mean by a fair rate of return?

A. In this context I am using the term fair rate of return to refer to a return that meets the standards set by the United States Supreme Court decision in the *Bluefield Water Works and Improvement Company vs. Public Service Commission, 262 U.S. 679 (1923) ("Bluefield")* case, as further modified in the *Federal Power Commission vs. Hope Natural Gas Company, 320 U.S. 591 (1944) ("Hope")*. In these decisions the rate of return is a fair return if it provides earnings to investors similar to returns on alternative investments in companies of equivalent risk.

Q. How do you interpret these legal decisions in an economic or market context?

A. Based upon these decisions, a fair rate of return will provide the opportunity for the utility to earn a return equal to that of comparable investments of corresponding risk and uncertainty. In this way, the return will be sufficient to enable the company to operate successfully, maintain its financial integrity, attract capital, and compensate its investors for the risks assumed.

Q. You indicated that you reviewed the capital structure as an early step in your analysis. What did you determine is the capital structure for Empire that is appropriate for this proceeding?

A. I have set forth the appropriate capital structure for Empire in this proceeding in Schedule DAM-1. This schedule shows a proforma capital structure for Empire as of

December 31, 1999 of $567,023,999. As illustrated in the schedule, Empire's long-term debt totals $297,695,000 or 52.5 percent of the Company's total capital. The Company's common stock equity is $269,328,999 or 47.5 percent of total capital.

Q. You stated that you estimated the costs of long-term debt. What did you determine to be the embedded cost of long-term debt for Empire?

A. The embedded cost of long-term debt is 7.91 percent. I have shown the embedded cost of long-term debt for Empire in Schedule DAM-2.

Q. In estimating the Company's cost of common stock equity, what methods did you use?

A. I used two methods in my analysis. I used the Discounted Cash Flow ("DCF") analysis as one method. I also compared my DCF results for Empire with the DCF results using a similar methodology for a group of publicly traded electric utilities. As a second method, I used a Capital Asset Pricing Model ("CAPM") method to analyze the cost of common stock equity of Empire. In this analysis, I also compared the results for Empire to the results for the comparable group of companies. Of course, to put the results in perspective, I interpreted them in light of current market conditions, the recent returns to these companies and measures of financial well-being of the companies and related factors.

Q. What kinds of factors did you consider important in this evaluation of your DCF and CAPM results?

A. Interpreting the results of all of these measures requires some understanding of current market conditions and the current level of interest rates. For example, the

overall level of interest rates will directly affect the cost of capital of a regulated company, such as Empire, because investors will compare the potential earnings from an investment in the utility to the return earned from a debt investment. I also evaluated the relative financial strength of Empire, and I reviewed key financial statistics that would be available to a knowledgeable investor. In all of these analyses, of course, I was investigating the relative risk to investors in Empire's common stock. The risk to electric utility investors is especially important in current markets because of the uncertainties surrounding the movement to deregulation.

Q. How did you select the companies that you used as comparable to Empire?

A. I selected the comparable companies from the group of electric utility companies reported by *Value Line*. I used criteria similar to Empire to select this group. First, I selected publicly traded companies that were comparable to Empire in size of total capitalization and eliminated those with market capitalization greater than $1.5 billion. Second, I selected only those companies with more than 50 percent of last year's total revenues derived from electricity. Third, I chose electric companies that currently pay dividends and have not cut them in the past five years. Last, I eliminated those firms with equity ratios less than 40 percent.

In addition, I dropped all companies that are involved in a merger because a merger will influence the value of the company's common stock. In that case the valuation of the company's stock does not represent the value of the returns from utility operations, and would be less useful for ratemaking.

Q. What were the results of your selection process of comparable companies?

A. Following this elimination process, I selected a group of six electric companies that are comparable to Empire. This group of companies includes the following: CH Energy Group, CLECO Corporation, Hawaiian Electric, IDA Corporation, RGS Energy Group and UIL Holdings.

Q. You stated that you evaluated the financial risk of Empire. What did you do to analyze the financial risk?

A. As Schedule DAM-3 shows, the common equity ratio of Empire used in this case is similar to the common stock equity ratios of the six comparable companies. Because Empire has increased its level of debt due to investment in new generating capacity, the level of common stock equity is especially significant in this proceeding. Empire has increased its debt, and the larger, prior claim of interest payments on the Company's cash exposes the common stock holders to the risk of not receiving their anticipated returns.

Q. Have you reviewed the recent earnings of Empire?

A. Yes, I reviewed *Value Line*'s estimates of Empire's recent and expected earnings on common stock equity. Note that *Value Line* is estimating a decline in earnings for Empire in the year 2000. I also compared Empire's earnings to those of the comparable companies. This comparison is shown in Schedule DAM-4.

Q. What is the significance of this pattern of earnings, in your opinion?

A. Empire has maintained its dividend, but it has been unable to increase its dividend. For example, Empire has not increased its dividends since 1993. Since Empire's earnings have grown very little in recent years, and dividends have remained

constant, the Company's dividend payout ratio has remained relatively high. Although I believe that many investors pay more attention to the earnings prospects from an investment, investors interested in dividend growth would avoid investing in a company with such a high payout ratio and constant dividend levels. Schedule DAM-5 shows the payout ratio for Empire and this group of companies in recent years.

Q. You indicated that you used the DCF technique to measure the cost of common stock equity. Can you explain the reason that you used this method?

A. Yes. I used the DCF theory because it is a straight-forward, theoretically sound, market measure of the cost of capital. It recognizes investors' expectations, and it uses market price information and the company's dividend and earnings performance to determine the value that an investor places on anticipated returns. Since an investor expects a return on investment in the form of dividends and capital gains, he will expect a market price equal to the present value of that stream of earnings. Using these market relationships, we can estimate the investor's opportunity cost of his investment funds.

Analytically, we can express the investor's required rate of return as $K = D/P + g$, when K = cost of common equity, D = dividend per share, P = price per share and g = rate of growth of dividends, or alternatively, common stock earnings. In this expression K is a capitalization rate required to convert the stream of future returns into a current value.

