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Witness:	*David Murray*
Sponsoring Party:	*MoPSC Staff*
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Case No.:	*ER-2006-0315*
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MISSOURI PUBLIC SERVICE COMMISSION

UTILITY SERVICES DIVISION

DIRECT TESTIMONY

OF

DAVID MURRAY

THE EMPIRE DISTRICT ELECTRIC COMPANY

CASE NO. ER-2006-0315

Jefferson City, Missouri
June 2006

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the matter of The Empire District Company of Joplin, Missouri for authority to file tariffs increasing rates for electric service provided to customers in Missouri service area of the Company.	))))	Case No. ER-2006-0315

AFFIDAVIT OF DAVID MURRAY

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

David Murray, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Direct Testimony in question and answer form, consisting of 35 pages to be presented in the above case; that the answers in the foregoing Direct Testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true and correct to the best of his knowledge and belief.

David Murray

Subscribed and sworn to before me this 21st day of June 2006.

TONI M. CHARLTON
Notary Public - State of Missouri
My Commission Expires December 28, 2008
Cole County
Commission #04474301

TONI M. CHARLTON NOTARY SEAL NOTARY PUBLIC STATE OF MISSOURI

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Q. Please state your name.

A. My name is David Murray.

Q. Please state your business address.

A. My business address is P.O. Box 360, Jefferson City, Missouri, 65102.

Q. What is your present occupation?

A. I am employed as a Utility Regulatory Auditor III for the Missouri Public Service Commission (Commission). I accepted the position of a Public Utility Financial Analyst in June 2000 and had my position reclassified in August 2003 to my current title. I briefly served as Interim Manager of the Financial Analysis Department in April 2006.

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

A. Yes, I was employed by the Missouri Department of Insurance in a regulatory position.

Q. What is your educational background?

A. In May 1995, I earned a Bachelor of Science degree in Business Administration with an emphasis in Finance and Banking, and Real Estate from the University of Missouri-Columbia. I earned a Masters in Business Administration from Lincoln University in December 2003.

Q. Are you currently pursuing any professional designations that would enhance your credibility as a financial analyst, and, consequently, a rate-of-return witness?

A. Yes. I am pursuing the Chartered Financial Analyst (CFA) charter. I passed the Level I examination of the CFA Program and I am currently a Level II candidate. In order to receive the charter, I must pass the examinations for the next two levels of the program and also have four years of relevant professional work experience.

Q. Please provide some background on the CFA Program.

A. According to the CFA Institute's website, the CFA Program is a self-study program that is internationally recognized and considered by many employers and investors as the "definitive standard for measuring competence and integrity in the fields of portfolio management and investment analysis." The program's "professional conduct requirements demand that both CFA candidates and charterholders adhere to the highest standards of ethical responsibility."

Q. In your experience with the Missouri Public Service Commission, what individuals in your field tend to hold the CFA charter?

A. During my tenure with the Missouri Public Service Commission I have found the CFA charter to be most prevalent with individuals that work in the fixed-income industry and the equity research industry.

Q. Are debt and equity securities the instruments that you analyze when making recommendations to the Commission on the cost of capital?

A. Yes.

Q. Have you filed testimony in other cases before this Commission?

A. Yes. Please see Attachment A for a list of these cases.

Q. Have you made recommendations in any other cases before this Commission?

A. Yes, I have made recommendations on finance, merger and acquisition cases before this Commission.

Q. Have you attended any schools, conferences and/or seminars specific to utility finance and utility regulation?

A. Yes. I attended the Annual Eastern Utility Rate School in October 2000, the Fundamentals of Utility Finance seminar in January 2001, the National Association of Regulatory Utility Commissioners' Annual Regulatory Studies Program in August 2001 and occasional Financial Research Institute Utility Symposiums since June 2000.

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

A. My testimony is presented to recommend to the Commission a fair and reasonable rate of return for the Missouri jurisdictional electric utility rate base for The Empire District Electric Company (Empire).

Q. Have you prepared any schedules to your analysis of the cost of capital for Empire?

A. Yes. I am sponsoring a study entitled "An Analysis of the Cost of Capital for The Empire District Electric Company, Case No. ER-2006-0315" consisting of 22 schedules which are attached to this direct testimony (see Schedule 1 for a list of these schedules).

EXECUTIVE SUMMARY

Q. Please provide an executive summary of your testimony.

A. I am recommending that the Commission authorize an overall rate of return (ROR) of 8.22 percent to 8.37 percent for Empire. My rate-of-return recommendation is based on a recommended return on common equity of 9.2 percent to 9.5 percent applied to

Empire's March 31, 2006 common equity ratio of 49.74 percent. Although my recommendation is driven mainly by my continued use of the discounted cash flow (DCF) model, this recommendation is supported by a comparable company analysis using this model. I continue to believe that the DCF model is the most reliable model to use when estimating a utility company's cost of common equity, whether the estimation is based on a comparable company analysis or on a company-specific analysis.

My embedded cost of long-term debt recommendation of 7.02 percent is based on Empire's embedded cost of long-term debt provided in response to Staff Data Request Nos. 0178.1 and 0181. This embedded cost of long-term debt does not include all of the debt from Empire's non-regulated subsidiaries. It only includes the embedded costs of the long-term debt which Empire guarantees. The exclusion of non-recourse, non-regulated debt is consistent with the Commission's decision in the recent Missouri Gas Energy (MGE) rate case, Case No. GR-2004-0209, which was upheld by the Western District Missouri Court of Appeals on December 27, 2005.

My capital structure recommendation is based on Empire's actual consolidated capital structure, which includes all of Empire's operations, as of the update period, March 31, 2006. My consolidated capital structure recommendation includes the amount of Empire's non-regulated debt, which is consistent with the aforementioned Commission decision in the recent MGE rate case, subsequently upheld by the Western District Missouri Court of Appeals.

Q. Please explain how you estimated your recommended cost of common equity.

A. I estimated my recommended cost of common equity by applying the DCF model to a comparable group of vertically-integrated electric utility companies. I then

evaluated a number of factors to test the reasonableness of this recommendation. A complete and detailed explanation of my recommended cost of common equity starts on page 18, line 16 of this testimony.

LEGAL PRINCIPLES

Q. Please explain the main legal principles which form the basis for the assessment of the justness and reasonableness of rate-of-return recommendations.

A. The *Bluefield Water Works and Improvement Company* (1923) (*Bluefield*) and the *Hope Natural Gas Company* (1944) (*Hope*) cases have been cited as the two most influential cases for the legal framework to determine a fair and reasonable rate of return.

Q. Please provide the main points surrounding the *Bluefield* case.

A. In the *Bluefield* case the Supreme Court ruled that a fair return would be:

1. A return "generally being made at the same time" in that "general part of the country;"

2. A return achieved by other companies with "corresponding risks and uncertainties;" and

3. A return "sufficient to assure confidence in the financial soundness of the utility."

The Court specifically stated:

> A public utility is entitled to such rates as will permit it to earn a return on the value of the property which it employs for the convenience of the public equal to that generally being made at the same time and in the same general part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties; but it has no constitutional right to profits such as are realized or anticipated in highly profitable enterprises or speculative ventures. The return should be reasonably sufficient to assure confidence in the financial soundness of the utility and should be

> adequate, under efficient and economical management, to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its public duties. A rate of return may be reasonable at one time and become too high or too low by changes affecting opportunities for investment, the money market and business conditions generally.

Q. Please provide the main points surrounding the *Hope* case.

A. In the *Hope* case, the Court stated that:

> The rate-making process . . . , i.e., the fixing of "just and reasonable" rates, involves a balancing of the investor and the consumer interests. Thus we stated . . . that "regulation does not insure that the business shall produce net revenues" . . . it is important that there be enough revenue not only for operating expenses but also for the capital costs of the business. These include service on the debt and dividends on the stock . . . . By that standard the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks. That return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital.

The *Hope* case restates the concept of comparable returns to include those achieved by other enterprises that have "corresponding risks." The Supreme Court also noted in this case that regulation does not guarantee profits to a utility company.

Q. On a technical level, has the methodology of determining rate of return changed since the *Hope* and *Bluefield* decisions were written?

