Exhibit No:_____________
Issue: Cost of Capital
Witness: Donald A. Murry
Type of Exhibit: Rebuttal Testimony
Sponsoring Party: Empire District
Case No.: ER-2004-0570
Date Testimony Prepared: Nov 4, 2004

THE EMPIRE DISTRICT ELECTRIC COMPANY
BEFORE THE MISSOURI PUBLIC SERVICE COMMISSION

FILED[3]

DEC 2 8 2004

Missouri Public
Service Commission

REBUTTAL TESTIMONY
OF
DONALD A. MURRY, Ph.D.

NOVEMBER 2004

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

Exhibit No. 12
Case No(s). ER-2004-0570
Date 12-06-04 Rptr XF

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OKLAHOMA CITY, OKLAHOMA

AFFIDAVIT

STATE OF ~~MISSOURI~~ Florida)
) ss
COUNTY OF ~~JASPER~~ Franklin)

On the 2nd day of Nov., 2004, before me appeared (Name), to me personally known, who, being by me first duly sworn, states that he is the (Title) of (Company) that he has read the above and foregoing document and believes that the statements therein are true and correct to the best of his information, knowledge and belief.

Donald McCurry
(Name)

Subscribed and sworn to before me this 2nd day of Nov, 2004.

Kathy L Creamer
(Name), Notary Public

My commission expires: April 5, 2005

Kathy L Creamer
MY COMMISSION # DD015836 EXPIRES
April 5, 2005
BONDED THRU TROY FAIN INSURANCE, INC

THE EMPIRE DISTRICT ELECTRIC COMPANY
BEFORE THE MISSOURI PURLIC SERVICE COMMISSION
CASE NO. ER-2004-0570
Rebuttal Testimony
Of
Donald A. Murry, Ph.D.

Q. **WHAT IS YOUR NAME?**

A. My name is Donald A. Murry.

Q. **ARE YOU THE SAME DONALD A. MURRY WHO FILED DIRECT TESTIMONY PREVIOUSLY IN THIS PROCEEDING BEFORE THE MISSOURI PUBLIC SERVICE COMMISSION ("COMMISSION")?**

A. Yes, I am.

Q. **WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?**

A. I have prepared rebuttal testimony in response to the direct testimonies of Commission Staff ("Staff") witness Mr. David Murray and Office of Public Counsel witness Travis Allen in this docket involving The Empire District Electric Company, ("Empire" or the "Company.")

Q. **PLEASE SUMMARIZE YOUR REBUTTAL OF STAFF WITNESS DAVID MURRAY.**

A. My rebuttal testimony addresses the inadequacy of Mr. Murray's recommendation for Empire and the apparent reasons for his reaching an inordinately low recommended return. In fact, his recommendation is so inadequate that it has, at a minimum, contributed to Empire being placed on Standard & Poor's ("S&P") CreditWatch with negative implications. In fact, "S&P" states, "The CreditWatch listing reflects prospects for erosion of Empire's pressured financial condition if recent testimony by the Missouri Public Service Commission ("MPSC") staff in Empire's pending general rate case is ultimately endorsed by the MPSC." I have attached the Standard & Poor's *RatingsDirect*, 9/28/04 as Rebuttal Schedule DAM-1.

Adoption of Mr. Murray's recommended allowed return will result in financial ratios below S&P's published guidelines and medians. Financial ratios below S&P's published guidelines and medians can lead to a lowering of Empire's financial rating. This is important in this proceeding because a downgrade of Empire's financial ratings will increase the cost of both debt and equity to Empire. Such treatment is detrimental to Empire's ability to attract capital at a reasonable cost and maintain its financial integrity. It will be unfavorable to Empire's ratepayers over the long term.

Q. WHAT OTHER GENERAL COMMENTS DO YOU HAVE CONCERNING MR. MURRAY'S TESTIMONY?

A. Mr. Murray's testimony is, to a relatively large extent, similar to testimony he has presented to this Commission over the last several years in other cases. His lengthy presentation of stale economic data is irrelevant and ignores the fact that the cost of capital is a function of expectations. Interest rates have risen and financial forecasts indicate interest rates will continue to increase in the near future. Consequently, the cost of capital will continue to increase.

Additionally, Mr. Murray's analysis has a number of analytical and methodological problems that appear to have led to his unsubstantiated conclusions and flawed recommendations. Problems with his Discounted Cash

Flow ("DCF") analysis render his results unreliable, and the misapplication of his Capital Asset Pricing Model ("CAPM") analysis is readily apparent. The errors in his CAPM are obvious, and one can easily recalculate and correct his estimates. Mr. Murray also incorrectly calculated pre-tax interest coverage ratios, which provided false reassurance to the reasonableness of his recommendation. Finally, to check the reasonableness of his recommended return Mr. Murray used a group of companies not comparable to Empire's Missouri electric operations.

Q. ARE YOU AWARE OF WHY S&P MAY HAVE ISSUED A STATEMENT ABOUT STAFF TESTIMONY IN THIS CASE WHILE IT IS STILL IN PROGRESS?

A. Of course, I can not know for certain why Standard & Poor's would comment on Staff testimony in CreditWatch, but it would seem to relate to the impact that the Staff recommendations would have on critical financial ratios of Empire if the Commission were to adopt them.

Q. YOU STATED THAT ADOPTION OF STAFF'S RECOMMENDED ALLOWED RETURN WILL RESULT IN FINANCIAL RATIOS BELOW S&P's PUBLISHED GUIDELINES AND MEDIANS. WHY IS THIS IMPORTANT?

A. As a leading credit rating organization providing financial information and research services to investors and analysts, S&P's statements are important to many investors. S&P rates more than $13 trillion in bonds and other financial obligations, and S&P's ratings have broad acceptance by financial markets around the world. S&P publishes ratio guidelines for U.S. companies, including utilities, in an effort to convey ranges that characterize credit quality and portray the role financial ratios play in the credit ratings process. S&P also publishes Key Utility Financial Ratios that define broadly how a company's position fits rating categories. These ratios are Funds from Operations ("FFO") to Total Debt and Funds from Operations Interest Coverage. In Rebuttal Schedule DAM-2, page 1 of 2, S&P recommends a FFO to Debt Ratio between 20 percent and 27 percent and a FFO Interest Coverage between three and four times for Empire.

Q. WHAT WOULD BE THE RESULTING RATIO OF FUNDS FROM OPERATIONS TO TOTAL DEBT IF THE COMMISSION ADOPTS MR. MURRAY'S RECOMMENDED RETURN?

A. Mr. Murray's recommended return results in a Funds from Operations to Total Debt ratio of 18.83 percent which is below the S&P guideline of 20 percent to 27 percent for a BBB utility of average business risk. I have shown this calculation in Rebuttal Schedule DAM-3. This level is important because a BBB bond rating is the lowest investment grade rating. That is, Mr. Murray is recommending a return that will not support an investment grade bond rating, and this could be an explanation of why S&P would identify the Staff return recommendation as a problem in CreditWatch.

Q. SHOULD MR. MURRAY HAVE KNOWN THAT HIS RECOMMENDATION WOULD PRODUCE A FUNDS FROM OPERATIONS THAT WAS SO LOW THAT IT WOULD NOT SUPPORT AN INVESTMENT GRADE BOND RATING?

A. Yes. In fact he states on page 18, lines 41 through 43, "Specifically funds from operations (FFO) to total debt should be between 20% to 27% and FFO Interest Coverage between 3X and 4X." In calculating the ratio as I have noted in the above schedule, all of the data that I used to make this calculation came from either Mr. Murray's exhibits or Staff's accounting schedules.