Q. When you apply this theory, what are some of the important factors that you consider?

A. The theory is generally accepted by analysts, and I believe that it is sound theoretically. I believe that the important controversies in its use come from the application of the theory, and the application of the theory is often very important. For example, the future growth in dividends and earnings of a company may be difficult to predict. Since the prospective earnings are important to any investor evaluating the potential gains from an investment, they are important to the analysis. Therefore, the selection of relevant data when one assesses the investor expectations of future earnings and dividends may be critical. Recognizing the various data elements that an investor may consider, I used several related data elements in my DCF analysis. In addition, I evaluated the current market conditions, trends, financial statistics, risks to investors, and other relevant market and financial information to help me evaluate the results from my DCF analysis.

Q. How did you estimate investor expectations in performing your DCF analysis?

A. Since informed investors seek market information from many sources, they are likely to have both historical and predicted information available to them. For this reason, I reviewed the historical dividends and earnings as well as the forecasted dividends and earnings.

Q. How did you estimate the growth rates of earnings and dividends for the Company in this proceeding?

A. I studied growth in earnings per share, growth in dividends per share, and growth in book value per share for the most recent five and ten-year periods and for a near-term forecast.

Q. Why did you review these various forecasted and historical growth rates?

A. As stated previously, investors develop their expectations of future earnings and dividends from a variety of sources. Investors may use historical information to try to perceive future market trends. Investors also utilize the forecasts of reputable financial analysts. For this reason, I reviewed the forecasts of both *Value Line* and Standard and Poor's, which are readily available to the informed investor.

Q. What were the results of your review of historical and forecasted growth rates?

A. As I have illustrated in Schedule DAM-6, the dividend growth rates of Empire and the comparable group are very low. In fact, in addition to Empire, IDACorp, RGS Energy Group and UIL Holdings had constant dividends over the past five years. Schedule DAM-7 illustrates both historical and forecasted growth rates for dividends and earnings. Additionally, one should note that *Value Line* has forecasted no future growth in dividends for Empire, Hawaiian Electric, IDACorp, RGS Energy Group and UIL Holdings.

Q. How do these flat forecasts of dividends affect the DCF calculations?

A. The flat forecasts will cause the mechanical calculation of the DCF using the dividend growth to be very low. Moreover, the expectation of no dividend growth will discourage some investors from purchasing this common stock. Investors base their investment decisions upon their perceptions of future income streams. Flat

dividend growth will discourage some investors. However, investors who can defer the return of their investment will purchase the security in anticipation of the effect of the earnings growth on the future price of the stock. To this group of investors, the earnings growth forecasts will be more important than dividends. The investors who are willing to assume the risk of waiting will purchase the common stock in anticipation of the future capital gain.

Q. Can you explain why this group of companies is likely to have flat dividend forecasts at a time when their earnings are predicted to grow?

A. I have observed declining payout ratios in both the gas and the electric utility industries during the current period of deregulation and the uncertainty of the consequences of increased competition in these industries. It is, of course, a rational response by management and a board of directors to conserve cash through increased retained earnings during a period of such uncertainty.

Q. Does this alteration of the payout ratios have any implications for your analysis and your conclusions?

A. Yes. It diminishes the value of using a DCF analysis based on the dividend growth rate in determining the cost of common stock for ratemaking purposes. Consequently, the DCF analysis based on the earnings growth estimates becomes a more reliable measure.

Q. How did you determine common stock prices for your DCF analysis?

A. I used common stock prices for the year 2000 as reported by *Value Line*; I also used the current prices from a recent two-week period as reported in the *Wall Street*

*Journal*. In this way, I identified the cost of capital measures over the period of this year's markets, and I also identified the cost of capital using the current market values. For comparative purposes, I developed DCF analyses for both Empire and the comparable companies using these data.

Q. What were the results of your DCF analysis?

A. As Schedule DAM-8 illustrates, the calculations of the cost of capital using year 2000 common stock prices show the effects of the flat dividends for Empire and the comparable companies. These DCF measures of the cost of common stock are less than the cost of high-grade corporate bonds. Therefore, as I indicated previously, these calculations of the cost of common stock have limited usefulness in evaluating a prospective allowed return. Schedules DAM-9 and DAM-10 illustrate the historical earnings growth and the projected earnings growth DCF results. These are credible measures of the cost of common stock for Empire and the comparable companies. Using the forecasted earnings per share growth and the year 2000 market prices in the DCF analysis to estimate the cost of common stock resulted in an estimated cost of capital between 10.72 percent and 12.77 percent.

Q. What did your DCF analysis using current market prices show?

A. The current market price DCF using the dividend growth measure was again so low that it produced a result that was not credible. This result is illustrated in Schedule DAM-11. The DCF results using current market prices and the earnings per share growth are more reliable. These results are shown in Schedules DAM-12 and DAM-13.

Q. Can you summarize the results of your DCF calculations?

A. Yes. In general, the dividend growth rate produced results that were so low that they are not useful for ratemaking. The market-measured costs of common equity using the earnings growth are more reliable and valuable. When comparing Empire to the comparable companies, it is apparent also that the DCF measured cost of common stock for Empire is higher than for the group of comparable companies. This is because the earnings growth, both historically and forecasted, for Empire is higher relative to the comparable group. These results are shown in Schedule DAM-14.

Q. You indicated that you developed an analysis based on the CAPM model. What is the CAPM model?

A. The Capital Asset Pricing Model, or CAPM model, is based on an investor's ability to diversify by combining risky securities into an investment portfolio. It measures the risk differential between a given security and the market as a whole. The diversification of investments reduces the risk to the investor. However, some risk is non-diversifiable, e.g., the market risk, and investors remain exposed to that market risk. The formal CAPM model is expressed as:

$$K = RF + \beta (RM - RF)$$

Where: K = the required return.
RF = the risk-free rate.
RM = the required overall market return; and
$\beta$ = beta, a measure of security risk relative to the overall market.

Note that the value of market risk is the differential between the market rate and the risk-free rate. Beta is the relative measure of the risk of a security and the market as a

whole. By estimating the risk differential between an individual security and the market as a whole, one can measure the relative cost of that security compared to the market as a whole.

Q. How did you use the CAPM cost of capital result in your analysis?

A. The Capital Asset Pricing Model ("CAPM") links the incremental cost of capital of an individual company with the risk differential between that company and the market as a whole. The CAPM, which is a risk premium method, provides a very useful comparison to the DCF measured cost of common stock because it uses the current debt costs as a basis, or benchmark if you will, for measuring the cost of common stock. That is, with the CAPM an analyst may be able to determine, in broad terms, the return requirements of investors. The CAPM also is not as vulnerable to current market fluctuations as the DCF method, and it generally provides a more stable estimate over time.