A. Yes. While I believe the objective of authorizing a fair rate of return is still to allow the company the opportunity "to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital," the discipline of rate of return analysis has evolved since the decisions were made in *Hope* and *Bluefield.* In fact, two of the most commonly used models in making rate-of-return recommendations did not even become a part of mainstream finance until the 1960s. Of course, the Court could not possibly

have considered methodologies that had not yet been developed at the time *Hope* and *Bluefield* were decided.

Q. What are these models?

A. The DCF model and the capital asset pricing model (CAPM).

Q. When was the DCF model introduced as a tool to estimate the required return on common equity?

A. The DCF model, as used in utility ratemaking, is referred to as the dividend growth, Gordon growth and/or dividend discount model, in most college finance textbooks. This model was introduced by Myron J. Gordon for cost-of–common-equity determinations in 1962.[1] The use of this model for stock valuation purposes had been introduced before this time.

Q. When was the CAPM introduced?

A. Much of the basis for this model was provided in 1964 by William F. Sharpe who received the Nobel Prize in 1990 for much of his work in producing this model.[2]

Q. Have there been any court cases that have specifically dealt with the use of cost-of-common-equity models to estimate a fair rate of return?

A. Not that I am aware of.

Q. Have these models been used and accepted in the past to determine a fair authorized rate of return on common equity in Missouri?

A. Yes.

Q. Do you have any further comments on the use of cost of capital models to determine a fair rate of return?

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[1] Frank K. Reilly and Keith C. Brown, *Investment Analysis and Portfolio Management*, Fifth Edition, The Dryden Press, 1997, p. 438.
[2] Zvie Bodie, Alex Kane and Alan J. Marcus, *Essentials of Investments*, Richard D. Irwin, Inc. 1992, p. 11.

A. Yes. See Schedule A.

HISTORICAL ECONOMIC CONDITIONS

Q. Please discuss the main points of the current capital and economic environment that the Commission should consider in determining a reasonable authorized return on common equity (ROE) for Empire.

A. The Federal Reserve (Fed) has been steadily raising the Fed Funds rate by 25 basis points at every Federal Open Market Committee (FOMC) meeting since June 30, 2004. This began after the Fed had kept the Fed Funds Rate at a 46-year low of 1.00 percent for a full year. The Fed has now raised the Fed Funds Rate sixteen consecutive times to its current level of 5.00 percent. According to a May 11, 2006, issue of the *Wall Street Journal (WSJ)*, the Fed stated in its meeting on May 10, 2006, its continued "bias to raise interest rates further because of the risk of higher inflation. But it also laid out a forecast of slowing growth that would allow it to pause on rate increases." These statements seemed to imply that the chance of a rate increase at the next FOMC meeting may be a tossup.

According to a June 6, 2006, *WSJ* article, in a recent speaking engagement at an international bankers' conference in Washington, the new Fed Chairman, Ben Bernanke, warned that inflation in recent months has been running "at or above the upper end of the range that many economists, including myself, would consider consistent with price stability." Mr. Bernanke indicated that Fed policy makers would remain "vigilant" to ensure that recent inflation readings don't become the norm. The comments made by Mr. Bernanke sparked a sell-off of stocks, resulting in a 1.77 percent decrease in the Dow Jones Industrial Average (DJIA) on the day of his comments. However, the Thirty-year Treasury Bond only

increased from 5.10 percent at the close of the market on June 2, 2006 to 5.13 percent at the close of the market on June 5, 2006.

Q. What has happened to long-term interest rates since the Fed started to increase the Fed Funds rate from 1.00 percent?

A. Long-term interest rates have finally started to respond to the Fed's monetary policy tightening. However, it would be premature to label the increase in long-term interest rates as a trend at this point.

Q. How have utility bond yields responded to the tightening of U.S. monetary policy?

A. A review of Schedules 5-1 and 5-3 shows that since average utility bond yields fell to an average of 5.39 percent during June 2005, which was the lowest average yield in the past 25 years, average utility bond yields have increased to an average of 6.28 percent in April 2006.

Q. Please discuss the results of the major stock market indices over the past year?

A. In light of the interest rate activity described above, it is important to reflect on the results of the major stock market indices in the past year. According to the April 14, 2006, issue of *The Value Line Investment Survey: Selection & Opinion*, for the first quarter of 2006, the Dow Jones Industrial Average (DJIA) increased 3.7 percent, the Standard & Poor's (S&P) 500 increased 3.7 percent, the NASDAQ Composite Index (NASDAQ) increased 6.1 percent and the Dow Jones Utility Average (DJUA) decreased 4.0 percent. According to the same publication, for the twelve months ending March 31, 2006, the DJIA increased 5.8 percent, the S&P 500 increased 9.7 percent, the NASDAQ increased 17.0 percent and the DJUA increased 8.6 percent.

Q. What can one infer about the capital markets for the utility industry from the results indicated above?

A. It is no coincidence that as interest rates increased during the first quarter of 2006, utility stock prices declined. Utility stock prices have a strong inverse relationship to changes in interest rates. This is because regulated utility stocks are viewed as close alternatives to investments in fixed-income securities; i.e., bonds. Fixed-income security prices have this same inverse relationship; i.e., as interest rates increase, the price of bonds decrease. However, even with the first quarter decrease in the DJUA, utility companies' cost of common equity still remains fairly low. As I will demonstrate later in my testimony, even when I rely solely on projected earnings growth rates of utility stocks, which I believe tend to be overly optimistic, my recommended ROE based on my estimation of the cost of common equity is still only 9.20 percent to 9.50 percent. The midpoint of my recommendation is slightly higher than some of my recent recommendations, which is supported by the slight decline in the DJUA. Although the DJUA declined in the first quarter of 2006, it is also important to consider the fact that the DJUA increased 20.9 percent for the 2005 calendar year, whereas the DJIA decreased 0.6 percent, the S&P 500 only increased 3.0 percent and the NASDAQ only increased 1.4 percent. Based on these results, I would have been surprised if the utility stock valuation levels had not decreased from recent higher levels.

Q. Should the results from the DJUA be analyzed with some caution in this case?

A. Yes. Only one of my comparable companies is included in the DJUA. Consequently, I do not consider the DJUA as a good proxy group for Empire. However, comparing utility index results to the rest of the stock market can provide insight on the value being placed on utility stocks in general.

Utility indices can also vary in their results. For example the Value Line Utilities group, which is composed of 83 "utility" companies, only increased by 2.0 percent for the 2005 calendar year and it increased by 2.5 percent for the first quarter of 2006. The Value Line Utilities index contains companies ranging from water utility companies, such as American States Water Company, to diversified natural gas companies, such Devon Energy Corporation. Consequently, there can be significant differences in the companies contained in an index, which would explain the divergence in results of the Value Line Utilities index versus the DJUA. (For a more detailed discussion of historical economic conditions, please see Schedule B).

ECONOMIC PROJECTIONS

Q. Do you have any information on economic projections?

A. Yes. See Schedule C for projections on inflation, interest rates and gross domestic product (GDP).

BUSINESS OPERATIONS OF EMPIRE

Q. Please describe Empire's business operations.

A. Empire's Form 10K Securities and Exchange Commission (SEC) filing for the 2005 calendar year provides a good description of Empire's business operations:

> The Empire District Electric Company, a Kansas corporation organized in 1909, is an operating public utility engaged in the generation, purchase, transmission, distribution and sale of electricity in parts of Missouri, Kansas, Oklahoma and Arkansas. We also provide water service to three towns in Missouri and have investments in some non-regulated businesses. In 2005, 92.9% of our gross operating revenues were provided from the sale of electricity, 0.4% from the sale of water and 6.7% from our non-regulated businesses. We operate our business in two segments, regulated and other, which includes our non-regulated businesses.

The territory served by our electric operations embraces an area of about 10,000 square miles with a population of over 450,000. The service territory is located principally in southwestern Missouri and also includes smaller areas in southeastern Kansas, northeastern Oklahoma and northwestern Arkansas. The principal activities of these areas include light industry, agriculture and tourism. Of our total 2005 retail electric revenues, approximately 88.8% came from Missouri customers, 5.2% from Kansas customers, 3.1% from Oklahoma customers and 2.9% from Arkansas customers.

