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THE EMPIRE DISTRICT ELECTRIC COMPANY

BEFORE THE MISSOURI PUBLIC SERVICE COMMISSION

FILED  
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DIRECT TESTIMONY  
OF  
DONALD A. MURRY, Ph.D.  
Missouri Public  
Service Commission

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.

1 Q. Please state your name and business address.

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

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

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

8 Q. What is your educational background?

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

11 Q. Please describe your professional background.

12 A. From 1964 to 1974, I was an Assistant and Associate Professor and Director of  
13 Research on the faculty of the University of Missouri - St. Louis. For the period  
14 1974-98, I was a Professor of Economics at the University of Oklahoma and since  
15 1998 I have been Professor Emeritus at the University of Oklahoma. Until 1978, I  
16 also served as Director of the Center for Economic and Management Research. In

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

6 Q. Please describe your regulatory experience.

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

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

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

1 Commission, Federal Energy Regulatory Commission, Interstate Commerce  
2 Commission, Alabama Public Service Colorado Public Utilities Commission, Florida  
3 Public Service Commission, Georgia Public Service Commission, Illinois Commerce  
4 Commission, Iowa Commerce Commission, Kansas Corporation Commission,  
5 Kentucky Public Service Commission, Louisiana Public Service Commission,  
6 Maryland Public Service Commission, Missouri Public Service Commission, New  
7 Mexico Public Service Commission, New York Public Service Commission, Power  
8 Authority of the State of New York, Nevada Public Service Commission, North  
9 Carolina Utilities Commission, Oklahoma Corporation Commission, South Carolina  
10 Public Service Commission, Tennessee Public Service Commission, Texas Public  
11 Utilities Commission, the Railroad Commission of Texas, the State Corporation  
12 Commission of Virginia and the Public Service Commission of Wyoming.

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

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

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

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

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

3 Q. Are you sponsoring any exhibits with your testimony?

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

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

7 A. Yes, they were.

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

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

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

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

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

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

5 A. In this context I am using the term fair rate of return to refer to a return that meets the  
6 standards set by the United States Supreme Court decision in the *Bluefield Water*  
7 *Works and Improvement Company vs. Public Service Commission*, 262 U.S. 679  
8 (1923) ("*Bluefield*") case, as further modified in the *Federal Power Commission vs.*  
9 *Hope Natural Gas Company*, 320 U.S. 591 (1944) ("*Hope*"). In these decisions the  
10 rate of return is a fair return if it provides earnings to investors similar to returns on  
11 alternative investments in companies of equivalent risk.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

14 Q. Have you reviewed the recent earnings of Empire?

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

5       Q.     What were the results of your DCF analysis?

6       A.     As Schedule DAM-8 illustrates, the calculations of the cost of capital using year  
7       2000 common stock prices show the effects of the flat dividends for Empire and the  
8       comparable companies. These DCF measures of the cost of common stock are less  
9       than the cost of high-grade corporate bonds. Therefore, as I indicated previously,  
10      these calculations of the cost of common stock have limited usefulness in evaluating  
11      a prospective allowed return. Schedules DAM-9 and DAM-10 illustrate the  
12      historical earnings growth and the projected earnings growth DCF results. These are  
13      credible measures of the cost of common stock for Empire and the comparable  
14      companies. Using the forecasted earnings per share growth and the year 2000 market  
15      prices in the DCF analysis to estimate the cost of common stock resulted in an  
16      estimated cost of capital between 10.72 percent and 12.77 percent.

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

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

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

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

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

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

17 
$$K = RF + \beta (RM - RF)$$

18 Where: K = the required return.

19 RF = the risk-free rate.

20 RM = the required overall market return; and

21  $\beta$  = beta, a measure of security risk relative to the overall market.

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

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

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

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

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

16 A. Since I used two different approaches to estimate a CAPM cost of capital, I  
17 developed two separate calculations based on slightly different interpretations of the  
18 theory. The results of these CAPM analyses are shown in Schedule DAM-15 and  
19 DAM-16, respectively. Note that the estimated costs of the common stock for Empire  
20 are 12.33 and 10.57 percent from these two methods.