Q. What is the cost of common stock for Empire that you determined using the Capital Asset Pricing Model?

A. 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. The results of these CAPM analyses are shown in Schedule DAM-15 and DAM-16, respectively. Note that the estimated costs of the common stock for Empire are 12.33 and 10.57 percent from these two methods.

Q. You indicated that you reviewed current market conditions and related financial information as a basis for evaluating the results of your analysis. How did market conditions affect your recommendation?

A. The Federal Reserve has pursued a policy of tighter money over the past year and interest rates have steadily increased. Interest rates, or the returns investors can earn on debt investments, influence investors' willingness to buy utility stocks. Higher rates mean higher capital costs, and they are a factor which one should consider in interpreting the DCF results for the purpose of setting an allowed return.

Q. Were there other factors that influenced your interpretation of your DCF results?

A. Yes. One of these influencing factors was the nature of the DCF method itself.

Q. What do you mean when you say that you considered the nature of the DCF method itself?

A. The DCF method, because of its theoretical basis, estimates the marginal cost of common stock equity to the Company. In that way, it is an estimate of the minimal return necessary to attract marginal, or incremental, investment in the common stock equity. However, the method does not account for any other factors that may affect the ability of the company to earn that return. There is no cushion in this return to assure that the regulated company will earn its allowed return.

Q. In you experience, is it common for regulators and analysts to recognize this characteristic of the DCF method?

A. Yes, it is. Regulators and analysts often use adjustments to compensate for the marginal cost nature of the DCF adjustment. For example, some analysts specifically

apply a flotation adjustment. I did not apply a specific flotation adjustment, but I recognized the significance of Empire's recent financing needs and the impact of the financings on the cost of capital of the Company. In addition, there are other factors that can cause the results of the DCF analysis to be misapplied. For example, market fluctuations can cause extremely high or low DCF results, and I believe that extreme results are not appropriate for direct assignment as an allowed return. Consequently, I relied on my DCF results, along with my evaluation of other analyses and factors, to reach my recommended return.

Q. What is significant about the current level of interest rates that you believe could influence the CAPM results?

A. Because of the monetary policy activities by the Federal Reserve in the 90-Day Treasury Bill market, the market-based yield of these instruments is not a reliable measure of the market cost of capital in a CAPM analysis. Although normally the yields on long-term securities exceed the yields on short-term securities because of the relative length to maturity, this is not the case in the current market. As Schedule DAM-17 illustrates, since this past summer the yields on Treasury Bills have exceeded the yields of 30-year government bonds. Therefore, one must evaluate the significance of this inversion of the yield curve in determining the cost of common equity estimated by this method. Moreover, these current market conditions underscore the difficulty in using government securities as the "risk-free" rate in a CAPM analysis.

Q. When you evaluated the results of your CAPM analysis, what did you believe was the significance of the inverted yield curve?

A. Since I used long-term bond rates in my CAPM analyses, I believe that my results were not affected significantly by the monetary policy activities of the Federal Reserve. In reviewing the long-term rates, there is no evidence that they have increased greatly, which would raise the resulting cost of capital, as a result of the Federal Reserve policies. In fact, if these policies affected my calculations, they may have downplayed my results slightly because of market arbitrage between long-term and short-term rates.

Q. How have the current market conditions affected the price of Empire's common stock?

A. In recent months the Empire common stock has appreciated, but it has only returned to levels where it was approximately one year ago. It has not kept pace with the Standard & Poor's Utilities Index, as illustrated in Schedule DAM-18.

Q. How did you reach your recommended return in this proceeding?

A. I took into account the characteristics of each of the methods which I used to reach a recommendation in this proceeding. For example, as noted, the DCF method produces an estimate of the marginal cost of capital that is almost certainly too low to apply directly in setting an allowed return.

Q. What is your recommendation for a rate of return for common stock in this proceeding?

A. I believe that, based on the results of my analysis, the Company's allowed return on common stock should be at least 11.5 percent, and I believe that it is not necessary to set a return in this case higher than 12.5 percent. Because this is a relatively broad range which I think could be adequate, I concentrated on the adequacy of the lower half of that range. From this evaluation, I concluded that 12.0 to 11.5 percent is an adequate range for the allowed return on common stock. I have illustrated the total cost of capital at the low end of that range in Schedule DAM-19. As illustrated, the return on total capital should be at least 9.61 percent.

Q. You stated that you evaluated the adequacy of your recommended return. How did you evaluate your recommendation?

A. I reviewed the after tax interest coverage ratios for Empire and the comparable companies. I have shown the results of the "worst case," or lowest return on common stock from my recommendation, in Schedule DAM-20. The after-tax coverage of Empire at 2.32 is somewhat lower than the 2.5 times standard that I, and most analysts, would prefer. Nevertheless, I believe that it indicates my recommended return will be adequate for a reasonable period of time for rates to be in effect. Note, for example, only CLECO Corporation has a coverage lower than this level among the comparable companies. I think this coverage level clearly confirms the minimal, conservative level of my recommended total return of 9.61 percent.

Q. Does this conclude your direct testimony at this time?

A. Yes, it does.

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

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AFFIDAVIT

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Before me, the undersigned Notary Public, personally appeared DONALD A. MURRY, who being duly sworn on oath deposes and says that the foregoing prepared testimony and statement of facts contained therein are true and correct to the best of his knowledge, information and belief.

Donald A. Murry

Subscribed and sworn to before me this 25th day of October, 2000.