We supply electric service at retail to 121 incorporated communities and to various unincorporated areas and at wholesale to four municipally owned distribution systems. The largest urban area we serve is the city of Joplin, Missouri, and its immediate vicinity, with a population of approximately 157,000. We operate under franchises having original terms of twenty years or longer in virtually all of the incorporated communities. Approximately 50% of our electric operating revenues in 2005 were derived from incorporated communities with franchises having at least ten years remaining and approximately 19% were derived from incorporated communities in which our franchises have remaining terms of ten years or less. Although our franchises contain no renewal provisions, in recent years we have obtained renewals of all of our expiring electric franchises prior to the expiration dates.

Our electric operating revenues in 2005 were derived as follows: residential 41.6%, commercial 29.6%, industrial 16.6%, wholesale on-system 4.6%, wholesale off-system 3.9% and other 3.7%. Our largest single on-system wholesale customer is the city of Monett, Missouri, which in 2005 accounted for approximately 3% of electric revenues. No single retail customer accounted for more than 2% of electric revenues in 2005.

Our other segment businesses, which we operate through our wholly-owned subsidiary EDE Holdings, Inc., include leasing of fiber optics cable and equipment (which we are also using in our own operations), provision of Internet access, close-tolerance custom manufacturing and customer information system software services. See Item 2, "Properties — Other" for further information about our non-regulated businesses.

On September 21, 2005, we announced that we had entered into an Asset Purchase Agreement with Aquila, Inc., pursuant to which we agreed to acquire the Missouri natural gas distribution operations of Aquila, Inc. (Missouri Gas). The Missouri Gas properties consist of approximately 48,500 customers in 44 Missouri communities in northwest, north central and west central Missouri. The base purchase price, originally $84 million in cash, plus working capital and subject to net plant adjustments, was increased to $85 million in

> February 2006 due to an amendment to the purchase agreement where Aquila will retain certain liabilities and obligations originally to have been assumed by us. We expect the acquisition to be financed with a mix of debt and equity and to be accretive to earnings in the range of $0.04 to $0.07 per year, excluding transition costs, beginning in its first full year of operations. This transaction is subject to the approval of the Missouri Public Service Commission (MPSC) and other customary closing conditions. We filed an application with the MPSC on November 8, 2005 seeking approval and anticipate closing the transaction in mid 2006. We received notice of early termination of the Hart-Scott-Rodino Antitrust Improvements Act waiting period in January 2006. On March 1, 2006, we, Aquila Inc., the MPSC staff, the Office of the Public Counsel (OPC) and three intervenors filed a unanimous stipulation and agreement with the MPSC, requesting they approve the proposed transaction.

Empire's total operating revenues were $386,160,000 for the 12 months ended December 31, 2005, versus $325,540,000 for the 12 months ended December 31, 2004. These 2005 revenues resulted in an overall net income applicable to common stock of $23,768,000 and an earnings per share (EPS) of $0.92 as compared to the 2004 net income applicable to common stock of $21,848,000 and an EPS of $0.86. These revenues and net incomes were generated from total property, plant and equipment of $896,033,000 at December 31, 2005, and $857,035,000 at December 31, 2004. These figures were taken from Empire's 2005 Annual Report.

Q. Please describe the current credit ratings of Empire.

A. Empire's current Standard & Poor's Corporation's (S&P) corporate credit rating is "BBB-", which is only one notch above non-investment grade; i.e., junk, status. S&P downgraded Empire on May 17, 2006, by one notch from its previous rating of BBB. Although S&P downgraded Empire, it did place Empire on a "Stable" outlook. S&P's May 17, 2006, report is attached as Schedule 21 to my direct testimony. I have also attached S&P's February 13, 2006, report as Schedule 22, which removed Empire from a negative CreditWatch.

Q. Does S&P provide a good explanation in its May 17, 2006, report as to why it downgraded Empire only three months after it removed Empire from a CreditWatch with negative implications?

A. No. As a result, Staff emailed the S&P analyst, Gerrit Jepsen, to attempt to get a better explanation as to the reason for the downgrade. Mr. Jepsen's response just referred Staff to the report that had already been issued. Staff made another inquiry with Mr. Jepsen by telephone on June 20, 2006. In this telephone conversation, Mr. Jepsen indicated that when he took Empire off of a negative Creditwatch in February and maintained Empire's credit rating, he was not aware of the Plum Point project. He indicated that the addition of this project to his other previous concerns caused S&P to downgrade Empire's credit rating to BBB-.

Q. Please provide some historical financial information on Empire.

A. Schedules 7 and 8 present historical capital structures and selected financial ratios from 2001 through 2005 for Empire. Empire's consolidated common equity ratio has ranged from a high of 48.02 percent to a low of 37.26 percent from 2001 through 2005. As of March 31, 2006, the update period, the capital structure used for purposes of calculating the rate of return to be applied to Empire's rate base has a common equity ratio of 49.74 percent (Schedule 9), which is higher than the historical equity ratios of the past five years.

Empire's consolidated company earned ROE has been fairly low since 2003. Empire's ROE was above 8 percent in 2001 and 2002, but since then it has been around 6 percent or below. Empire's 2005 ROE of 6.04 percent was below the comparable companies' (Hawaiian Electric, IDACORP, Pinnacle West Capital, Puget Energy and

Southern Company, which will be discussed in more detail later in my direct testimony) average of 8.90 percent for the year ending December 31, 2005, according to *The Value Line Investment Survey: Ratings & Reports*, March 3, 2006, March 31, 2006 and May 12, 2006 (see Schedule 18). However, three of the comparable companies' ROEs were only slightly higher ranging from 6.2 percent to 7.2 percent. In a March 31, 2006, report in *The Value Line Investment Survey: Ratings & Reports*, Value Line estimates that Empire's ROE will be 6.5 percent for 2006 and 8.5 percent for 2007.

Because Empire has had lower ROEs and it has not reduced its dividend, its dividend payout ratios remain very high. Empire's dividend payout ratio has only been below 100 percent of earnings once in the last five years.

Empire's market-to-book ratio has ranged from 1.35 times for year-end 2005, to 1.93 times for year-end 2002. Although Empire's 2005 year-end market-to-book ratio was lower than the average for the last five years, Empire's stock price has rebounded into the $22.00 range since its year-end price of $20.33.

Although Empire's credit rating was recently downgraded, its historical funds from operations (FFO) interest coverage ratio and FFO to average total debt ratio have not changed significantly since 2003. While FFO to average total debt has declined to 17.0 percent in 2005 from 20.5 percent in 2003, FFO interest coverage has improved from 3.60 times to 3.90 times. The 2005 FFO interest coverage ratio was toward the high end of the S&P benchmark for a BBB credit rating for a utility company with a business risk profile of 6, while the 2005 FFO to average total debt ratio was below the benchmark for a BBB credit rating with the same business risk profile.

DETERMINATION OF THE COST OF CAPITAL

Q. Please describe the approach for determining a utility company's cost of capital.

A. The total dollars of capital for the utility company are determined as of a specific point in time. This total dollar amount is then apportioned into each specific capital component, i.e. common equity, long-term debt, preferred stock and short-term debt. A weighted cost for each capital component is determined by multiplying each capital component ratio by the appropriate embedded cost or by the estimated cost of common equity component. The individual weighted costs are summed to arrive at a total weighted cost of capital. This total weighted average cost of capital (WACC) is synonymous with the fair rate of return for the utility company.

Q. Why is a total WACC synonymous with a fair rate of return?

A. From a financial viewpoint, a company employs different forms of capital to support or fund the assets of the company. Each different form of capital has a cost and these costs are weighted proportionately to fund each dollar invested in the assets.

Assuming that the various forms of capital are within a reasonable balance and are costed correctly, the resulting total WACC, when applied to rate base, will provide the funds necessary to service the various forms of capital. Thus, the total WACC corresponds to a fair rate of return for the utility company.

CAPITAL STRUCTURE AND EMBEDDED COSTS

Q. What capital structure did you use for Empire?

A. The capital structure I have used for this case is Empire's capital structure on a consolidated basis, as of March 31, 2006. Schedule 9 presents Empire's capital structure

and associated capital ratios. The resulting capital structure consists of 49.74 percent common stock equity, 43.99 percent long-term debt and 6.27 percent trust preferred stock.