Q. YOU MENTIONED THE FINANCIAL RATIO OF FUNDS FROM OPERATIONS TO INTEREST COVERAGE. IS THIS RATIO IMPORTANT?

A. Yes.

Q. PLEASE EXPLAIN.

A. It is a ratio that illustrates the funds from operations relative to interest obligations. It is a measure of cash generated from operations relative to cash requirements for interest payments. In other words, this is a measure of whether the cash from operations will be sufficient for a company to cover its fixed obligations and operate successfully.

Q. DID YOU CALCULATE THE RATIO OF FUNDS FROM OPERATIONS TO INTEREST EXPENSE?

A. Yes. I have illustrated the results of this calculation, a ratio of 2.53 times, in Rebuttal Schedule DAM-4. The Funds from Operations to Interest Coverage ratio of 2.54 times is also below the S&P range of 3.0 to 4.0 times for a BBB, or the lowest level of an investment grade utility of average business risk.

Q. WHAT ARE THE POTENTIAL CONSEQUENCES IF MR. MURRAY'S RECOMMENDED RETURN IS ADOPTED AND EMPIRE'S FINANCIAL RATIOS FALL BELOW S&P'S GUIDELINES?

A. As I noted, Empire has been placed on S&P's CreditWatch with negative implications. CreditWatch listings focus on events that could result in a rating change. Clearly, the implication is that further erosion of Empire's financial condition will result in a lowering of Empire's credit rating.

Q. WHAT ARE THE LIKELY CONSEQUENCES IF EMPIRE LOSES ITS INVESTMENT GRADE BOND RATING?

A. The likely result is that investors in Empire's debt and common equity securities would take this as a signal of increased risk. This would almost certainly increase the cost of both debt and equity to Empire and impair its financial flexibility—all of which are unfavorable for Empire and its ratepayers over the long run.

Q. HAVE OTHER FINANCIAL SERVICES NOTED THE IMPORTANCE OF THIS PROCEEDING ON THE FINANCIAL VIABILITY OF EMPIRE?

A. Yes. As pointed out by Mr. Murray himself on page 22, line 1 of his direct testimony, *Value Line* stated that "an unfavorable order" in this docket could lead to a reduction in Empire's dividend (*Value Line*, July 2, 2004).

Q. HOW DID MR. MURRAY RESPOND TO VALUE LINE'S CONCERN THAT "AN UNFAVORABLE ODER" IN THIS DOCKET COULD LEAD TO A REDUCTION IN DIVIDEND?

A. He stated, incredibly, at page 22, lines 12-15, "It is my opinion that Empire's dividend policy is causing it to have a higher cost of capital than if it had a more conservative dividend policy with a target payout more in line with industry average."

Q. WHY DO YOU CHARACTERIZE MR. MURRAY'S STATEMENT AS INCREDIBLE?

A. Mr. Murray's statement shows a dangerous lack of understanding of the relationship between dividends, the cost of capital, and regulatory allowed returns. Empire has not increased its dividend on common stock since 1993. Empire could hardly have a more conservative dividend policy. In light of this lengthy history of flat dividends, it is an incredible assertion that the dividend policy of Empire is not in line with the industry average. As I pointed out in my direct testimony, other comparable electric utilities have had flat dividends over the past five years, but this has apparently been in order to conserve more cash. In the case of Empire, however, the dividend payout ratio is very high relative to the industry average because the earnings per share have declined. Given this dividend history, the only rational conclusion from these data is that common stock earnings fall short of industry norms. This is in direct contradiction to Mr. Murray's conclusion that Empire's dividend is too high.

Q. YOU STATED THAT MR. MURRAY'S SUGGESTION THAT EMPIRE COULD REDUCE ITS COST OF CAPITAL BY LOWERING ITS DIVIDEND SHOWED A LACK OF UNDERSTANDING OF THE RELATIONSHIP AMONG DIVIDENDS, COST OF CAPITAL AND ALLOWED RETURNS. WHAT DID YOU MEAN?

A. Mr. Murray's assertion that Empire could lower its cost of capital by reducing its dividend is naïve and shows a lack of understanding of these relationships. All other things being equal, a dividend reduction will result in a decrease in the stock price because returns will be received by investors later rather than sooner. The financial literature calls this the "bird in the hand" view of dividends. Furthermore, a dividend reduction and the associated drop in the price of the stock could be extremely deleterious for certain investors.

Utility stocks have long been considered "widows' and orphans' " stocks and are also an important investment niche for institutional investors due to their relatively high and steady dividend. According to one theoretical argument set forth by Modigilani and Miller many years ago, a dividend reduction will not change the cost of capital absent a change in relevant risk.[1] Following this theory, even with a dividend reduction there would be no change in the appropriate rate of return to be allowed for ratemaking purposes.

Q. HOW WOULD YOU CHARACTERIZE EMPIRE'S CURRENT DIVIDEND SITUATION?

A. Over the period 1993-2004, Empire has paid out virtually all its earnings as dividends in an effort to maintain its investment standing and has issued new equity to maintain its financial integrity. Empire's expected return on common equity for 2004 is 5.5 percent. Contrary to Mr. Murray's assertion, the solution to Empire's dilemma is not to reduce dividends, which will decrease the market price and raise the cost of acquiring capital. The solution, as recognized by

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[1] Modigliani, Franco, and Merton H. Miller, "Dividend Policy, Growth, and the Valuation of shares," *Journal of Business*, October 1961, pp. 411-433.

various market research services, is to increase common stock earnings to levels consistent with electric utility industry norms. For example, S&P stated,

> "A challenging regulatory environment tempers the strengths of Empire's business profile. Under the jurisdiction of the MPSC, Empire suffers from relatively low allowed ROE's, receives low depreciation allowances, and lacks a fuel adjustment clause to help shield the Company from its markedly increased natural gas dependence." *Standard & Poor's Report*, 9/28/04.

In an October 1, research report, *Value Line* stated,

> "The payout ratio has been extremely high in recent years, but Empire District has been able to maintain the disbursement at the current level because it is a traditional electric utility and its finances have remained in good shape. Indeed, thanks to frequent equity issuances, the common-equity ratio has risen significantly since 2001. But, an unfavorable rate order in Missouri could cause the board of directors to reevaluate the level of the dividend. Thus, we advise investors to stay on the sidelines while the rate case in Missouri is pending."

Q. YOU STATED PREVIOUSLY THAT MR. MURRAY COMMITTED ANALYTICAL ERRORS THAT AFFECTED HIS DCF ANALYSIS. WHAT ERRORS WERE YOU REFERRING TO IN THIS STATEMENT?

A. On page 31, lines 3-5 of his direct testimony, Mr. Murray stated, "...it appeared to be logical to use these historical growth rates in analyzing what investor expectations may be for the growth in a company's stock price." However, as pointed out by Mr. Murray on page 11, line 12 of his direct testimony, recent Federal Reserve policy clearly is to raise interest rates as the economy recovers. Analysts' forecasts now uniformly call for interest rates to increase during the period the rates in this proceeding will be in effect. Mr. Murray admitted in his response to Empire's Data Request #0463 that he made no compensation in his analysis for rising interest rates. In his testimony, Mr. Murray used historical growth rates, including negative growth (see David Murray Schedule 12), that lowered the averages used in his calculations. This ignores that the cost of equity is a function of expectations and that rates will increase during the period that his recommended rates will be in effect. In addition, he made simple, mechanical calculations that led to unreasonable DCF results.