Notary Public

My Commission Expires:

October 5, 2002

The Empire District Electric Company

Summary of Schedules

The Empire District Electric Company

Capital Structure

Pro Forma as of December 31, 1999

| | Amount Outstanding | Percent of Total |
|---|---|---|
| Long Term Debt | $297,695,000 | 52.50% |
| Common Equity | $269,328,999 | 47.50% |
| Total | $567,023,999 | 100.00% |

Source :
The Empire District Electric Company Workpapers

The Empire District Electric Company

Long Term Debt

Pro Forma as of December 31, 1999

| Series | Unamortized Expense, Discount and Premium | Principal Amount Outstanding | Annual Cost |
|---|---|---|---|
| Bonds and Unsecured Notes: | | | |
| 7.2% Series, Due 2016 | ($387,792) | $25,000,000 | $1,800,000 |
| 5.2% Pollution Control Series, Due 2013 | ($362,503) | $5,200,000 | $270,400 |
| 5.3% Pollution Control Series, Due 2013 | ($509,259) | $8,000,000 | $424,000 |
| 7.5% Series, Due 2002 | ($438,071) | $37,500,000 | $2,812,500 |
| 7% Series, Due 2023 | ($5,553,435) | $45,000,000 | $3,150,000 |
| 7.75% Series, Due 2025 | ($3,312,430) | $30,000,000 | $2,325,000 |
| 9.75% Series, Due 2020 | ($33,549) | $2,250,000 | $219,375 |
| 7.25% Series, Due 2028 | ($625,871) | $13,495,000 | $978,388 |
| 8.125% Series, Due 2009 | ($230,534) | $20,000,000 | $1,625,000 |
| 7.6% Series, Due 2005 | ($97,412) | $10,000,000 | $760,000 |
| 6.5% Series, Due 2010 | ($710,905) | $50,000,000 | $3,250,000 |
| 7.7% Series, Due | ($538,239) | $64,050,000 | $4,931,850 |
| Premium, Discount, and Expense | | | $998,820 |
| Total Unamortized Expenses | ($12,800,000) | | |
| Net Proceeds to Company | | $297,695,000 | |
| Total Annual Cost | | | $23,545,333 |
| Embedded Cost of Long Term Debt | | | 7.91% |

Source:
The Empire District Electric Company Workpapers

The Empire District Electric Company

Comparable Companies

Comparison of Common Equity Ratios

| Company | 1996 | 1997 | 1998 | 1999 | 2000E | Five Year Average |
|---|---|---|---|---|---|---|
| The Empire District Electric Company | 45.8% | 48.9% | 45.2% | 40.4% | 40.0% | 44.1% |
| CH Energy Group | 53.0% | 53.3% | 53.3% | 55.3% | 54.0% | 53.8% |
| CLECO Corporation | 49.7% | 49.2% | 51.9% | 41.0% | 40.0% | 46.4% |
| Hawaiian Electric Industries | 46.3% | 44.0% | 43.1% | 41.4% | 41.5% | 43.3% |
| IDACORP | 45.1% | 46.8% | 44.2% | 44.8% | 48.0% | 45.8% |
| RGS Energy Group | 50.9% | 54.7% | 48.5% | 46.5% | 46.5% | 49.4% |
| UIL Holdings | 35.1% | 38.0% | 37.7% | 44.6% | 49.0% | 40.9% |
| Comparable Companies Averages | 46.7% | 47.7% | 46.5% | 45.6% | 46.5% | 46.6% |

Source: Value Line Investment Survey

Schedule DAM-3

The Empire District Electric Company

Comparable Companies

Comparison of Returns on Common Equity

| Company | 1996 | 1997 | 1998 | 1999 | 2000E |
|---|---|---|---|---|---|
| The Empire District Electric Company | 9.2% | 9.8% | 12.3% | 11.9% | 11.0% |
| CH Energy Group | 11.2% | 10.9% | 10.4% | 10.0% | 10.0% |
| CLECO Corporation | 13.4% | 12.9% | 12.7% | 12.9% | 14.0% |
| Hawaiian Electric Industries | 10.2% | 10.6% | 11.4% | 11.0% | 10.5% |
| IDACORP | 11.9% | 12.2% | 12.2% | 12.1% | 13.0% |
| RGS Energy Group | 11.4% | 11.1% | 11.4% | 11.6% | 11.5% |
| UIL Holdings | 9.7% | 10.4% | 9.4% | 11.4% | 12.5% |
| Comparable Companies Averages | 11.3% | 11.4% | 11.3% | 11.5% | 11.9% |

Source: Value Line Investment Survey

Schedule DAM-4

The Empire District Electric Company

Comparable Companies

Comparison of Dividend Payout Ratios

| Company | 1996 | 1997 | 1998 | 1999 | 2000E | Five Year Average | Forecast 03-'05 |
|---|---|---|---|---|---|---|---|
| The Empire District Electric Company | 104.0% | 99.0% | 85.0% | 90.0% | 85.0% | 92.6% | 65.0% |
| CH Energy Group | 72.0% | 73.0% | 76.0% | 77.0% | 75.0% | 74.6% | 66.0% |
| CLECO Corporation | 70.0% | 71.0% | 71.0% | 69.0% | 64.0% | 69.0% | 55.0% |
| Hawaiian Electric Industries | 73.0% | 76.0% | 87.0% | 88.0% | 90.0% | 82.8% | 84.0% |
| IDACORP | 86.0% | 82.0% | 80.0% | 78.0% | 71.0% | 79.4% | 66.0% |
| RGS Energy Group | 79.0% | 79.0% | 79.0% | 75.0% | 73.0% | 77.0% | 69.0% |
| UIL Holdings | 95.0% | 89.0% | 96.0% | 78.0% | 68.0% | 85.2% | 65.0% |
| Comparable Companies Averages | 79.2% | 78.3% | 81.5% | 77.5% | 73.5% | 78.0% | 67.5% |

Source: Value Line Investment Survey

Schedule DAM-5

The Empire District Electric Company

Comparable Companies

Comparison of Dividends per Share

| Company | 1996 | 1997 | 1998 | 1999 | 2000E | Growth ('95-'00) |
|---|---|---|---|---|---|---|
| The Empire District Electric Company | 1.28 | 1.28 | 1.28 | 1.28 | 1.28 | 0.00% |
| CH Energy Group | 2.12 | 2.14 | 2.16 | 2.16 | 2.16 | 0.47% |
| CLECO Corporation | 1.53 | 1.57 | 1.61 | 1.65 | 1.69 | 2.52% |
| Hawaiian Electric Industries | 2.41 | 2.44 | 2.48 | 2.48 | 2.48 | 0.75% |
| IDACORP | 1.86 | 1.86 | 1.86 | 1.86 | 1.86 | 0.00% |
| RGS Energy Group | 1.80 | 1.80 | 1.80 | 1.80 | 1.80 | 0.00% |
| UIL Holdings | 2.88 | 2.88 | 2.88 | 2.88 | 2.88 | 0.00% |
| Comparable Companies Averages | 2.10 | 2.12 | 2.13 | 2.14 | 2.15 | 0.62% |