The amount of long-term debt outstanding on March 31, 2006, includes current maturities due within one year. The amount of long-term debt in the capital structure is based on net proceeds available from long-term debt financings, which is shown on Schedule 10 attached to this direct testimony. As I indicated earlier in my testimony, I included all of Empire's debt in the capital structure, which is consistent with the Commission's decision in the last MGE rate case.

The amount of trust preferred stock outstanding on March 31, 2006, was also reduced by the net balance associated with the unamortized issuance expense as reported in Empire's response to Staff Data Request No. 0178.1.

I did not include Empire's short-term debt in the capital structure because as of March 31, 2006, Empire's Construction Work In Progress (CWIP) exceeded its short-term debt balance. Because CWIP is not included in rate base, the capital that supports the rate base should not be included in the ROR recommendation.

Q. What was the embedded cost of long-term debt for Empire on March 31, 2006?

A. The embedded cost of long-term debt for Empire as of March 31, 2006, was 7.02 percent. This embedded cost of long-term debt included the cost of one loan from Empire's non-regulated debt because Empire guaranteed 51.96 percent of this debt, as indicated in Empire's revised response to Staff Data Request No. 0224. It should be noted that the inclusion of the embedded cost of this debt did not have any impact on the "regulated" embedded cost of long-term debt when it was included because it was such a

small amount of debt in relation to the debt held at the operating company level. Including the cost of non-regulated debt that is recourse to the utility company appears to be consistent with Commission's decision in the MGE rate case. In that case, the Commission indicated that because the debt of Panhandle Eastern Pipeline Company (PEPL) was held in its own subsidiary and it wasn't recourse to Southern Union, it did not include the cost of the PEPL debt in the authorized rate of return.

Q. What was the embedded cost of trust preferred stock for Empire on March 31, 2006?

A. The embedded cost of trust preferred stock for Empire was 8.90 percent on March 31, 2006. I arrived at these figures by adopting Empire's embedded cost of trust preferred stock calculation in its response to Staff Data Request No. 0178.1. It should be noted that the preferred stock Empire has issued is a hybrid between debt and equity. It has the tax deductibility of interest, like debt, and the option of deferring the dividends, like equity. Consequently, the interest payments do not need to be factored up for taxes and the Staff recommends that all the benefits of this tax deductibility go to the ratepayer. Staff's revenue requirement calculation will reflect this by not grossing up the interest payments for taxes.

COST OF COMMON EQUITY

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

A. In order to calculate the cost of common equity for Empire, I performed a comparable company analysis of five companies. I have selected the DCF model (explained in detail in Schedule D) as the primary tool to determine the cost of common equity for

Empire, but I also used the CAPM (explained in detail in Schedule E) to check the reasonableness of the DCF results. I also performed a company-specific analysis of Empire using both of these models because I believe that this methodology provides a direct measure of Empire's cost of common equity, which is the ultimate goal in estimating a utility company's cost of common equity. Because Empire's stock is only one option in a vast universe of many investment opportunities, the analysis of Empire's cost of common equity using company-specific inputs provides information on the value investors place on Empire's stock, not only as it relates to other utility companies, but also to all other investment opportunities available to the investor. However, because the Commission indicated in Empire's last rate case, Case No. ER-2004-0570, it believed that a company-specific analysis was not consistent with *Hope* and *Bluefield*, I primarily relied on my comparable company analysis for my cost of common equity estimation for Empire.

In order to test the reasonableness of my recommendation, I also chose to provide the opinions and views of some of the most prominent individuals in the finance field, whether they are investors, academics or monetary policy makers. In addition, I reviewed some other external indicators to test the reasonableness of my recommendation. I will discuss these in more detail later in my testimony.

Q. Can you directly analyze Empire's cost of common equity?

A. Yes. I directly analyzed Empire's cost of common equity because it is publicly traded, it pays a dividend and its business operations are for the most part regulated. I did not change the estimated growth rate that I used in the past Empire rate case, Case No. ER-2004-0570, because I believe that many of the same issues still apply to Empire in

this case. As I indicated previously, I did not primarily rely on this analysis because of the Commission's belief that this is inconsistent with *Hope* and *Bluefield.*

Q. Please explain how you approached the determination of the cost of common equity for Empire.

A. I decided to do an analysis of the cost of common equity for a comparable group of vertically-integrated electric utility companies.

Q. How did you determine which companies you would include to represent the comparable electric utility companies?

A. I first relied on Standard & Poor's (S&P) current classification system, which specifies companies that they consider to be vertically-integrated electric utilities. This information was published by S&P on August 11, 2005, in its yearly CreditStats. Because Empire is a vertically-integrated electric utility, this helps ensure the selection of companies that are similar in risk profile to that of Empire's business operations. Schedule 11 presents a list of the eleven electric utility companies that S&P currently classifies as vertically-integrated electric utility companies, of which Empire is one. I then applied the following criteria to these eleven companies in order to select my ultimate proxy group:

1. Stock publicly traded: This criterion eliminated two companies;
2. Information printed in Value Line: This criterion didn't eliminate any companies;
3. Ten years of data available: This criterion eliminated one additional company;
4. At least investment grade credit rating: This criterion didn't eliminate any companies;
5. Two sources for projected growth available with one of those being from Value Line: This criterion eliminated two additional companies.

This resulted in a group of six publicly-traded electric utility companies, of which Empire was one. I removed Empire from the comparable group, but still analyzed Empire's company-specific information. The comparables are listed on Schedule 12.

Q. Please explain how you approached the determination of the cost of common equity for the comparables.

A. I have calculated a DCF cost of common equity for each of the comparables. The first step was to calculate a growth rate. I reviewed the actual dividends per share (DPS), earnings per share (EPS), and book values per share (BVPS) as well as projected EPS growth rates for the comparables. Schedule 13-1 lists the annual compound growth rates for DPS, EPS, and BVPS for the past ten years. Schedule 13-2 lists the annual compound growth rates for DPS, EPS, and BVPS for the past five years. Schedule 13-3 presents the averages of the growth rates shown in Schedules 13-1 and 13-2. Schedule 14 presents the average historical growth rates and the projected growth rates for the comparables. The projected EPS growth rates were obtained from three outside sources; I/B/E/S Inc.'s *Institutional Brokers Estimate System*, Standard & Poor's Corporation's *Earnings Guide*, and *The Value Line Investment Survey: Ratings and Reports*. The three projected EPS growth rates were averaged to develop an average projected growth rate of 4.70 percent, which was averaged with the historical growth rates to produce an average historical and projected growth rate of 2.61 percent. Because of the volatility of historical growth rates, I chose to rely primarily on the projected growth rates to arrive at a growth rate range for the comparables of 4.50 percent to 4.80 percent.

The next step was to calculate an expected yield for each of the comparables. The yield term of the DCF model is calculated by dividing the amount of DPS expected to be

paid over the next twelve months by the market price per share of the firm's stock. Even though a strict technical application of the model requires the use of a current spot market price, I have chosen to use a monthly average market price for each of the comparables. This averaging technique is an attempt to minimize the effects on the dividend yield which can occur due to daily volatility in the stock market. Schedule 15 presents the average high / low stock price for the period of January 1, 2006, through April 31, 2006, for each comparable. Column 1 of Schedule 16 indicates the expected dividend for each comparable over the next 12 months as projected by *The Value Line Investment Survey: Ratings & Reports*, March 3, March 31, and May 12, 2006. Column 3 of Schedule 16 shows the projected dividend yield for each of the comparables. The dividend yield for each comparable was averaged to calculate the projected dividend yield for the comparables of 4.50 percent.

As illustrated in Column 5 of Schedule 16, the average cost of common equity based on the projected dividend yield added to the average of historical and projected growth is 7.11 percent. However, this is not my recommendation because in this case, the historical growth rates are somewhat volatile. As a result, I decided to place almost complete weight on the projected growth rates that I analyzed. Giving complete weight to the projected growth rates, which, in my opinion, tend to be overly optimistic, my DCF proxy group cost of common equity estimation is 9.00 percent to 9.30 percent. While some witnesses have been dismissing the lower results obtained from a DCF analysis, I will explain later in my testimony why these lower results are actually consistent with the current capital market environment, in which the cost of money is low compared to recent historical standards.

Q. What analysis did you perform to determine the reasonableness of your DCF model-derived cost of common equity for the comparable company group?