Q. WHAT MECHANICAL CALCULATIONS ARE YOU REFERRING TO IN THIS STATEMENT?

A. Throughout his analysis Mr. Murray averaged averages, rendering his results useless for determining the investors' evaluation of capital costs. This substitutes a mechanical set of calculations and averages for a real analysis of the market data and masks the essence of the DCF analysis. Mr. Murray's series of averages simply hides from analytical view and subsequent interpretation the various market valuations. Consequently, his formulistic calculations were reduced to rather meaningless data manipulations.

Q. YOU STATED THAT MR. MURRAY MISAPPLIED THE CAPITAL ASSET PRICING MODEL ("CAPM"). PLEASE EXPLAIN.

A. Because of known biases in the data favoring large firms, his source, Ibbotson Associates, recommends making a size adjustment based on the market capitalization of the company. Ibbotson Associates, which he cited in his Schedule 15, even recommends the level of adjustment to compensate for this bias. Mr. Murray ignored the presence of this bias and Ibbotson Associates' recommended adjustment. I have attached Ibbotson Associates' recommended adjustments in Rebuttal Schedule DAM-5, which shows a 1.70 percent adjustment on page 3 of 3, for a company like Empire.

Q. YOU STATED THAT MR. MURRAY'S CAPM ANALYSIS COULD BE CORRECTED. DID YOU CORRECT THESE ANALYTICAL ERRORS AND RECALCULATE THE CAPM USING HIS METHODOLOGY?

A. Yes. When calculated correctly, Mr. Murray's CAPM analysis produced an estimate of the cost of common stock for Empire of 11.44 percent. I have shown these calculations using his methodology in Rebuttal Schedule DAM –6.

Q. YOU STATED MR. MURRAY INCORRECTLY CALCULATED PRE-TAX COVERAGE RATIOS. PLEASE EXPLAIN.

A. The coverage ratios calculated by Mr. Murray on his Schedule 18 do not include all interest related costs such as unamortized debt expense. Consequently, Mr. Murray's calculations provide a false reassurance as to reasonableness of his recommended return for a small stand-alone electric utility. Rebuttal Schedule DAM-7 shows the pre-tax coverages obtained using Mr. Murray's recommendation adjusted to correct for the missing data.

Q. YOU STATED MR. MURRAY USED COMPANIES THAT ARE NOT COMPARABLE TO EMPIRE'S MISSOURI ELECTRIC OPERATIONS WHEN CHECKING THE REASONABLENESS OF HIS RESULTS. WHY ARE THESE COMPANIES NOT COMPARABLE?

A. Two of the four companies have decreased or suspended their dividend payouts because of financial exigencies in recent years. As a result, they do not represent healthy electric utilities and are not useful as comparative utility standards in this proceeding. One cannot draw a useful inference about returns required for a healthy electric utility by looking at the performance of an unhealthy utility.

Q. YOU STATED THAT MR. MURRAY HAS INCLUDED UTILITIES THAT HAVE REDUCED THEIR DIVIDENDS AMONG HIS COMPARABLE ELECTRIC UTILITY COMPANIES. IS THIS IMPORTANT?

A. Yes.

Q. PLEASE EXPLAIN.

A. This is important in this case because these utilities are not appropriate for the use as comparable companies, or standards, in a regulatory proceeding. Both Duquesne Light and DPL have reduced or suspended their dividends recently because of significant financial problems that Mr. Murray ignored.

Q. WHAT IS THE EVIDENCE THAT THIS IS THE CASE WITH DUQUESNE LIGHT?

A. In a September 3, 2004 report, *Value Line* said about Duquesne Light, "We will raise the company's financial strength rating once it has made more progress lifting the equity-to-total capital ratio, which is still measurably below the industry average." Duquesne Light Holdings has been unwinding its unregulated ventures as well as trying to reach a settlement with the Internal Revenue Service about past tax payments. These non-utility factors are not appropriate utility ratemaking standards.

Q. WHAT FINANCIAL DISTRESS HAS DPL EXPERIENCED THAT MR. MURRAY SHOULD HAVE NOTED?

A. DPL's controller has alleged that certain financial statements of DPL are inaccurate. Three top financial officers have resigned as a result, and neither the company's 2003 10-K nor the 10-Q's for the first and second quarter 2004 have been filed. Consequently, DPL's bond rating has been reduced to below investment grade to B+ by Standard and Poor's and the dividend has been suspended. DPL's financial results are not a useful standard for setting an allowed return for a healthy regulated utility at this time.

Q. SHOULD MR. MURRAY HAVE KNOWN THAT THESE COMPANIES WOULD NOT BE USEFUL AS REGULATORY STANDARDS FOR RATEMAKING?

A. Yes. In the case of these two utilities, the reductions of dividends were signals that they were under severe financial stress and not good candidates as comparative standards in a rate proceeding. In fact, these well-known financial circumstances were covered in the *Value Line* sources that he cited, and this should preclude any analyst from using them as ratemaking standards. Their use would bias the results of any analysis and make them unreliable.

Q. HOW DID USING THESE TWO COMPANIES AFFECT MR. MURRAY'S ANALYSIS?

A. Mr. Murray's Schedules 21 and 22 illustrate how he used the financial stress of these companies in his mechanical averaging process to offset the expectations of investors of returns in healthy electric utilities. In the case of Duquesne Light, he averaged the historical declines in earnings and book value to offset the expected future growth in earnings of three different analytical groups, i.e., IBES median

(4.00 percent), Standard & Poor's earnings per share (4.00 percent) and Value Line earnings per share (11.00 percent).

In the case of DPL, Mr. Murray averaged together a negative historical growth of book value (-.50) and reported a historical growth rate of 2.17 percent. Mr. Murray included these results in arriving at his overall proposed range of growth rates.

Q. WHAT ARE THE CONSEQUENCES OF MR. MURRAY'S CALCULATIONS?

A. By mechanically averaging the financial characteristics of these utilities under stress into his DCF analysis as regulatory standards, Mr. Murray produced unreliable, biased estimates of the cost of capital of an electric utility.

Q. DID MR. MURRAY IDENTIFY THE REASONS THAT DUQUESNE AND DPL RECENTLY CUT THEIR DIVIDEND WHICH MADE THEM UNRELIABLE STANDARDS FOR RATEMAKING PURPOSES?

A. No. In fact, after stating on page 28, line 11 of his direct testimony that one of the assumptions underlying his DCF analysis was a "Constant growth in cash dividends," he included them in his analysis. Including them in his analysis is inconsistent with his own standard.

Q. DID MR. MURRAY EXCLUDE ANY COMPANIES THAT MIGHT FIT HIS SELECTION CRITERIA?

A. Yes. Mr. Murray may have accidentally excluded Central Vermont Public Service and Green Mountain Power. He indicated that he eliminated them because they have nuclear generation. However, both of the companies have sold their interests in nuclear operations.

Q. ARE YOU STATING THAT MR. MURRAY APPEARS TO INCLUDE COMPANIES IN HIS ANALYSIS THAT DO NOT FIT HIS SELECTION CRITERIA TO EXCLUDE COMPANIES THAT FIT HIS SELECTION CRITERIA?

A. This is probably the case. His list of comparable companies includes the same four from the last Empire rate case. It appears as if Mr. Murray merely updated the data rather than carefully examining his proxy group. In any event, his group of comparable companies for analysis fails to meet his criteria for acceptance. He included companies that failed to meet the criteria, and he excluded companies that did meet his stated criteria.