Source: Value Line Investment Survey

Schedule DAM-6

The Empire District Electric Company

Comparable Electric Companies

Growth Rate Summary

| | 1995 TO 2004 Estimate | | | Value Line Five Year Historical | | | Projections Value Line | | S & P |
|---|---|---|---|---|---|---|---|---|---|
| | E/S | D/S | BK Value | E/S | D/S | BK Value | E/S | D/S | E/S |
| Empire District Electric | 5.4% | 0.0% | 2.2% | 1.0% | 1.5% | 1.5% | 6.0% | 0.0% | N/A |
| CH Energy Group | 2.5% | 0.5% | 2.9% | 2.0% | 1.0% | 3.0% | 3.0% | 0.5% | 1.0% |
| CLECO Corporation | 6.0% | 2.4% | 5.7% | 4.0% | 2.5% | 4.5% | 7.5% | 2.5% | 9.0% |
| Hawaiian Electric | 1.5% | 0.5% | 2.0% | 2.5% | 1.5% | 2.5% | 0.5% | 0.0% | 3.0% |
| IDACorp | 4.0% | 0.0% | 3.4% | 6.0% | 0.0% | 2.0% | 3.5% | 0.0% | 5.0% |
| RGS Energy Group | 4.0% | 0.1% | 2.6% | 4.5% | 1.0% | 1.5% | 2.5% | 0.0% | 3.0% |
| UIL Holdings | 3.3% | 0.2% | 3.0% | 1.0% | 1.5% | 1.0% | 5.0% | 0.0% | 4.0% |
| Comparable Companies' Average | 3.54% | 0.63% | 3.25% | 3.33% | 1.25% | 2.42% | 3.67% | 0.50% | 4.17% |

Sources : Value Line Investment Survey
Standard & Poor's Earnings Guide

Schedule DAM-7

The Empire District Electric Company

Comparable Electric Companies

2000 Cost of Capital

| | Share Prices | | 2000 | 2000 Yields | | 1994-96 | 2003-05E | Growth | Cost of Capital | |
|---|---|---|---|---|---|---|---|---|---|---|
| | High | Low | Dividend | High | Low | Dividend | Dividend | Rate | High | Low |
| Empire District Electric | 27.10 | 18.90 | 1.28 | 6.77% | 4.72% | 1.28 | 1.28 | 0.00% | 6.77% | 4.72% |
| CH Energy Group | 37.70 | 26.10 | 2.16 | 8.28% | 5.73% | 2.10 | 2.20 | 0.52% | 8.79% | 6.25% |
| CLECO Corporation | 46.40 | 30.10 | 1.69 | 5.61% | 3.64% | 1.49 | 1.85 | 2.43% | 8.05% | 6.08% |
| Hawaiian Electric | 37.70 | 27.70 | 2.48 | 8.95% | 6.58% | 2.37 | 2.48 | 0.51% | 9.46% | 7.08% |
| IDACorp | 53.00 | 25.90 | 1.86 | 7.18% | 3.51% | 1.86 | 1.86 | 0.00% | 7.18% | 3.51% |
| RGS Energy Group | 25.30 | 18.70 | 1.80 | 9.63% | 7.11% | 1.79 | 1.80 | 0.08% | 9.71% | 7.20% |
| UIL Holdings | 52.30 | 37.90 | 2.88 | 7.60% | 5.51% | 2.82 | 2.88 | 0.23% | 7.83% | 5.74% |
| Comparable Companies' Average | 42.07 | 27.73 | 2.15 | 7.87% | 5.35% | 2.07 | 2.18 | 0.63% | 8.50% | 5.98% |

Source : Value Line Investment Survey

Schedule DAM-8

The Empire District Electric Company

Comparable Electric Companies

2000 Cost of Capital

| | Share Prices | | 2000 | 2000 Yields | | 1994-96 | 2003-05E | Growth | Cost of Capital | |
|---|---|---|---|---|---|---|---|---|---|---|
| | High | Low | Dividend | High | Low | EPS | EPS | Rate | High | Low |
| Empire District Electric | 27.10 | 18.90 | 1.28 | 6.77% | 4.72% | 1.24 | 2.00 | 5.42% | 12.20% | 10.15% |
| CH Energy Group | 37.70 | 26.10 | 2.16 | 8.28% | 5.73% | 2.80 | 3.50 | 2.50% | 10.77% | 8.23% |
| CLECO Corporation | 46.40 | 30.10 | 1.69 | 5.61% | 3.64% | 2.08 | 3.50 | 5.97% | 11.59% | 9.61% |
| Hawaiian Electric | 37.70 | 27.70 | 2.48 | 8.95% | 6.58% | 2.62 | 3.00 | 1.52% | 10.47% | 8.09% |
| IDACorp | 53.00 | 25.90 | 1.86 | 7.18% | 3.51% | 2.04 | 2.90 | 4.00% | 11.19% | 7.51% |
| RGS Energy Group | 25.30 | 18.70 | 1.80 | 9.63% | 7.11% | 1.93 | 2.75 | 3.99% | 13.62% | 11.11% |
| UIL Holdings | 52.30 | 37.90 | 2.88 | 7.60% | 5.51% | 3.33 | 4.45 | 3.27% | 10.87% | 8.78% |
| Comparable Companies' Average | 42.07 | 27.73 | 2.15 | 7.87% | 5.35% | 2.47 | 3.35 | 3.54% | 11.42% | 8.89% |

Source : Value Line Investment Survey

Schedule DAM-9

The Empire District Electric Company

Comparable Electric Companies

2000 Cost of Capital

| | Share Prices | | 2000 | 2000 Yields | | EPS Estimates | | Cost of Capital | |
|---|---|---|---|---|---|---|---|---|---|
| | High | Low | Dividend | High | Low | Value Line | S&P | High | Low |
| Empire District Electric | 27.10 | 18.90 | 1.28 | 6.77% | 4.72% | 6.00% | N/A | 12.77% | 10.72% |
| CH Energy Group | 37.70 | 26.10 | 2.16 | 8.28% | 5.73% | 3.00% | 1.00% | 11.28% | 6.73% |
| CLECO Corporation | 46.40 | 30.10 | 1.69 | 5.61% | 3.64% | 7.50% | 9.00% | 13.11% | 11.14% |
| Hawaiian Electric | 37.70 | 27.70 | 2.48 | 8.95% | 6.58% | 0.50% | 3.00% | 11.95% | 7.08% |
| IDACorp | 53.00 | 25.90 | 1.86 | 7.18% | 3.51% | 3.50% | 5.00% | 12.18% | 7.01% |
| RGS Energy Group | 25.30 | 18.70 | 1.80 | 9.63% | 7.11% | 2.50% | 3.00% | 12.63% | 9.61% |
| UIL Holdings | 52.30 | 37.90 | 2.88 | 7.60% | 5.51% | 5.00% | 4.00% | 12.60% | 9.51% |
| Comparable Companies' Average | 42.07 | 27.73 | 2.15 | 7.87% | 5.35% | 3.67% | 4.17% | 12.29% | 8.51% |