A. I performed a CAPM cost-of-common-equity analysis for the comparables.

Q. What did you use for your risk-free rate?

A. For purposes of this analysis, the risk-free rate I used was the yield on Thirty-Year U.S. Treasury Bonds. I determined the appropriate rate to be the average yield for the month of April 2006. The average yield of 5.06 percent was provided on the St. Louis Federal Reserve website.

For the second variable, beta, I researched Value Line in order to find the betas for my comparable group of companies. Schedules 17-1 and 17-2 contain the appropriate betas for the comparables.

The final term of the CAPM is the market risk premium ($R_m - R_f$). The market risk premium represents the expected return from holding the entire market portfolio less the expected return from holding a risk-free investment. For purposes of this analysis, I not only looked at historical time periods for risk premium estimates from actual returns, but because there has been much discussion and research about lower equity risk premiums in the financial press and in financial journals, I also looked at some implied/forward-looking equity risk premiums. Although I am not recommending that the Commission adopt any of the results from my CAPM analysis using these forward-looking equity risk premiums, I do believe the Commission should keep these results in mind when determining whether the lower cost of common equity estimates obtained from a reasonable application of the DCF model are logical.

Q. Is there any other reason that you have decided to analyze the implied/forward looking equity risk premiums in your application of the CAPM?

A. Yes. In the textbook, *Investment Analysis & Portfolio Management*, seventh edition, 2003, written by Frank K. Reilly and Keith C. Brown, the authors discussed the concept of the appropriate equity risk premium. In this discussion, the authors explained the often-used method of estimating the current equity risk premium by analyzing historical spreads between stock returns and U.S. Treasury returns (the risk-free rate). This is the method that Staff has used for several years in order to test the reasonableness of its DCF recommendation. However, the authors of this textbook cite many examples of research that questions estimates based on the historical actual returns that are reported in Ibbotson and Sinquefield's yearbook, *Stocks, Bonds, Bills and Inflation*. As a result of this concern, Frank K. Reilly and Keith C. Brown used risk premium estimates based on historical returns for the high end of cost of capital estimates. Consequently, Staff's historical application of the CAPM has been on the high end of estimates made by many in the field of finance. Because Staff had used the CAPM as a test of reasonableness for its DCF recommendation, Staff believes that its past recommendations using the DCF model have been reliable and consistent with the lower-cost-of-capital environment. Staff is still recommending that the Commission adopt its DCF recommendation, but by providing the Commission with the information regarding implied/forward-looking risk premiums, Staff believes that this should make the Commission more comfortable about the reasonableness of single-digit ROE recommendations.

Q. Please explain your application of the CAPM using historical return differences.

A. The first risk premium used was based on the long-term, arithmetic average from 1926 to 2005, which was 6.50 percent. The second risk premium was based on the

long-term, geometric average from 1926 to 2005, which was determined to be 4.90 percent. The third risk premium was based on a short-term, geometric average from 1996 to 2005, which was determined to be 1.48 percent. These risk premiums were taken from Ibbotson Associates, Inc.'s *Stocks, Bonds, Bills, and Inflation: 2006 Yearbook.*

Schedule 17-1 presents the CAPM analysis of the comparables using historical actual return spreads to estimate the required equity risk premium. The CAPM analysis produces an estimated cost of common equity of 10.26 percent for the comparables when using the long-term arithmetic average risk premium period; using the long-term geometric average produces an estimated cost of common equity of 8.98 percent and using the short-term risk premium period produces an estimated cost of common equity of 6.24 percent. The long-term arithmetic average risk premium CAPM results would support a higher cost of common equity. The long-term geometric average risk premium CAPM results supports a cost of common equity similar to what is currently produced in performing a DCF analysis. Considering the fact that the Reilly and Brown textbook considers equity risk premium estimates based on historical earned return spreads as a high estimate, especially those based on arithmetic averages, of the cost of common equity, this result provides considerable support for my DCF proxy cost of common equity estimate of 9.00 percent to 9.30 percent.

Although the short-term risk premium CAPM results are much lower than the long-term risk premium results, it is interesting to note the smaller spread between earned returns on equity versus earned returns on long-term treasury bonds.

Q. Please explain your application of the CAPM using forward-looking/implied risk premium estimates.

A. As I indicated previously, because there has been considerable research on equity risk premiums that are implied in current stock valuation levels, I decided to perform a CAPM analysis using some of these estimates.

The first risk premium used for a forward-looking equity risk premium was based on the difference between Roger G. Ibbotson (publisher of the yearbook that provides data on the historical differences in returns between stocks and bonds) and Peng Chen's expected return on the market over the long-run of 9.67 percent and the April 2006 average Thirty-year U.S. Treasury Bond yield of 5.06 percent. This translates into an equity risk premium of 4.61 percent (9.67 less 5.06). The estimated cost of common equity for the comparable companies using this approach was 8.79 percent (column 5 of Schedule 17-2).

The second risk premium is based on an implied equity risk premium made using a financial model developed by Dr. Aswath Damodaran, Associate Professor of Finance at New York University's (NYU) Leonard N. Stern School of Business (Stern). I obtained this model from Dr. Damodaran's website maintained as part of Stern's website. Based on the current level of the S&P 500, the S&P dividend yield, projected growth in earnings for the S&P 500 and the April 2006 average yield on the Thirty-Year U.S. Treasury Bond, the current implied equity risk premium is 2.88 percent. The use of this equity risk premium in the CAPM results in an estimated cost of common equity of 7.39 percent for the comparable companies.

Q. What was Dr. Damodaran's year-end 2005 CAPM estimation of the cost of common equity for the electric utility industry in the central region of the U.S.?

A. 8.29 percent. This can be found on Dr. Damadoran's website.

Q. How did you become familiar with Dr. Damodaran's research?

A. Dr. Damodaran is the author of one of the textbooks that has been used as part of the CFA curriculum. The title of this book is *Investment Valuation*, published in 1996.

Q. The CAPM cost-of-common-equity results using forward-looking/implied equity risk premiums are lower than your DCF results. Are you recommending that the Commission use these results in its authorization of a cost of common equity in this case?

A. No. However, I urge the Commission to keep these low estimates of cost of common equity in mind when determining if my cost of common equity estimate using the DCF model is reasonable. These low cost of common equity estimates provide a basis that my conclusions regarding the appropriate cost of common equity using the DCF model appear to be quite reasonable.

Q. Are you aware of any other influential individuals in the finance field that believe that equity risk premiums are currently quite low?

A. Yes. I have cited several of these individuals in past cases in which I have filed cost of capital testimony.

These experts include Warren Buffett, Jeremy Siegel and Cliff Asness. Warren Buffett is the chief executive officer of Berkshire Hathaway and is, in my opinion, one of the most respected and successful investors in the U.S. On December 20, 2001, in an interview on CNBC, Mr. Buffett indicated that "returns in the stock market should come in around an average 7-8 percent over the next ten years." He also said that he's "not finding" undervalued companies in this market, indicating that he remains watchful of valuation levels for stocks. As recently as the release of Berkshire Hathaway's 2005 Annual Report, Mr. Buffett stated that although Berkshire Hathaway owns major interests in a "number of strong, highly-profitable businesses, they are not selling at anything like bargain prices."

The other two financial experts are Dr. Asness, University of Chicago, who writes influential studies in academic journals while running the $5 billion hedge fund AQR Capital Management, and Dr. Siegel, The Wharton School of the University of Pennsylvania, whose book, *Stocks for the Long Run*, helped mold academic thinking on how equities perform over long periods. These two experts were featured in a June 16, 2003, article in Fortune magazine, "Can Stocks Defy Gravity? That's what Wall Street wants you to believe. Don't buy it. The best minds say the market will rise, but it won't soar." Although these are the two main academicians featured in the article, Kenneth French of Dartmouth also urges caution when investing in today's market. Dr. French and Eugene Fama, University of Chicago, Ph.D., have published many influential stock market studies in the past two decades. Dr. Fama has been considered a possible candidate for a Nobel Prize in Economics since at least the early 1990s. While he hasn't received the Nobel Prize in Economics yet, much of Dr. Fama's research on the efficient market hypothesis has made him well-respected in the field of finance.