Q, WHAT MATTERS WOULD YOU LIKE TO RESPOND TO WITH RESPECT TO OFFICE OF PUBLIC COUNSEL WITNESS TRAVIS ALLEN'S TESTIMONY?

A. First and foremost, Mr. Allen's recommended return on equity is insufficient to assure the financial integrity of Empire. Second, Mr. Allen's choice of comparable companies has utilities that have little in common with Empire. Third, Mr. Allen uses a dubious methodology in his discounted cash flow analysis, known to understate expected returns. Fourth, Mr. Allen's has conceptual errors similar to Mr. David Murray's misapplication of the CAPM. Finally, Mr. Allen made a mathematical error that overstates his before-tax interest coverage.

Q. YOU HAVE STATED THAT MR. ALLEN'S RETURN ON EQUITY RECOMMENDATION IS INSUFFICIENT TO ASSURE FINANCIAL CONFIDENCE IN EMPIRE. HOW DID YOU COME TO THAT CONCLUSION?

A, I performed the same financial metrics provided by Standard & Poor's that I applied to Staff Witness David Murray's return on common stock recommendation. As I demonstrate in Rebuttal Schedule DAM-8, Mr. Allen's recommended return on equity of 9.29 percent produced a Funds From Operations to Total Debt ratio of 18.90 percent. Mr. Allen's FFO to Interest coverage is 2.54 times as I calculated in Rebuttal Schedule DAM-9. As Mr. Murray pointed out in his direct testimony, the return should be sufficient to produce a FFO to Total Debt Ratio of 20 to 27 percent and a FFO Interest Coverage of 3.0 to 4.0 times.[2] Consequently, Mr. Allen's recommended return on common equity also will produce a return that would not earn Empire an investment grade credit rating by these S&P standards.

Q. WHY DID YOU STATE THAT THE PROXY COMPANIES MR. ALLEN USED IN HIS DIRECT TESTIMONY HAVE LITTLE IN COMMON WITH EMPIRE?

A. American Electric Power ($13 billion), FirstEnergy ($13 billion), FPL Group, Inc.($12.7 billion), Progress Energy ($10.7 billion), and the Southern Company ($22 billion) are all extremely large electric companies and not at all similar to

[2] Murray Direct Testimony, page 18, lines 41 through 43.

Empire. Empire has a market capitalization of only $500 million with a service territory that is primarily rural.

Q. WHY DID YOU STATE THAT MR. ALLEN'S DCF ANALYSIS IS THEORETICALLY UNSOUND?

A. Mr. Allen used a DCF methodology called the "Sustainable Growth Rate" or the "br+sv" growth rate DCF, which has three fundamental flaws. First, it is more difficult to estimate the components of the sustainable growth rate, i.e., the variable components b, r, s, and v, rather than to estimate the growth component directly. Second, the sustainable growth method requires the analyst to assume the rate of return on common equity in order to estimate the growth rate to calculate the rate of return. Lastly, the empirical finance literature demonstrates that the sustainable method of determining growth is not significantly correlated to measures of value, such as stock price and price/earnings ratios. That is, other measures such as analysts' growth forecasts are more highly correlated with actual, realized growth and are analytically more reliable.

Q. WHY IS IT MORE DIFFICULT TO ESTIMATE THE COMPONENTS OF SUSTAINABLE GROWTH THAN THE GROWTH RATE THEY EMBODY?

In order to properly calculate the "sustainable growth rate," an analyst must estimate investors' expectations of a return on common stock. On its face it is far more economical and expedient to use available growth forecasts and obtain a growth forecast directly instead of relying on four individual forecasts of the determinants of such growth. Realistically, investors are aware of publicly available analysts return estimates. It seems only logical that the measurement and forecasting errors inherent in using four different variables to predict growth far exceed the forecasting error inherent in a direct forecast of growth itself.

Q. WHAT CAUSES THE THEORETICAL INCONSISTENCY IN THE SUSTAINABLE GROWTH METHOD YOU MENTIONED PREVIOUSLY?

A. An analyst using the sustainable growth DCF method must assume a return on equity and forecast a retention ratio to estimate a return on equity for the utility being regulated. This is a fundamental, logical contradiction. Simply put, the method requires an estimate of the return on equity before an analyst can even calculate the growth rate used to estimate the return on equity.

Q. CAN YOU ILLUSTRATE HOW THIS ANALYSIS AFFECTED MR. ALLEN'S RECOMMENDED RETURN FOR EMPIRE?

A. Yes. In calculating his projected growth rate ("g") for his DCF analysis of Empire, Mr. Allen used *Value Line's* predictions of return on equities for 2004, 2005 and 2007-2009, as shown on his Schedule TA-9, lines 27 through 29. I have taken his "comparison" companies' returns on equity from these schedules, and I have reported them in my Schedule DAM-R10. The average return on equity estimates in 2004, 2005, and 2007-2009 are 10.62 percent, 10.92 percent, and 10.85 percent respectively. He used these estimated returns on common equity to develop an average DCF estimate of 9.39 percent, which is significantly lower than any of the assumed returns that he used in his analysis.

Q. YOU STATED THAT THE EMPIRICAL FINANCE LITERATURE DEMONSTRATES THAT THE SUSTAINABLE GROWTH METHOD IS NOT AS CLOSELY CORRELATED TO MEASURES OF VALUE, SUCH AS STOCK PRICES, AS OTHER MEASURES. CAN YOU IDENTIFY SUPERIOR ESTMATES OF GROWTH IDENTIFIED IN THE ECONOMIC AND FINANCIAL LITERATURE?

A. Yes. Other proxies of growth, such as analysts' growth forecasts, have proved to be superior estimates of growth to "retention growth rate" estimates.

Q. WHAT CONCEPTUAL ERROR DID MR. ALLEN MAKE IN HIS CAPM ANALYSIS?

A. First, Mr. Allen used 90-Day Treasury Bills ("T-Bills") as a "risk-free rate" in his analysis. While this is theoretically consistent, empirical research has shown that T-Bill yields are unstable for practical application, primarily because their yields are influenced by Federal Reserve policy rather than market measures of risk and returns. In addition, Mr. Allen made the same set of mistakes that Staff Witness David Murray did. That is, Mr. Allen used the incorrect risk premium provided by his source, Ibbotson Associates' 2004 *SBBI Yearbook*, and he ignored the recommended size adjustment to account for the empirical bias inherent in the application of the CAPM.

Q. WHAT HAPPENS TO MR. ALLEN'S CAPM ANALYSIS WHEN ONE MAKES THE APPROPRIATE ADJUSTMENTS?

A. I have reproduced Mr. Allen's CAPM analysis in Rebuttal Schedule DAM-11. When corrected according to the recommended adjustment for the size adjustment of Ibbotson Associates, Mr. Allen's methodology produced a CAPM return on equity estimate of 11.27 percent for Empire. The corrected methodology also produced a return of 11.70 percent for Mr. Allen's proxy group of comparable electric utilities.

Q. YOU MENTIONED AN ERROR IN MR. ALLEN'S BEFORE TAX INTEREST COVERAGE CALCULATION. WHAT MISTAKE DID MR. ALLEN MAKE WHEN HE CALCULATED HIS BEFORE-TAX INTEREST COVERAGE?