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

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

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

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

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

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

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

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

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

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

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

- 1 Q. When you evaluated the results of your CAPM analysis, what did you believe was the  
2 significance of the inverted yield curve?
- 3 A. Since I used long-term bond rates in my CAPM analyses, I believe that my results  
4 were not affected significantly by the monetary policy activities of the Federal  
5 Reserve. In reviewing the long-term rates, there is no evidence that they have  
6 increased greatly, which would raise the resulting cost of capital, as a result of the  
7 Federal Reserve policies. In fact, if these policies affected my calculations, they may  
8 have downplayed my results slightly because of market arbitrage between long-term  
9 and short-term rates.
- 10 Q. How have the current market conditions affected the price of Empire's common  
11 stock?
- 12 A. In recent months the Empire common stock has appreciated, but it has only returned  
13 to levels where it was approximately one year ago. It has not kept pace with the  
14 Standard & Poor's Utilities Index, as illustrated in Schedule DAM-18.
- 15 Q. How did you reach your recommended return in this proceeding?
- 16 A. I took into account the characteristics of each of the methods which I used to reach a  
17 recommendation in this proceeding. For example, as noted, the DCF method  
18 produces an estimate of the marginal cost of capital that is almost certainly too low to  
19 apply directly in setting an allowed return.
- 20 Q. What is your recommendation for a rate of return for common stock in this  
21 proceeding?

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

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

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

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

22 A. Yes, it does.

AFFIDAVIT

STATE OF OKLAHOMA

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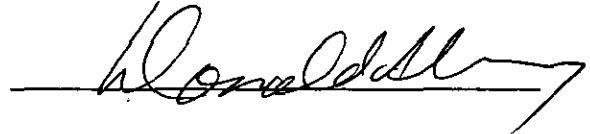
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COUNTY OF OKLAHOMA

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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 25 day of October, 2000.



Notary Public

My Commission Expires:

October 5, 2002

## The Empire District Electric Company

### Summary of Schedules

- Schedule DAM-1 : Company's Pro Forma Capital Structure
- Schedule DAM-2 : Long-term Debt and Embedded Cost Calculation
- Schedule DAM-3 : Comparison of Common Stock Equity Ratios
- Schedule DAM-4 : Comparison of Returns on Common Equity
- Schedule DAM-5 : Comparison of Dividend Payout Ratios
- Schedule DAM-6 : Comparison of Dividends per Share
- Schedule DAM-7 : Growth Rate Summary
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## 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
<b>Bonds and Unsecured Notes:</b>			
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

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

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

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

# The Empire District Electric Company

## Comparable Electric Companies

### Growth Rate Summary

	1995 TO 2004 Estimate			Value Line Five Year Historical			Projections		S & P E/S
	E/S	D/S	BK Value	E/S	D/S	BK Value	Value Line E/S	D/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

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

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

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

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

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

The Empire District Electric Company

Comparable Electric Companies

Current Cost of Capital

	Share Prices		Current Dividend	Current Yields		EPS Estimates		Cost of Capital	
	High	Low		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

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 :