All of the influential individuals featured in this article have come to the conclusion that the equity risk premium, which is the additional return that investors demand over risk-free government securities, is lower than equity risk premiums suggested by long-term historical return differences. As a result of the lower equity-risk premium, they predict that the stock market as a whole can only provide 6 percent to 8 percent returns for the foreseeable future. Dr. Siegel, when speaking about total market returns, specifically states: "Better-than-average earnings, if they happen, could get us perhaps 8 percent. But 10 percent assumes earnings growth that is just too big." The fact is that well-respected investors and academicians are not predicting very high returns for the near future because of

current stock valuation levels. This translates into a low-cost-of common equity environment.

Comparing my recommended proxy cost of common equity of 9.00 percent to 9.30 percent to the predictions of anywhere from 6 to 10 percent for the entire market by these well-respected individuals offers a barometer to the reasonableness of my recommendation in this case. Given that regulated utilities are less risky than the market, and therefore investors would normally require less return than the market, my recommendation is quite reasonable considering the current capital market environment.

Q. Has any other influential financial expert made any comments concerning investors' reduced required equity risk premiums?

A. Yes. In an August 26, 2005, symposium sponsored by the Federal Reserve Bank of Kansas City at Jackson Hole, Wyoming, Alan Greenspan, Chairman of The Federal Reserve at the time, stated the following about investors' appetite for risk, i.e. lower required equity risk premiums:

> Whether the currently elevated level of the wealth-to-income ratio will be sustained in the longer run remains to be seen. But arguably, the growing stability of the world economy over the past decade may have encouraged investors to accept increasingly lower levels of compensation for risk. They are exhibiting a seeming willingness to project stability and commit over an ever more extended time horizon.
>
> The lowered risk premiums--the apparent consequence of a long period of economic stability--coupled with greater productivity growth have propelled asset prices higher. The rising prices of stocks, bonds and, more recently, of homes, have engendered a large increase in the market value of claims which, when converted to cash, are a source of purchasing power. Financial intermediaries, of course, routinely convert capital gains in stocks, bonds, and homes into cash for businesses and households to facilitate purchase transactions. The conversions have been markedly facilitated by the financial innovation that has greatly reduced the cost of such transactions.

> Thus, this vast increase in the market value of asset claims is in part the indirect result of investors accepting lower compensation for risk. Such an increase in market value is too often viewed by market participants as structural and permanent. To some extent, those higher values may be reflecting the increased flexibility and resilience of our economy. But what they perceive as newly abundant liquidity can readily disappear. Any onset of increased investor caution elevates risk premiums and, as a consequence, lowers asset values and promotes the liquidation of the debt that supported higher asset prices. This is the reason that history has not dealt kindly with the aftermath of protracted periods of low risk premiums.

Although Mr. Greenspan does not attempt to quantify investors' lower required equity risk premiums, it is clear that his views about investors not requiring much of a risk premium to invest in stocks, rather than risk-free treasuries, is similar to that of the other influential individuals in the field of finance that I have already mentioned. This provides further support for the lower results that are being achieved by a reasonable application of the DCF model. The lower results are not because the DCF model is unreliable; it is because the cost of common equity is lower. In fact, because the DCF model incorporates the price of the subject companies' stocks, a reasonable application of this model will directly reflect lower costs of common equity.

Q. Have you reviewed any other evidence to test the reasonableness of your recommendation?

A. Yes. Page 54 of Empire's 2005 Annual Report indicated an expected return of 8.50 percent on pension assets. Staff requested the supporting information for this overall return in Staff Data Request No. 0263, but Empire only provided historical returns and indicated that the information and detail that supports this information was retained by Towers Perrin. As of the time of filing this testimony, Staff was still attempting to retrieve this supporting information. However, Staff did receive supporting information from Aquila on its expected returns on its pension assets in its last rate case, Case No. ER-2005-0436 and

this information provided support that Staff's recommended cost of common equity 8.50 to 9.50 percent was reasonable.

Q. Do you have any other tests of reasonableness?

A. Yes. The current yield on Empire's trust preferred securities can be used as a test of reasonableness. As of the close of trading on June 2, 2006, the yield on Empire's trust preferred securities was 8.3 percent. Although I cannot, with any certainty, advise the Commission as to the appropriate risk premium for a utility common equity investment versus trust preferred securities, I can advise the Commission that this yield can be used as a floor for a reasonable cost of common equity. This assumes that the Commission believes that Empire is an efficiently managed company. Even though I can't estimate with any certainty an appropriate risk premium to apply to trust preferred securities to determine the cost of common equity, I can advise the Commission that investors tend to view a regulated electric utility's common stock as a debt-like security. The fact that Empire has been steadfast in not lowering its common stock cash dividend provides some insight as to the debt-like nature that some utility stocks may exhibit. The dividends on these stocks are quite similar to the stated coupon on bonds.

Q. Did the Commission rely in part on authorized ROEs for its decision in the Report and Order in the Empire rate case, Case No. ER-2004-0570?

A. Yes. The Commission cited the average electric utility authorized ROE of 11 percent for the first quarter of 2004.

Q. What were the average authorized ROEs for electric utilities since the first quarter of 2004?

A. According to Regulatory Research Associates (RRA) the average authorized ROE for electric utilities in 2004 was 10.73 percent based on 19 decisions for the entire year (first quarter – 11.00 percent based on 3 decisions; second quarter – 10.50 percent based on 6 decisions; third quarter – 10.33 percent based on 2 decisions; fourth quarter – 10.91 percent based on 8 decisions).

The average authorized ROE for electric utilities for 2005 was 10.55 percent based on 30 decisions (first quarter – 10.47 percent based on 8 decisions; second quarter – 10.06 percent based on 6 decisions; third quarter – 10.85 percent based on 4 decisions; fourth quarter – 10.77 percent based on 13 decisions).

The average authorized ROE for the first quarter of 2006 was 10.57 percent based on four decisions.

Q. Have you researched all of the cases mentioned above to determine the specifics of the cases?

A. No.

Q. Did you do anything else different in this case versus the last Empire rate case that should be explained?

A. Yes. I did not perform the type of "risk premium" analysis that the Financial Analysis Department has performed for some time. The reason I eliminated this analysis was because it wasn't necessarily an indicator of a company's cost of common equity, because it was not a market-based model. It relied on actual book earned returns on common equity for approximately the most recent ten years for the proxy companies. The actual earned book return on common equity may not be reflective of a company's cost of common equity. For example, in Case No. EC-2002-1, if Staff had just relied on AmerenUE's past earned returns

on common equity to determine AmerenUE's cost of common equity, then obviously AmerenUE would have continued to earn more than the cost of common equity reflected in Ameren's stock price.

Q. If you believed that the risk-premium analysis you were performing was not reflective of the subject utility company's cost of common equity, then why did you continue to perform such an analysis?

A. I only used it to test the reasonableness of my DCF recommended cost of common equity. Now that the Commission appears to be giving weight to other models, I believe it is important for the Commission to have all of the information about the differences in professional opinions about the appropriate inputs for a "risk premium" analysis.

Q. Did you perform a "comparable company" analysis in this case, which is what the Commission indicated it believed was more consistent with *Hope* and *Bluefield* in its Report and Order in Empire's last rate case?

A. Yes. However, I still believe that a company-specific analysis is the most direct way to estimate a company's cost of common equity.

Q. If you used a comparable company approach to directly determine a reasonable cost-of-common equity recommendation for Empire, then why are your results still in the single digits rather than closer to Dr. Vander Weide's recommendation?

A. The results of my cost of common equity analysis are still a function of what I consider to be reasonable inputs to the models, even if I apply these inputs to a comparable group. In fact, I have given considerable deference to the projected EPS growth rates in this case and my DCF recommended cost of common equity is still firmly in the single digits.

Q. Please summarize your cost of common equity analysis to this point.

A. I have performed a DCF and CAPM cost of common equity analysis on a group of five comparable companies. The results are summarized below.