A. In Schedule TA-13 of his Direct Testimony, Mr. Allen calculated a before-tax interest coverage range of 4.17 to 4.29 times. Unfortunately, his calculation overstated the true interest coverage. Mr. Allen grossed-up all three components, Common Equity, Long-Term Debt, and Trust Preferred Securities, for income taxes when he should have grossed up only Common Equity. Instead his before-tax cost of capital should range between 10.94 percent and 11.31 percent and his coverage between 2.9 to 3.0 times interest earned.

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes, it does.

The Empire District Electric Company

Rebuttal Schedules

Rebuttal Schedule DAM-1:	Standard & Poor's RatingsDirect, September 28, 2004
Rebuttal Schedule DAM-2:	Standard & Poor's RatingsDirect, July 13, 2004
Rebuttal Schedule DAM-3:	Staff's Funds From Operations to Total Debt
Rebuttal Schedule DAM-4:	Staff's Funds From Operations Interest Coverage
Rebuttal Schedule DAM-5:	CAPM Tables from Ibbotson Associates' 2004 SBBI Yearbook
Rebuttal Schedule DAM-6:	Corrected Staff CAPM for the Empire District Electric Company
Rebuttal Schedule DAM-7:	Correction of Staff's *Pro Forma* Pretax Interest Coverage
Rebuttal Schedule DAM-8:	OPC's Funds From Operations to Total Debt
Rebuttal Schedule DAM-9:	OPC's Funds From Operations Interest Coverage
Rebuttal Schedule DAM-10:	Comparison of OPC "Sustainable" DCF to Assumed ROE
Rebuttal Schedule DAM-11:	Corrected OPC Capital Asset Pricing Model

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Empire District Electric Rating Placed on CreditWatch Negative

Publication date: 28-Sep-2004
Analyst(s): Barbara A Eiseman, New York (1) 212-438-7666; Gerrit Jepsen, New York (1) 212-438-7916

Credit Rating: BBB/Watch Neg/A-2

Rationale

On Sept. 28, 2004, Standard & Poor's Ratings Services placed its 'BBB/A-2' corporate credit rating on Empire District Electric Co. on CreditWatch with negative implications. The CreditWatch listing reflects prospects for erosion of Empire's pressured financial condition if recent testimony by the Missouri Public Service Commission (MPSC) staff in Empire's pending general rate case is ultimately endorsed by the MPSC. Hearings begin in early December with a final order due by March 27, 2005.

Joplin, Mo.-based Empire has about $400 million in long-term debt outstanding.

Empire is seeking a $38.3 million (14.8%) rate increase that is predicated on a return on common equity (ROE) of 11.65%. The utility is also requesting a five-year interim energy charge (IEC) to help manage risk and recover fuel costs. The MPSC staff has recommended an ROE range of 8.29% to 9.29% with 8.79% as the midpoint which would result in a revenue increase of only $9.5 million at 8.29%, $12 million 8.79%, and $14.4 million at 9.29%, inclusive of the IEC period. Furthermore, the staff has proposed that the IEC be adopted for a period of only 24 months, owing to the extreme volatility of natural gas prices. Because there is no fuel adjustment clause in Missouri, reinstatement of the IEC for a longer period would provide for more predictable and stable earnings.

Although the staff's recommendation is not binding on the commission, an MPSC order that mirrors the staff's recommendation would harm Empire's creditworthiness. The requested rate hike is needed to reco additions, including two peaking units that were installed in 2003, higher operating and maintenance expense, escalating pension and health care costs, and rising fuel and purchased power costs.

Empire's credit quality reflects an average business profile and a financial position (adjusted for off-balance-sheet, purchased-power obligations) that remains somewhat weak, albeit improving, for the current ratings. Empire benefits from a service territory with a well-diversified business mix, below-average rates due to the low embedded cost of its coal plants, and adequate liquidity. However, the company remains challenged by its regulatory environment. Empire is a public utility involved in the generation, purchase, transmission, distribution, and sale of electricity primarily in Missouri (89% of electric operating revenues), Kansas (6%), Oklahoma (3%), and Arkansas (3%).

Empire's business profile is supported by a healthy service area with little industrial concentration. The territory consists primarily of small, rural customers that benefit from Empire's below-average rates, which the company derives from low-cost coal plants. The company does conduct some higher-risk, nonregulated activities, but they are extremely limited and Empire has demonstrated its willingness to exit ventures if financial performance does not materialize.

A challenging regulatory environment tempers the strengths of Empire's business profile. Under the jurisdiction of the MPSC, Empire suffers from relatively low allowed ROEs, receives low depreciation allowances, and lacks a fuel-adjustment clause to help shield the company from its markedly increased natural gas dependence. The absence of a fuel-adjustment clause exposes Empire to potential fuel and purchased-power price volatility, which concerns Standard & Poor's. Timely recovery of prudently incurred fuel and purchased-power expenses is important for Empire's credit quality.

Regarding its financial profile, Empire is focused on improving its earnings and cash flow protection measures by hedging fuel expenses and controlling other costs. As long as the company continues to aggressively hedge its forecast natural gas needs (as of April 2004, Empire had hedged about 65% of its remaining expected gas burn for 2004 with rates at or below those budgeted in its rate structure) and receives timely and adequate rate relief, key financial measures should fall be marginally suitable for the established risk profile at the 'BBB' level.

Empire's credit facility is rated one notch below the corporate credit rating to reflect its subordination to Empire's secured debt. Because the loan is unsecured, Standard & Poor's expects that lenders will fare the same as senior unsecured creditors in the event of a default.

Short-term credit factors.

The short-term rating on Empire is 'A-2'. For the short term, Standard & Poor's expects cash flow from operations to fully fund maintenance capital expenditures and dividends, assuming continued, timely recovery of regulatory-related costs. Future actions by the MPSC will weigh heavily on Empire's credit profile because of the lack of conventional regulatory support (no fuel-adjustment clause and no construction-work-in-progress recovery). The current short-term rating incorporates additional rate relief over the near term, given currently strong natural gas and coal prices. Empire's primary coal supply contract expires in December 2004, and current coal prices exceed those in its existing fixed-price contract. The lack of adequate rate re affect the company's profitability.

Empire's adequate liquidity is supported by access to a $100 million unsecured revolving credit facility that matures in April 2005 and limited, long-term debt maturities in the next five years. As of June 30, 2004, the facility was fully available and adequate for working-capital needs, assuming Empire continues to prudently hedge its expected natural gas burn. The facility includes no rating triggers, but requires total debt (excluding trust-preferred securities) to be less than 62.5% of total capital, and EBITDA to be at least 2x interest charges (including distributions from trust-preferred securities). Empire safely met the debt-to-capital requirement (46.5%) and the EBITDA-to-interest covenant (3.34x) as of June 30, 2004.

Other points of note include:

- The company annually distributes about $30 million in common dividends, which would provide flexibility in a liquidity crunch.
- Restrictions in Empire's mortgage bond charter, particularly an interest coverage requirement, would limit the issuance of new first mortgage bonds to roughly $213 million as of June 30, 2004. However, no such restrictions exist on unsecured debt issuances.
- Empire has limited room for capital expenditure reductions, as projected generation outlays are required to maintain reserve margins. Projected growth expenditures will require external funding.
- Although the company operates various diversified businesses, Standard & Poor's believes that their sale would generate few proceeds.