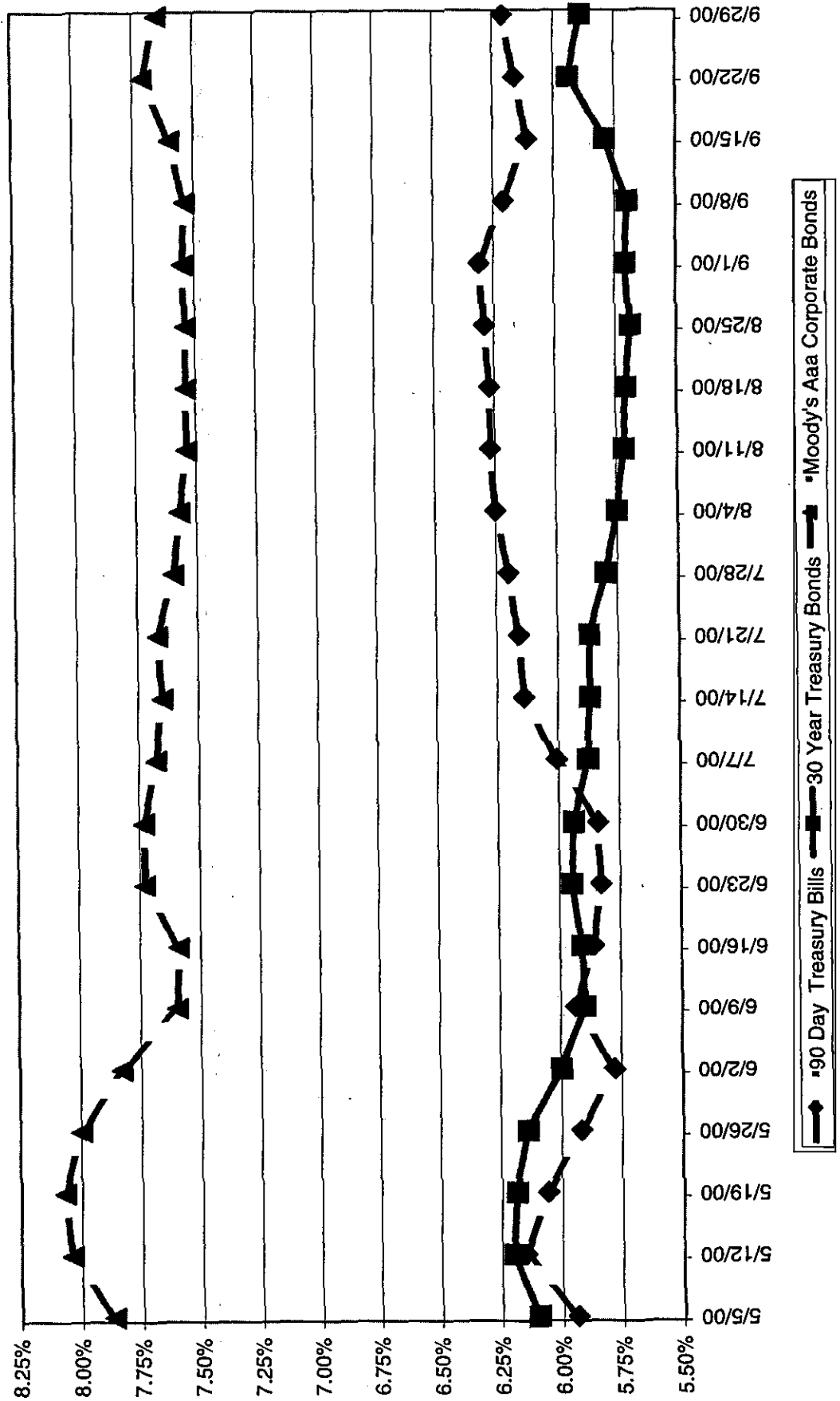
Value Line Investment Survey  
Ibbotson Associates 2000 SBBI Yearbook  
Federal Reserve Statistical Release

The Empire District Electric Company  
 Comparable Electric Distribution Companies  
 Cost of Equity : Size Adjusted Capital Asset Pricing Model