	DCF	CAPM (Historical & Forward-Looking)
Comparable Companies	9.00% - 9.30%	Historical - 10.26%; 8.98%; 6.24% Forward-looking – 8.79%; 7.39%

Q. Should there be any adjustments to the comparable group cost of common equity before it is applied to Empire?

A. Yes. Because the average credit rating of the comparable companies is BBB+ and the credit rating of Empire is BBB-, I increased the lower end and the upper end of the range by 20 basis points to reflect the higher risk implied by this credit rating differential. The recent spread between A-rated utility bonds and BBB-rated utility bonds is about 30 basis points. This equates into a 10 basis point differential for each notch within the credit rating and because Empire's credit rating is two notches below the average credit rating of the comparable companies, it is appropriate to adjust the proxy group cost of common equity estimate up by 20 basis points. Although I made this upward adjustment, I believe it is important to emphasize that Empire's company-specific DCF cost of common equity estimate does not support this upward adjustment. However, because I did not spend as much time on my company-specific analysis in this case as I did in the last case, I still made an upward adjustment of 20 basis points.

Q. Based on the analysis you performed, what is your recommended return on common equity in this proceeding?

A. I am recommending a return on common equity in the range of 9.20 percent to 9.50 percent based on the results of my comparable-company-DCF analysis.

RATE OF RETURN FOR EMPIRE

Q. Please explain how the returns developed for each capital component are used in the ratemaking approach you have adopted for Empire.

A. The cost of service ratemaking method was adopted in this case. This approach develops the public utility's revenue requirement. The cost of service (revenue requirement) is based on the following components: operating costs, rate base and a return allowed on the rate base (see Schedule 19).

It is my responsibility to calculate and recommend a rate of return that should be authorized on the Missouri jurisdictional electric utility rate base of Empire. Under the cost of service ratemaking approach, a weighted cost of capital in the range of 8.22 to 8.37 percent was developed for Empire's electric utility operations (see Schedule 20). This rate was calculated by applying an embedded cost of long-term debt of 7.02 percent, an embedded cost of trust preferred stock of 8.90 percent and a cost of common equity range of 9.20 percent to 9.50 percent to a capital structure consisting of 43.99 percent long-term debt, 6.27 percent trust preferred stock and 49.74 percent common equity. Therefore, from a financial risk/return prospective, as I suggested earlier, I am recommending that Empire's electric utility operations be allowed to earn a return on its original cost rate base in the range of 8.22 to 8.37 percent.

Through my analysis, I believe that I have developed a fair and reasonable return, which, when applied to Empire's jurisdictional rate base, will allow Empire the opportunity to earn the revenue requirement developed in this rate case.

Q. Does this conclude your prepared direct testimony?

A. Yes, it does.

CASE PROCEEDING PARTICIPATION

DAVID MURRAY

Date Filed	Issue	Case Number	Exhibit	Case Name
1/31/2001	Rate of Return Capital Structure	TC2001402	Direct	Ozark Telephone Company
2/28/2001	Rate of Return Capital Structure	TR2001344	Direct	Northeast Missouri Rural Telephone Company
3/1/2001	Rate of Return Capital Structure	TT2001328	Rebuttal	Oregon Farmers Mutual Telephone Company
4/19/2001	Rate of Return Capital Structure	GR2001292	Direct	Missouri Gas Energy, A Division of Southern Union Company
5/22/2001	Rate of Return Capital Structure	GR2001292	Rebuttal	Missouri Gas Energy, A Division of Southern Union Company
12/6/2001	Rate of Return Capital Structure	ER2001672	Direct	UtiliCorp United Inc. dba Missouri Public Service
12/6/2001	Rate of Return Capital Structure	EC2002265	Direct	UtiliCorp United Inc. dba Missouri Public Service
1/8/2002	Rate of Return Capital Structure	ER2001672	Rebuttal	UtiliCorp United Inc. dba Missouri Public Service
1/8/2002	Rate of Return Capital Structure	EC2002265	Rebuttal	UtiliCorp United Inc. dba Missouri Public Service
1/22/2002	Rate of Return Capital Structure	EC2002265	Surrebuttal	UtiliCorp United Inc. dba Missouri Public Service
1/22/2002	Rate of Return Capital Structure	ER2001265	Surrebuttal	UtiliCorp United Inc. dba Missouri Public Service
8/6/2002	Rate of Return Capital Structure	TC20021076	Direct	BPS Telephone Company
8/16/2002	Rate of Return Capital Structure	ER2002424	Direct	The Empire District Electric Company
9/24/2002	Rate of Return Capital Structure	ER2002424	Rebuttal	The Empire District Electric Company
10/16/2002	Rate of Return Capital Structure	ER2002424	Surrebuttal	The Empire District Electric Company
3/17/2003	Insulation	GM20030238	Rebuttal	Southern Union Co. dba Missouri Gas Energy
10/3/2003	Rate of Return Capital Structure	WC20040168	Direct	Missouri-American Water Company

Date Filed	Issue	Case Number	Exhibit	Case Name
10/3/2003	Rate of Return Capital Structure	WR20030500	Direct	Missouri-American Water Company
11/10/2003	Rate of Return Capital Structure	WR20030500	Rebuttal	Missouri-American Water Company
11/10/2003	Rate of Return Capital Structure	WC20040168	Rebuttal	Missouri-American Water Company
12/5/2003	Rate of Return Capital Structure	WC20040168	Surrebuttal	Missouri-American Water Co
12/5/2003	Rate of Return Capital Structure	WR20030500	Surrebuttal	Missouri-American Water Co
12/9/2003	Rate of Return Capital Structure	ER20040034	Direct	Aquila, Inc.
12/9/2003	Rate of Return Capital Structure	HR20040024	Direct	Aquila, Inc.
12/19/2003	Rate of Return Capital Structure	ST20030562	Direct	Osage Water Company
12/19/2003	Rate of Return Capital Structure	WT20030563	Direct	Osage Water Company
1/6/2004	Rate of Return Capital Structure	GR20040072	Direct	Aquila, Inc.
1/9/2004	Rate of Return Capital Structure	WT20030563	Rebuttal	Osage Water Company
1/9/2004	Rate of Return Capital Structure	ST20030562	Rebuttal	Osage Water Company
1/26/2004	Rate of Return Capital Structure	HR20040024	Rebuttal	Aquila, Inc. dba Aquila Networks-MPS and Aquila Networks L&P
1/26/2004	Rate of Return Capital Structure	ER20040034	Rebuttal	Aquila, Inc. dba Aquila Networks-MPS and Aquila Networks L&P
2/13/2004	Rate of Return Capital Structure	GR20040072	Rebuttal	Aquila, Inc. dba Aquila Networks-MPS and Aquila Networks-L&P
2/13/2004	Rate of Return Capital Structure	ER20040034	Surrebuttal	Aquila, Inc. dba Aquila Networks-MPS and Aquila Networks-L&P
2/13/2004	Rate of Return Capital Structure	HR20040024	Surrebuttal	Aquila, Inc. dba Aquila Networks-MPS and Aquila Networks-L&P
3/11/2004	Rate of Return Capital Structure	IR20040272	Direct	Fidelity Telephone Company

Date Filed	Issue	Case Number	Exhibit	Case Name
4/15/2004	Rate of Return Capital Structure	GR20040209	Direct	Missouri Gas Energy
5/24/04	Rate of Return Capital Structure	GR20040209	Rebuttal	Missouri Gas Energy
6/14/04	Rate of Return Capital Structure	GR20040209	Surrebuttal	Missouri Gas Energy
7/19/04	Rate of Return Capital Structure	GR20040209	True-Up Direct	Missouri Gas Energy
9/20/04	Rate of Return	ER20040570	Direct	Empire District Electric Co.
11/04/04	Rate of Return Capital Structure	ER20040570	Rebuttal	Empire District Electric Co.
11/24/04	Rate of Return Capital Structure	ER20040570	Surrebuttal	Empire District Electric Co.
10/14/05	Rate of Return Capital Structure	ER20050436	Direct	Aquila, Inc. dba Aquila Networks-MPS and Aquila Networks-L&P
11/18/05	Rate of Return Capital Structure	ER20050436	Rebuttal	Aquila, Inc. dba Aquila Networks-MPS and Aquila Networks-L&P
12/13/05	Rate of Return Capital Structure	ER20050436	Surrebuttal	Aquila, Inc. dba Aquila Networks-MPS and Aquila Networks-L&P

DAVID MURRAY

TESTIMONY SCHEDULES A THROUGH E

THE EMPIRE DISTRICT ELECTRIC COMPANY

CASE NO. ER-2006-0315

Q. Is the recommendation of the cost of common equity consistent with a fair rate of return on common equity?

A. Yes. It is generally recognized that authorizing an allowed return on common equity based on a utility's cost of common equity is consistent with a fair rate of return. It is for this very reason that the discounted cash flow (DCF) model is widely recognized as an appropriate model to utilize in arriving at a reasonable recommended return on equity that should be authorized for a utility. The concept underlying the DCF model is to determine the cost of common equity capital to the utility, which reflects the current economic and capital market environment. For example, a company may achieve a return on common equity that is higher than its cost of common equity. This situation will tend to increase the share price. However, this does not mean that this past achieved return is the barometer for what would be a fair authorized return in the context of a rate case. It is the lower cost of capital that should be recognized as a fair authorized return. If a utility continues to be allowed a return on common equity that is not reflective of today's current low-cost-of-capital environment, then this will result in the possibility of excessive returns.