Ratings List

	To	From
Empire District Electric Co.		
Corporate credit rating	BBB/Watch Neg/A-2	BBB/Stable/A-2
Senior secured debt	A-/Watch Neg	A-
Senior unsecured debt	BBB-/Watch Neg	BBB-
Preferred stock	BB+/Watch Neg	BB+
Commercial paper	A-2/Watch Neg	A-2

Complete ratings information is available to subscribers of RatingsDirect, Standard & Poor's Web-based credit analysis system, at www.ratingsdirect.com. All ratings affected by this rating action can be found on Standard & Poor's public Web site at www.standardandpoors.com; under Credit Ratings in the left navigation bar, select Find a Rating, then Credit Ratings Search.

For a complete list of ratings, please click the hyperlink provided here
http://www2.standardandpoors.com/NASApp/cs/ContentServer?pagename=sp/Page/FixedIncomeRatingActionsPg

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Return to Regular Format

Research:

Summary: Empire District Electric Co.

Publication date: 13-Jul-2004
Credit Analyst: Barbara A Eiseman, New York (1) 212-438-7666

Credit Rating: BBB/Stable/A-2

Rationale

The ratings on Empire District Electric Co. reflect an average business profile and a financial position (adjusted for off-balance-sheet, purchased-power obligations) that remains somewhat weak, albeit improving, for the current ratings. Empire benefits from a service territory with a well-diversified business mix, below-average rates due to the low embedded cost of its coal plants, and adequate liquidity. However, the company remains challenged by its regulatory environment. Empire is a public utility involved in the generation, purchase, transmission, distribution, and sale of electricity primarily in Missouri (89% of electric operating revenues), Kansas (6%), Oklahoma (3%), and Arkansas (3%).

Empire's business profile is supported by a healthy service area with little industrial concentration. The territory consists primarily of small, rural customers that benefit from Empire's below-average rates, which the company derives from low-cost coal plants. The company does conduct some higher-risk, nonregulated activities, but they are extremely limited and Empire has demonstrated its willingness to exit ventures if financial performance does not materialize.

A challenging regulatory environment tempers the strengths of Empire's business profile. Under the jurisdiction of the Missouri Public Service Commission (MPSC), Empire suffers from relatively low allowed ROEs, receives low depreciation allowances, lacks recovery for construction work in progress (CWIP), and lacks a fuel-adjustment clause to help shield the company from its markedly increased natural gas dependence. The lack of a fuel-adjustment clause exposes Empire to potential fuel and purchased-power price volatility, which concerns Standard & Poor's. Timely recovery of prudently incurred fuel and purchased-power expenses is important for Empire's credit quality.

Regarding its financial profile, Empire is trying to improve its earnings and cash flow protection measures by hedging fuel expenses and controlling other costs. As long as the company continues to aggressively hedge its forecast natural gas needs (as of April 2004, Empire had hedged about 65% of its remaining expected gas burn for 2004 with rates at or below those budgeted in its rate structure) and receives timely rate relief, the principal financial measures should fall in line with lower levels suitable for the established risk profile at the 'BBB' level. Specifically, funds from operations (FFO) to total debt should be between 20% and 27% and FFO interest coverage between 3x and 4x.

Empire's credit facility is rated one notch below the corporate credit rating to reflect its subordination to Empire's secured debt. Because the loan is unsecured, Standard & Poor's expects that lenders will fare the same as senior unsecured creditors in the event of a default.

Short-term credit factors.

Empire's short-term rating is 'A-2'. Over the short term, Standard & Poor's expects cash flow from operations to fully fund maintenance capital expenditures and dividends, assuming continued, timely recovery of regulatory-related costs. Future actions by the MPSC will weigh heavily on Empire's credit profile because of the lack of conventional regulatory support (no fuel-adjustment clause and no CWIP recovery). The current short-term rating incorporates additional rate relief over the near term, given currently strong natural gas and coal prices. Empire's primary coal supply contract expires in December 2004, and current coal prices exceed those in its existing fixed-price contract.

The lack of adequate rate relief would adversely affect the company's profitability.

Empire's adequate liquidity is supported by access to a $100 million unsecured revolving credit facility that matures in April 2005 and limited long-term debt maturities in the next five years. As of March 31, 2004, the facility was fully available and adequate for working capital needs, assuming Empire continues to prudently hedge its expected natural gas burn. The facility includes no rating triggers, but requires total debt (excluding trust-preferred securities) to be less than 62.5% of total capital, and EBITDA to be at least 2x interest charges (including distributions from trust-preferred securities). Empire safely meets the debt-to-capital requirement (45.6%) and the EBITDA-to-interest covenant (3.31x) as of March 31, 2004.

Other points of note include the following:

- The company annually distributes about $30 million in common dividends, which would provide flexibility in a liquidity crunch.
- Restrictions in Empire's mortgage bond charter, particularly an interest coverage requirement, would limit the issuance of new first mortgage bonds to roughly $227 million as of March 31, 2004. However, no such restrictions exist on unsecured debt issuances.
- Empire has limited room for capital expenditure reductions, as projected generation outlays are required to maintain reserve margins. Projected growth expenditures will require external funding.
- Though the company operates various diversified businesses, Standard & Poor's believes that their sale would generate few proceeds.

Outlook

The stable outlook on Empire assumes several factors. These include adequate regulatory treatment in future rate proceedings, manageable environmental compliance costs that are recoverable through rates in a timely manner, and continued attention to risk management of the company's generation fleet, fuel procurement, and purchased-power needs. Given the current volatile commodity price environment, failure to effectively hedge natural gas costs would pressure the ratings. In addition, the need for additional generation capacity could strain the company's long-term financial profile. Of paramount importance, however, will be the MPSC's treatment of the company's upcoming rate case.

The Empire District Electric Company

Commission Staff Witness David Murray

Calculation of Funds from Operations / Total Debt

Line No.	Assumptions			Source
1	Long Term Debt Ratio	44.54%		Murray Schedule 28
2	Trust Preferred Securities Ratio	6.32%		Murray Schedule 28
3	Total Debt Ratio		50.86%	
4	Rate Base		$607,420,688	Staff Accounting Schedule 2 Line 21
	Calculation of Funds From Operations			
5	Net Income from continuing operations			
6	Net Operating Income	$50,658,885		Staff Accounting Schedule 11 Line 1
7	Interest Expense	($22,899,760)		Staff Accounting Schedule 11 Line 15
8	Total Net Income from Continuing Operations		$27,759,125	
9	Depreciation		$24,324,947	Staff Accounting Schedule 9 Line 29
10	Amortization		$589,223	Staff Accounting Schedule 9 Line 30
11	Deferred Income Taxes		$5,513,557	Staff Accounting Schedule 9 Line 42
12	**Total Funds From Operations**		$58,186,852	Sum of Lines 8-11
13	**Allocated Debt**		$308,934,162	Rate Base * Debt Ratio
14	**Ratio of Funds From Operations/ Total Debt**		18.83%	

The Empire District Electric Company

Commission Staff Witness David Murray

Calculation of Funds from Operations / Interest Coverage

Line No.	Assumptions		Source
1	Long Term Debt Ratio	44.54%	Murray Schedule 28
2	Trust Preferred Securities Ratio	6.32%	Murray Schedule 28
3	Funds From Operations	$58,186,852	Rebuttal Schedule DAM - 3
4	Embedded Cost of Long Term Debt	7.22%	Murray Schedule 28
5	Embedded Cost of Trust Preferred Securities	8.92%	Murray Schedule 28
6	Weighted Cost of Long Term Debt	3.78%	(Line 1 * Line 4) +(Line 2 * Line 5)
7	Rate Base	$607,420,688	Staff Accounting Schedule 2 Line 21
8	Interest Expense	$22,899,760	Staff Accounting Schedule 11 Line 15
9	**FFO/ Interest Expense**	2.54	

Standard Deviations

Standard deviations are estimated from historical data as described in Chapter 6. Since there is no evidence of a major change in the variability of returns on large company stocks, we use the entire period 1926–2003 to estimate the standard deviation of these asset classes. For bonds and bills, we use the period 1970–2003. The use of this more recent period reflects the fact that the volatility of bonds has increased over time.