Sources : Value Line Investment Survey
Standard & Poor's Earnings Guide

Schedule DAM-10

The Empire District Electric Company

Comparable Electric Companies

Current Cost of Capital

| | Share Prices | | Current | Current Yields | | 1994-96 | 2003-05E | Growth | Cost of Capital | |
|---|---|---|---|---|---|---|---|---|---|---|
| | High | Low | Dividend | High | Low | Dividend | Dividend | Rate | High | Low |
| Empire District Electric | 26.44 | 25.92 | 1.28 | 4.94% | 4.84% | 1.28 | 1.28 | 0.00% | 4.94% | 4.84% |
| CH Energy Group | 38.88 | 38.14 | 2.16 | 5.66% | 5.56% | 2.10 | 2.20 | 0.52% | 6.18% | 6.07% |
| CLECO Corporation | 45.41 | 44.24 | 1.69 | 3.82% | 3.72% | 1.49 | 1.85 | 2.43% | 6.25% | 6.16% |
| Hawaiian Electric | 34.47 | 33.69 | 2.48 | 7.36% | 7.19% | 2.37 | 2.48 | 0.51% | 7.87% | 7.70% |
| IDACorp | 46.45 | 44.23 | 1.86 | 4.21% | 4.00% | 1.86 | 1.86 | 0.00% | 4.21% | 4.00% |
| RGS Energy Group | 27.19 | 26.58 | 1.80 | 6.77% | 6.62% | 1.79 | 1.80 | 0.08% | 6.85% | 6.70% |
| UIL Holdings | 51.88 | 50.69 | 2.88 | 5.68% | 5.55% | 2.82 | 2.88 | 0.23% | 5.92% | 5.79% |
| Comparable Companies' Average | 40.71 | 39.59 | 2.15 | 5.58% | 5.44% | 2.07 | 2.18 | 0.63% | 6.21% | 6.07% |

Sources:
Value Line Investment Survey
Wall Street Journal

Schedule DAM-11

The Empire District Electric Company

Comparable Electric Companies

Current Cost of Capital

| | Share Prices | | Current | Current Yields | | 1994-96 | 2003-05E | Growth | Cost of Capital | |
|---|---|---|---|---|---|---|---|---|---|---|
| | High | Low | Dividend | High | Low | EPS | EPS | Rate | High | Low |
| Empire District Electric | 26.44 | 25.92 | 1.28 | 4.94% | 4.84% | 1.24 | 2.00 | 5.42% | 10.36% | 10.26% |
| CH Energy Group | 38.88 | 38.14 | 2.16 | 5.66% | 5.56% | 2.80 | 3.50 | 2.50% | 8.16% | 8.05% |
| CLECO Corporation | 45.41 | 44.24 | 1.69 | 3.82% | 3.72% | 2.08 | 3.50 | 5.97% | 9.79% | 9.69% |
| Hawaiian Electric | 34.47 | 33.69 | 2.48 | 7.36% | 7.19% | 2.62 | 3.00 | 1.52% | 8.88% | 8.71% |
| IDACorp | 46.45 | 44.23 | 1.86 | 4.21% | 4.00% | 2.04 | 2.90 | 4.00% | 8.21% | 8.01% |
| RGS Energy Group | 27.19 | 26.58 | 1.80 | 6.77% | 6.62% | 1.93 | 2.75 | 3.99% | 10.76% | 10.61% |
| UIL Holdings | 51.88 | 50.69 | 2.88 | 5.68% | 5.55% | 3.33 | 4.45 | 3.27% | 8.96% | 8.83% |
| Comparable Companies' Average | 40.71 | 39.59 | 2.15 | 5.58% | 5.44% | 2.47 | 3.35 | 3.54% | 9.13% | 8.98% |

Sources:
Value Line Investment Survey
Wall Street Journal

Schedule DAM-12

The Empire District Electric Company

Comparable Electric Companies

Current Cost of Capital

| | Share Prices | | Current | Current Yields | | EPS Estimates | | Cost of Capital | |
|---|---|---|---|---|---|---|---|---|---|
| | High | Low | Dividend | High | Low | Value Line | S&P | High | Low |
| Empire District Electric | 26.44 | 25.92 | 1.28 | 4.94% | 4.84% | 6.00% | N/A | 10.94% | 10.84% |
| CH Energy Group | 38.88 | 38.14 | 2.16 | 5.66% | 5.56% | 3.00% | 1.00% | 8.66% | 6.56% |
| CLECO Corporation | 45.41 | 44.24 | 1.69 | 3.82% | 3.72% | 7.50% | 9.00% | 11.32% | 11.22% |
| Hawaiian Electric | 34.47 | 33.69 | 2.48 | 7.36% | 7.19% | 0.50% | 3.00% | 10.36% | 7.69% |
| IDACorp | 46.45 | 44.23 | 1.86 | 4.21% | 4.00% | 3.50% | 5.00% | 9.21% | 7.50% |
| RGS Energy Group | 27.19 | 26.58 | 1.80 | 6.77% | 6.62% | 2.50% | 3.00% | 9.77% | 9.12% |
| UIL Holdings | 51.88 | 50.69 | 2.88 | 5.68% | 5.55% | 5.00% | 4.00% | 10.68% | 9.55% |
| Comparable Companies' Average | 40.71 | 39.59 | 2.15 | 5.58% | 5.44% | 3.67% | 4.17% | 10.00% | 8.61% |

Sources : Value Line Investment Survey
Standard & Poor's Earnings Guide
Wall Street Journal