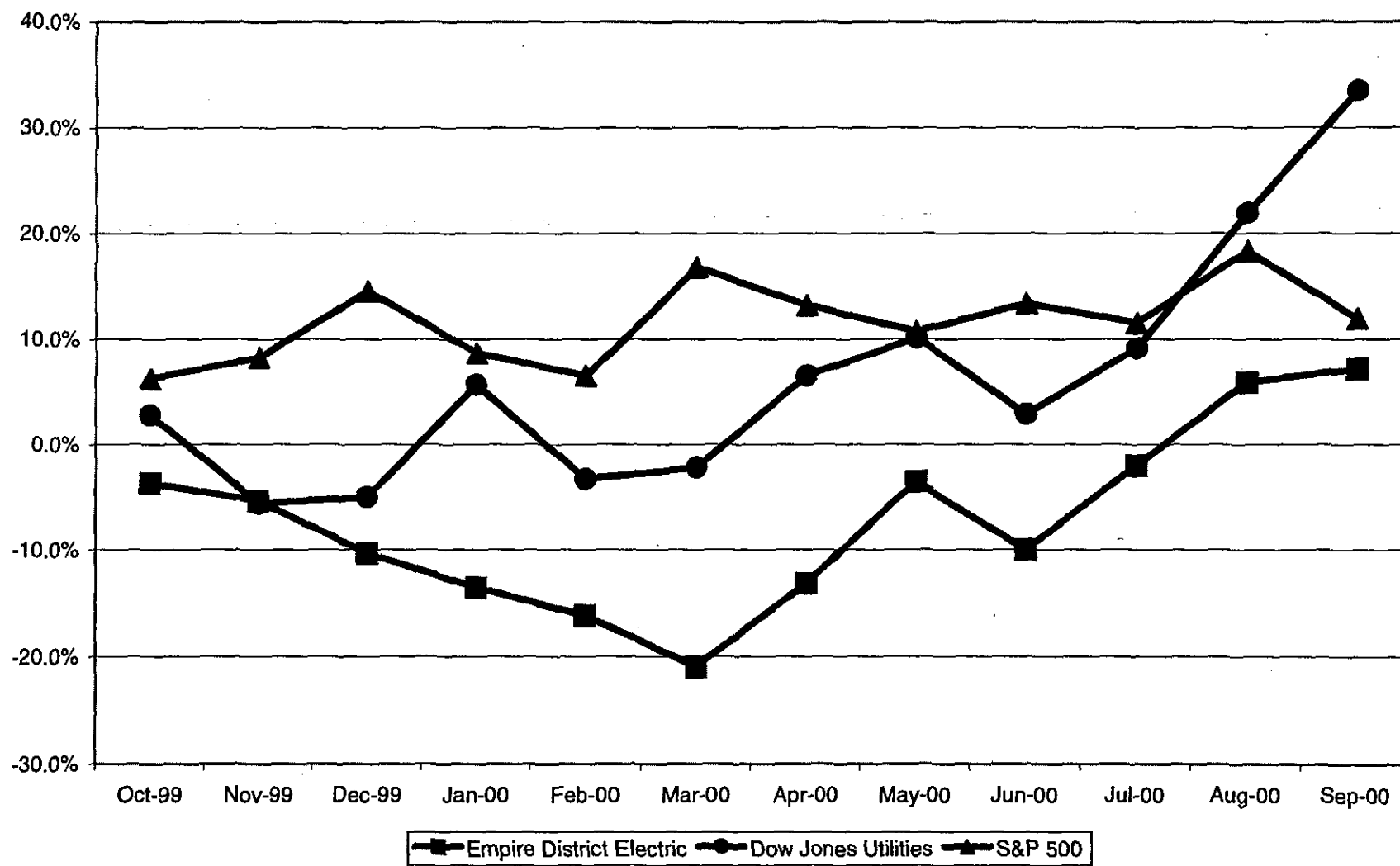
	Risk Free Return	Beta	Equity Risk Premium	Adjusted Equity Risk Premium	Size Premium	Cost of Equity
Empire District Electric	5.72%	0.50	8.10%	4.05%	0.80%	10.57%
CH Energy Group	5.72%	0.55	8.10%	4.46%	0.80%	10.98%
CLECO Corporation	5.72%	0.55	8.10%	4.46%	0.80%	10.98%
Hawaiian Electric	5.72%	0.50	8.10%	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

# Comparison of Bond Yields



## Comparison of Share Price Appreciation



## 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