Table 9-1

Building Blocks for Expected Return Construction

	Value (in percent)
Yields (Riskless Rates)[1]	
Long-Term (20-year) U.S. Treasury Coupon Bond Yield	5.1
Intermediate-Term (5-year) U.S. Treasury Coupon Note Yield	3.0
Short-Term (30-day) U.S. Treasury Bill Yield	0.9
Fixed Income Risk Premia[2]	
Expected default premium: *long-term corporate bond total returns minus long-term government bond total returns*	0.2
Expected long-term horizon premium: *long-term government bond income returns minus U.S. Treasury bill total returns**	1.6
Expected intermediate-term horizon premium: *intermediate-term government bond income returns minus U.S. Treasury bill total returns**	1.1
Equity Risk Premia[3]	
Long-horizon expected equity risk premium: *large company stock total returns minus long-term government bond income returns*	7.2
Intermediate-horizon expected equity risk premium: *large company stock total returns minus intermediate-term government bond income returns*	7.6
Short-horizon expected equity risk premium: *large company stock total returns minus U.S. Treasury bill total returns**	8.6
Small Stock Premium: *small company stock total return minus large company stock total return*	5.1

1 As of December 31, 2003. Maturities are approximate.

2 Expected risk premia for fixed income are based on the differences of historical arithmetic mean returns from 1970–2003.

3 Expected risk premia for equities are based on the differences of historical arithmetic mean returns from 1926–2003.

*For U.S. Treasury bills, the income return and total return are the same.

Table 7-5
Size-Decile Portfolios of the NYSE/AMEX/NASDAQ:
Bounds, Size, and Composition
from 1926 to 2003

Decile	Historical Average Percentage of Total Capitalization	Recent Number of Companies	Recent Decile Market Capitalization (in thousands)	Recent Percentage of Total Capitalization
1-Largest	63.33%	168	$7,419,638,030	64.91%
2	13.99%	186	1,471,629,952	12.87%
3	7.57%	198	746,716,927	6.53%
4	4.74%	200	451,145,013	3.95%
5	3.24%	221	337,041,577	2.95%
6	2.37%	277	290,452,647	2.54%
7	1.72%	343	238,327,258	2.08%
8	1.27%	379	171,437,318	1.50%
9	0.97%	613	168,889,652	1.48%
10-Smallest	0.80%	1724	136,028,242	1.19%
Mid-Cap 3–5	15.55%	619	1,534,903,517	13.43%
Low-Cap 6–8	5.36%	999	700,217,223	6.13%
Micro-Cap 9–10	1.77%	2337	304,917,894	2.67%

Source: Center for Research in Security Prices, University of Chicago.

Historical average percentage of total capitalization shows the average, over the last 78 years, of the decile market values as a percentage of the total NYSE/AMEX/NASDAQ calculated each month. Number of companies in deciles, recent market capitalization of deciles and recent percentage of total capitalization are as of September 30, 2003.

Decile	Recent Market Capitalization (in thousands)	Company Name
1-Largest	$286,638,305	General Electric Co.
2	11,366,767	Masco Corp.
3	4,794,027	EOG Resources Inc.
4	2,585,984	Toys R Us Inc.
5	1,720,959	International Rectifier Corp.
6	1,166,799	Thor Industries Inc.
7	795,983	Granite Construction Inc.
8	507,820	Steelcase Inc.
9	330,608	Sterling Bancorp
10-Smallest	166,414	Ethyl Corp.

Source: Center for Research in Security Prices, University of Chicago.

Market capitalization and name of largest company in each decile as of September 30, 2003.

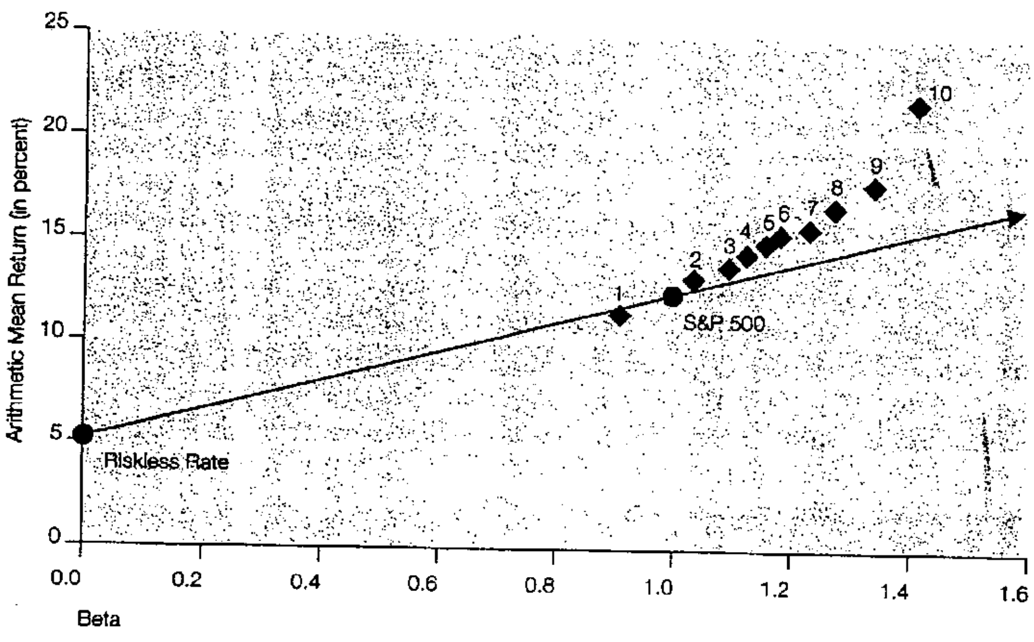
Table 7-6
Size-Decile Portfolios of the NYSE/AMEX/NASDAQ:
Long-Term Returns in Excess of CAPM
from 1926 to 2003

Decile	Beta*	Arithmetic Mean Return	Actual Return in Excess of Riskless Rate**	CAPM Return in Excess of Riskless Rate**	Size Premium (Return in Excess of CAPM)
1	0.91%	11.43%	6.21%	6.54%	-0.34%
2	1.04	13.16%	7.94%	7.44%	0.50%
3	1.10	13.78%	8.55%	7.88%	0.67%
4	1.13	14.43%	9.20%	8.09%	1.11%
5	1.16	14.91%	9.68%	8.32%	1.36%
6	1.18	15.32%	10.09%	8.50%	1.59%
7	1.23	15.65%	10.42%	8.85%	1.57%
8	1.28	16.64%	11.42%	9.16%	2.25%
9	1.34	17.76%	12.53%	9.63%	2.90%
10	1.41	21.73%	16.50%	10.16%	6.34%
Mid-Cap, 3–5	1.12	14.16%	8.93%	8.02%	0.91%
Low-Cap, 6–8	1.22	15.67%	10.44%	8.74%	1.70%
Micro-Cap, 9–10	1.36	18.98%	13.75%	9.74%	4.01%

*Betas are estimated from monthly returns in excess of the 30-day U.S. Treasury bill total return, January 1926–December 2003.