Schedule DAM-13

The Empire District Electric Company

Comparable Electric Companies

Summary of Discounted Cash Flow Analysis

| | DCF Range | |
|---|---|---|
| | High | Low |
| **DCF Using Dividend Growth Rates** | | |
| Empire District Electric | 6.77% | 4.72% |
| Comparable Companies' Average | 8.50% | 5.98% |
| **DCF Using Earnings Growth Rates** | | |
| Empire District Electric | 12.20% | 10.15% |
| Comparable Companies' Average | 11.42% | 8.89% |
| **DCF Using Projected Growth Rates** | | |
| Empire District Electric | 12.77% | 10.72% |
| Comparable Companies' Average | 12.29% | 8.51% |

Sources: Schedules DAM-7 through DAM-13

The Empire District Electric Company

Comparable Electric Distribution Companies

Cost of Equity : Historical Capital Asset Pricing Model

| | Market Total Returns | Long-Term Corporate Bonds Return | Risk Premium | Beta | Adjusted Risk Premium | Aaa Corporate Bonds Return | Cost of Equity |
|---|---|---|---|---|---|---|---|
| Empire District Electric | 15.45% | 5.90% | 9.55% | 0.50 | 4.78% | 7.55% | 12.33% |
| CH Energy Group | 15.45% | 5.90% | 9.55% | 0.55 | 5.25% | 7.55% | 12.80% |
| CLECO Corporation | 15.45% | 5.90% | 9.55% | 0.55 | 5.25% | 7.55% | 12.80% |
| Hawaiian Electric | 15.45% | 5.90% | 9.55% | 0.50 | 4.78% | 7.55% | 12.33% |
| IDACorp | 15.45% | 5.90% | 9.55% | 0.50 | 4.78% | 7.55% | 12.33% |
| RGS Energy Group | 15.45% | 5.90% | 9.55% | 0.55 | 5.25% | 7.55% | 12.80% |
| UIL Holdings | 15.45% | 5.90% | 9.55% | 0.55 | 5.25% | 7.55% | 12.80% |
| Comparable Companies' Average | 15.45% | 5.90% | 9.55% | 0.53 | 5.09% | 7.55% | 12.64% |

Sources :
Value Line Investment Survey
Ibbotson Associates 2000 SBBI Yearbook
Federal Reserve Statistical Release

Schedule DAM-15

The Empire District Electric Company

Comparable Electric Distribution Companies

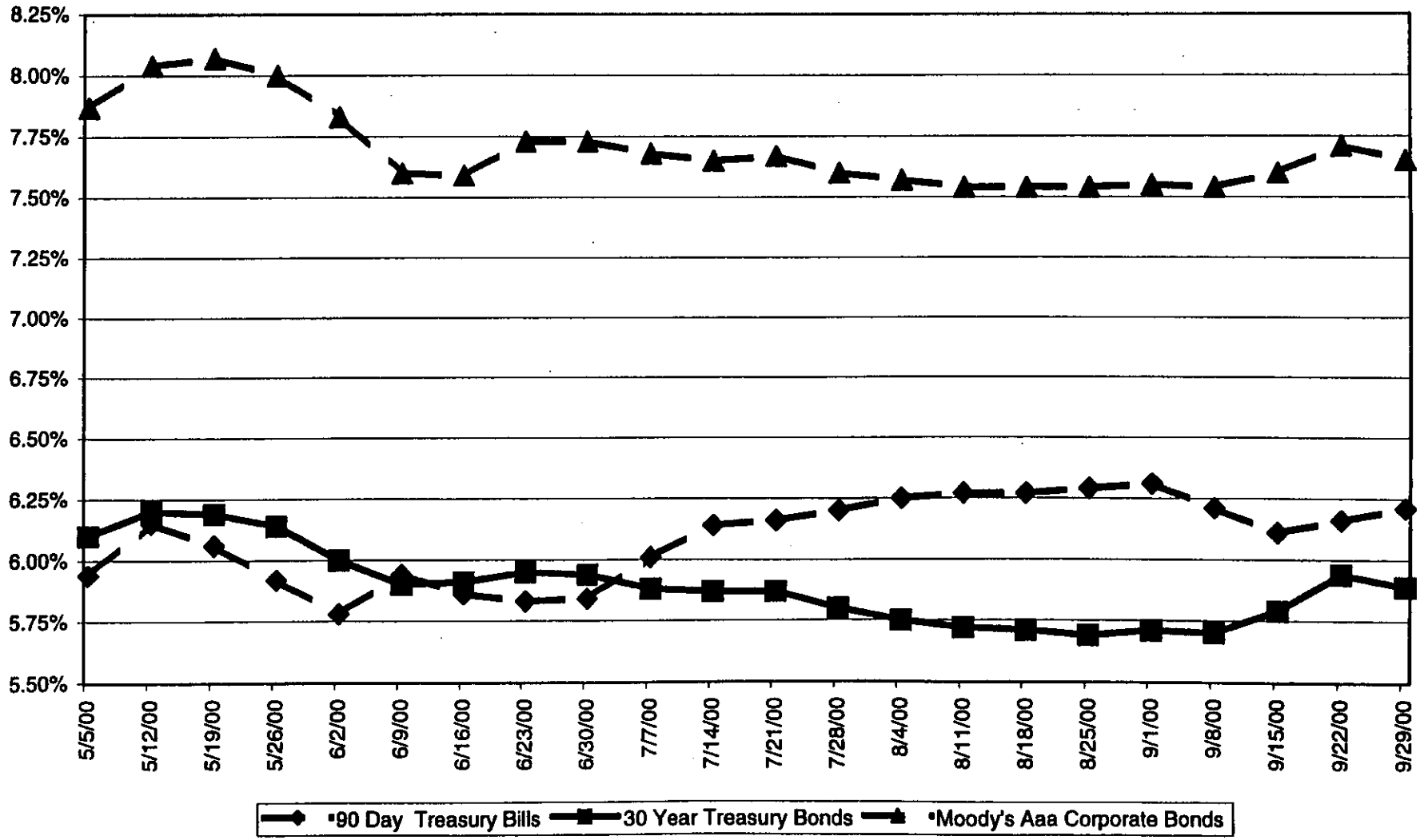
Cost of Equity : Size Adjusted Capital Asset Pricing Model