**Historical riskless rate measured by the 78-year arithmetic mean income return component of 20-year government bonds (5.23).

Graph 7-2
Size-Decile Portfolios of the NYSE/AMEX/NASDAQ:
Security Market Line



Source: Center for Research in Security Prices, University of Chicago (decile data).

The Empire District Electric Company

Commission Staff Witness David Murray

Corrected Capital Asset Pricing Model (CAPM) Cost of Equity Estimate

EDE's Cost of Common Equity		Risk Free Rate (August 2004)			EDE's Beta		Market Risk Premium (1926-2003)			Size Premium
11.44%	=	5.06%	+	(	0.65	*	7.20%	)	+	1.70%

Sources:
Schedule 15 of the Direct Testimony of MPSC Staff Witness David Murray
Ibbotson Associates SBBI 2004 Yearbook, Tables 7-5, 7-6 and 9-1

Rebuttal Schedule DAM - 7

The Empire District Electric Company

Commission Staff Witness David Murray

Corrected Pro Forma Pre-Tax Interest Coverage

Capital Component	Percentage of Capital	Embedded Cost	Weighted Cost of Capital Using Common Equity Return of: 8.29%	8.79%	9.29%	Tax Multiplier	Before Tax ROE 8.29%	8.79%	9.29%
Common Stock Equity	49.14%		4.07%	4.32%	4.57%	1.6231	6.61%	7.01%	7.41%
Preferred Stock	6.32%	8.92%	0.56%	0.56%	0.56%	1.0000	0.56%	0.56%	0.56%
Long-Term Debt	44.54%	7.22%	3.22%	3.22%	3.22%	1.0000	3.22%	3.22%	3.22%
Short-Term Debt	0.00%		0.00%	0.00%	0.00%	1.0000	0.00%	0.00%	0.00%
Cost of Capital	100.00%		7.85%	8.10%	8.34%		10.39%	10.79%	11.19%
Pro Forma Pre-Tax Interest Coverage							**2.75**	**2.85**	**2.96**

Sources: Direct Testimony of David Murray Schedules 18 and 28

The Empire District Electric Company

Office of Public Counsel Witness Travis Allen

Calculation of Funds from Operations / Total Debt

Line No.	Assumptions			Source
1	Total Equity Ratio		49.49%	Allen Schedule TA-1
2	Embedded Cost of Equity		9.29%	Allen Direct page 22 Lines 4-6
3	Weighted Cost of Equity		4.60%	Line 1 * Line 2
4	Long Term Debt Ratio	43.99%		Allen Schedule TA-1
5	Trust Preferred Securities Ratio	6.52%		Allen Schedule TA-1
6	Total Debt Ratio		50.51%	
7	Rate Base		$602,830,619	Schedule BAM RD DIR-2.1 Line 16
	Calculation of Funds From Operations			
8	Net Income from Continuing Operations		$27,715,867	Rate Base * Weighted Cost of Equity
9	Depreciation and Amortization		$24,317,880	Schedule BAM RD DIR-2.1 Line 2
10	Deferred Income Taxes		$5,513,557	Staff Accounting Schedule 9 Line 42
11	**Total Funds From Operations**		$57,547,304	Sum of Lines 8-10
12	**Allocated Debt**		$304,489,745.66	Rate Base * Debt Ratio
13	**Ratio of Funds From Operations/ Total Debt**		18.90%	

The Empire District Electric Company

Office of Public Counsel Witness Travis Allen

Calculation of Funds from Operations / Interest Coverage

Line No.	Assumptions		Source
1	Long Term Debt Ratio	43.99%	Allen Schedule TA-1
2	Trust Preferred Securities Ratio	6.52%	Allen Schedule TA-1
3	Funds from Operations	$57,547,304	Rebuttal Schedule DAM - 8
4	Embedded Cost of Long Term Debt	7.23%	Allen Schedule TA-3
5	Embedded Cost of Trust Preferred Securities	8.83%	Allen Schedule TA-2
6	Weighted Cost of Interest Obligations	3.76%	(Line 1 * Line 4) +(Line 2 * Line 5)
7	Rate Base	$602,830,619	Schedule BAM RD DIR-2.1 Line 16
8	Interest Expense	$22,644,661	Rate Base * Weighted Cost of Interest Obligations
9	**FFO/ Interest Expense**	2.54	

Rebuttal Schedule DAM - 9

The Empire District Electric Company

Office of Public Counsel Witness Travis Allen

Comparison of Equity Returns Used to Calculate "Sustainable" Discounted Cash Flow

	Travis Allen's Assumed ROE			Travis Allen's DCF Using "Sustainable"
Company	2004E	2005E	07-09E	Growth
American Electric Power	11.50%	11.00%	11.00%	10.18%
Cent. Vermont Public Service	9.00%	9.00%	9.50%	9.20%
Cleco Corporation	12.00%	12.50%	12.00%	10.35%
Duquesne Light	14.00%	15.00%	16.00%	11.68%
FirstEnergy	10.00%	10.00%	11.50%	10.27%
FPL Group, Inc.	12.50%	11.50%	10.50%	10.72%
Green Mountain Power	10.50%	10.50%	10.50%	9.24%
Hawaiian Electric	9.00%	11.00%	10.50%	8.00%
Idacorp, Inc.	8.50%	8.50%	8.00%	7.91%
Pinnacle West	8.00%	10.00%	10.00%	8.57%
Progress Energy	11.00%	11.00%	9.00%	8.88%
Southern Co.	14.50%	14.00%	13.50%	9.99%
UIL Holdings	7.50%	8.00%	8.50%	7.14%
Average	10.62%	10.92%	10.81%	9.39%

Source:
Direct Testimony of Mr. Allen (Schedule TA-9 pages 2 through 15 and Schedule TA-11)

The Empire District Electric Company

Office of Public Counsel Witness Travis Allen's Proxy

Size - Adjusted Capital Asset Pricing Model

Company	Risk Free Return	Beta	Equity Risk Premium	Adjusted Equity Risk Premium	Size Premium	Cost of Equity
The Empire District Electric Company	4.89%	0.65	7.20%	4.68%	1.70%	11.27%
American Electric Power	4.89%	1.10	7.20%	7.92%	0.00%	12.81%
Cent. Vermont Public Service	4.89%	0.50	7.20%	3.60%	4.01%	12.50%
Cleco Corporation	4.89%	1.05	7.20%	7.56%	1.70%	14.15%
Duquesne Light	4.89%	0.75	7.20%	5.40%	0.91%	11.20%
FirstEnergy	4.89%	0.75	7.20%	5.40%	0.00%	10.29%
FPL Group, Inc.	4.89%	0.70	7.20%	5.04%	0.00%	9.93%
Green Mountain Power	4.89%	0.65	7.20%	4.68%	4.01%	13.58%
Hawaiian Electric	4.89%	0.65	7.20%	4.68%	0.91%	10.48%
Idacorp, Inc.	4.89%	0.85	7.20%	6.12%	1.70%	12.71%
Pinnacle West	4.89%	0.80	7.20%	5.76%	0.91%	11.56%
Progress Energy	4.89%	0.85	7.20%	6.12%	0.00%	11.01%
Southern Co.	4.89%	0.65	7.20%	4.68%	0.00%	9.57%
UIL Holdings	4.89%	0.80	7.20%	5.76%	1.70%	12.35%
Comparable Companies' Average	4.89%	0.78	7.20%	5.59%	1.22%	11.70%

Sources :
Value Line Investment Survey
Schedule DAM - R5
Federal Reserve Statistical Release