| | Risk Free Return | Beta | Equity Risk Premium | Adjusted Equity Risk Premium | Size Premium | Cost of Equity |
|---|---|---|---|---|---|---|
| Empire District Electric | 5.72% | 0.50 | 8.10% | 4.05% | 0.80% | 10.57% |
| CH Energy Group | 5.72% | 0.55 | 8.10% | 4.46% | 0.80% | 10.98% |
| CLECO Corporation | 5.72% | 0.55 | 8.10% | 4.46% | 0.80% | 10.98% |
| Hawaiian Electric | 5.72% | 0.50 | 8.10% | 4.05% | 0.20% | 9.97% |
| IDACorp | 5.72% | 0.50 | 8.10% | 4.05% | 0.20% | 9.97% |
| RGS Energy Group | 5.72% | 0.55 | 8.10% | 4.46% | 0.80% | 10.98% |
| UIL Holdings | 5.72% | 0.55 | 8.10% | 4.46% | 0.80% | 10.98% |
| Comparable Companies' Average | 5.72% | 0.53 | 8.10% | 4.37% | 0.68% | 10.77% |

Sources :
Value Line Investment Survey
Ibbotson Associates 2000 SBBI Yearbook
Federal Reserve Statistical Release

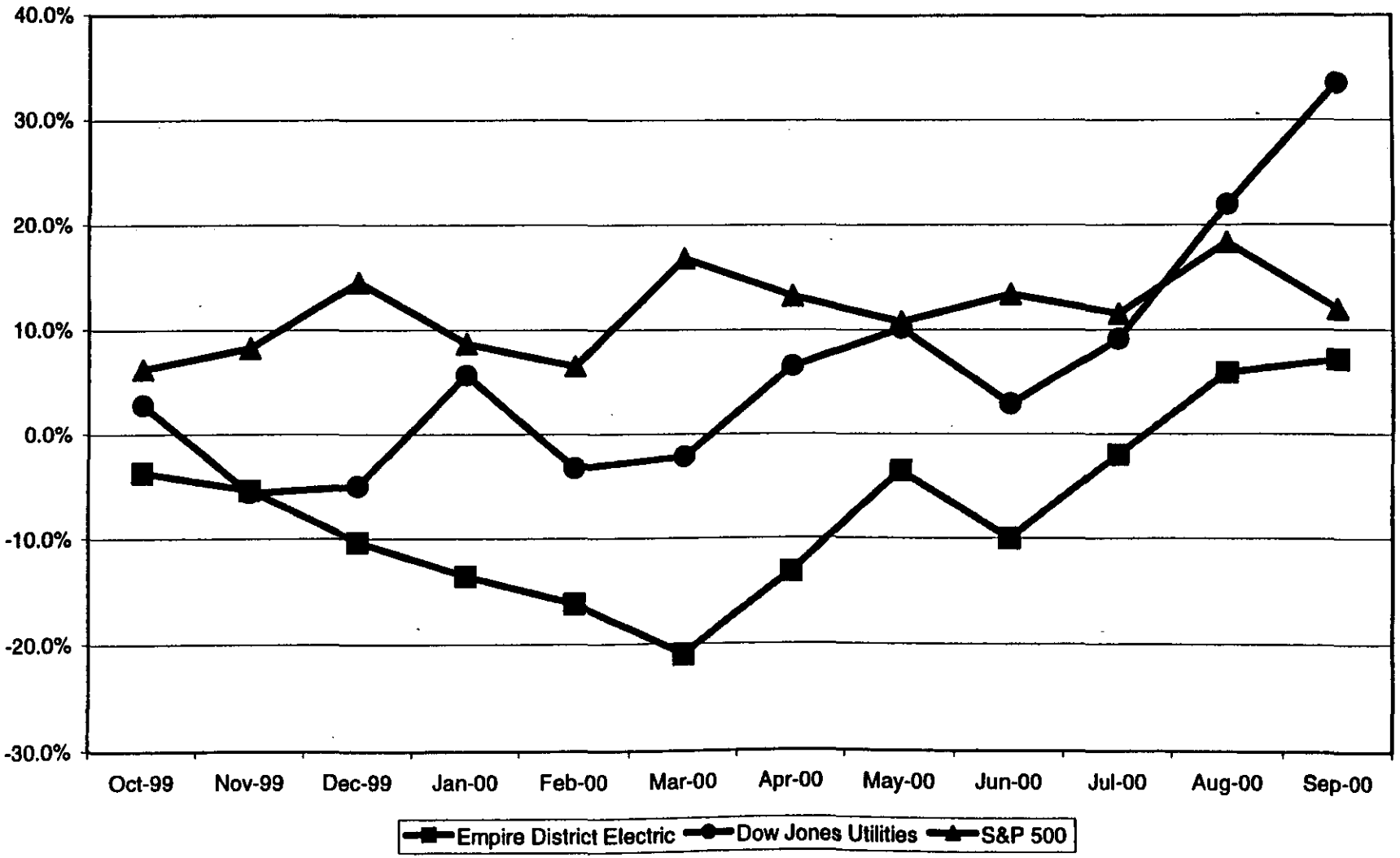
Schedule DAM-16

# Comparison of Bond Yields




Schedule DAM-17

# Comparison of Share Price Appreciation




Schedule DAM-18

The Empire District Electric Company

Proposed Cost of Capital

Pro Forma as of December 31, 1999

| | Amount Outstanding | Percent of Total | Embedded Costs | Weighted Cost of Capital |
|---|---|---|---|---|
| Long Term Debt | $297,695,000 | 52.50% | 7.91% | 4.15% |
| Common Equity | $269,328,999 | 47.50% | 11.50% | 5.46% |
| Total Capital | $567,023,999 | 100.00% | | 9.61% |

Source :
The Empire District Electric Company Workpapers

The Empire Distirct Electric Company

Comparable Electric Companies

Comparison of After-Tax Times Long Term Interest Earned Ratios

| | | |
|---|---|---|
| Empire District Electric | @11.5% ROE | 2.32 |
| | | |
| CH Energy Group | | 3.34 |
| CLECO Corporation | | 2.24 |
| Hawaiian Electric | | 2.81 |
| IDACorp | | 2.79 |
| RGS Energy Group | | 2.61 |
| UIL Holdings | | 2.48 |
| | | |
| Comparable Companies' Average | | 2.71 |

Source : Value Line Investment Survey