The authorized return should provide a fair and reasonable return to the investors of the company, while ensuring that ratepayers do not support excessive earnings that could

result from the utility's monopolistic powers. However, this fair and reasonable rate does not necessarily guarantee revenues or the continued financial integrity of the utility.

It should be noted that a reasonable return may vary over time as economic conditions, such as the level of interest rates, and business conditions change. Therefore, the past, present and projected economic and business conditions must be analyzed in order to calculate a fair and reasonable rate of return.

Q. Please discuss the historical economic conditions in which Empire has operated.

A. One of the most commonly accepted indicators of economic conditions is the discount rate set by the Federal Reserve Board (Federal Reserve or Fed). The Federal Reserve tries to achieve its monetary policy objectives by controlling the discount rate (the interest rate charged by the Federal Reserve for loans of reserves to depository institutions) and the Federal (Fed) Funds Rate (the overnight lending rate between banks). However, recently the Fed Funds Rate has become the primary means for the Federal Reserve to achieve its monetary policy, and the discount rate has become more of a symbolic interest rate. This explains why the Federal Reserve's decisions now focus on the Fed Funds rate and this is reflected in the discussion of interest rates. It should also be noted that on January 9, 2003, the Federal Reserve changed the administration of the discount window. Under the changed administration of the discount window an eligible institution does not need to exhaust other sources of funds before coming to the discount window, nor are there restrictions on the purposes for which the borrower can use primary credit. This explains why the discount rate jumped from 0.75 percent to 2.25 percent on January 9, 2003, when the Fed Funds rate didn't change. Therefore, discount rates before January 9, 2003, are not comparable to discount rates after January 9.

At the end of 1982, the U.S. economy was in the early stages of an economic expansion, following the longest post-World War II recession. This economic expansion began when the Federal Reserve reduced the discount rate seven times in the second half of 1982 in an attempt to stimulate the economy. This reduction in the discount rate led to a reduction in the prime interest rate (the rate charged by banks on short-term loans to

borrowers with high credit ratings) from 16.50 percent in June 1982, to 11.50 percent in December 1982. The economic expansion continued for approximately eight years until July 1990, when the economy entered into a recession.

In December 1990, the Federal Reserve responded to the slumping economy by lowering the discount rate to 6.50 percent (see Schedules 2-1 and 2-2). Over the next year-and-a-half, the Federal Reserve lowered the discount rate another six times to a low of 3.00 percent, which had the effect of lowering the prime interest rate to 6.00 percent (see Schedules 3-1 and 3-2).

In 1993, perhaps the most important factor for the U.S. economy was the passage of the North American Free Trade Agreement (NAFTA). NAFTA created a free trade zone consisting of the United States, Canada and Mexico. The rate of economic growth for the fourth quarter of 1993 was one the Federal Reserve believed could not be sustained without experiencing higher inflation. In the first quarter of 1994, the Federal Reserve took steps to try to restrict the economy by increasing interest rates. As a result, on March 24, 1994, the prime interest rate increased to 6.25 percent. On April 18, 1994, the Federal Reserve announced its intention to raise its targeted interest rates, which resulted in the prime interest rate increasing to 6.75 percent. The Federal Reserve took action again on May 17, 1994, by raising the discount rate to 3.50 percent. The Federal Reserve took three additional restrictive monetary actions, with the last occurring on February 1, 1995. These actions raised the discount rate to 5.25 percent, and in turn, banks raised the prime interest rate to 9.00 percent.

The Federal Reserve then reversed its policy in late 1995 by lowering its target for the Fed Funds Rate by 0.25 percentage points on two different occasions. This had the effect of

lowering the prime interest rate to 8.50 percent. On January 31, 1996, the Federal Reserve lowered the discount rate to a rate of 5.00 percent.

The actions of the Federal Reserve from 1996 through 2000 were primarily focused on keeping the level of inflation under control, and it was successful. The inflation rate, as measured by the *Consumer Price Index - All Urban Consumers* (CPI), had never been higher than 3.70 percent during this period. The increase in CPI stood at 3.50 percent for the twelve months ending April 30, 2006 (see attached Schedules 4-1, 4-2 and 6).

The unemployment rate was 4.70 percent as of April 2006 (see Schedule 6), which is fairly low by historical standards. A lower unemployment rate probably provides the Fed with some comfort to continue to raise the Fed Funds rate if it believes it is needed to contain inflation.

The combination of low inflation and low unemployment had led to a prosperous economy from 1993 through 2000 as evidenced by the fact that real gross domestic product (GDP) of the United States increased every quarter during this period. However, GDP actually declined for the first three quarters of 2001, indicating there was a contraction in the economy during these three quarters. This contraction of GDP for more than two quarters in a row meets the textbook definition of a recession. According to the National Bureau of Economic Research, the recession began in March of 2001 and ended eight months later. Since the recession ended, GDP had been low up until the second quarter of 2003, but since the second quarter of 2003, GDP has been fairly healthy. GDP grew at a rate of 4.80 percent for the first quarter of 2006 (see attached Schedule 6).

Q. Please explain the changes in utility bond yields and Thirty-Year U.S. Treasury yields in a little more detail.

A. Cost of capital changes for utilities are closely reflected in the yields on public utility bonds and yields on Thirty-Year U.S. Treasury Bonds (see attached Schedules 5-1 and 5-2). Schedule 5-3, attached to this direct testimony, shows how closely the Mergent's "Public Utility Bond Yields" have followed the yields of Thirty-Year U.S. Treasury Bonds during the period from 1980 to the present. The average spread for this period between these two composite indices has been 151 basis points, with the spread ranging from a low of 80 basis points to a high of 304 basis points (see attached Schedule 5-4). Although there may be times when utility bond yield changes may lag the yield changes in the Thirty-Year U.S. Treasury Bond, these spread parameters show just how tightly correlated utilities' cost of capital is with the level of interest rates on long-term treasuries. This fact should be considered when determining the reasonableness of rate of return recommendations.

Q. What are the inflationary estimations and expectations for 2006 through 2008?

A. *The Value Line Investment Survey: Selection & Opinion*, February 24, 2006, estimates inflation to be 2.4 percent for 2006, 2.0 percent for 2007 and 2.2 percent for 2008. The Congressional Budget Office, *The Budget and Economic Outlook: Fiscal Years 2007-2016,* issued January 2006, states that inflation is expected to be 2.8 percent for 2006, 2.2 percent for 2007 and 2.2 percent for 2008 (see attached Schedule 6).

Q. What are the interest rate estimates and forecasts for 2006, 2007 and 2008?

A. Short-term interest rates, those measured by three-month U.S. Treasury Bills, are estimated to be 4.6 percent in 2006, 4.6 percent in 2007 and 4.7 percent in 2008 according to Value Line's predictions. Value Line expects long-term treasury bond rates to average 4.8 percent in 2006, 5.3 percent in 2007 and 5.6 percent in 2008.

The current rate for May 2006 was 4.72 percent for three-month U.S. Treasury Bills, as noted on the St. Louis Federal Reserve website, http://www.stls.frb.org/fred/data/rates.html. The rate for Thirty-Year U.S. Treasury Bonds was 5.20 percent as of May 2006, as noted on the St. Louis Federal Reserve website at http://research.stlouisfed.org/fred2/data/GS30.txt.

Q. What are the growth estimates and expectations for real GDP?

A. GDP is a benchmark utilized by the Commerce Department to measure economic growth within the U.S. borders. Real GDP is measured by the actual GDP, adjusted for inflation. Value Line stated that real GDP growth is expected to increase by 3.1 percent in 2006, 2.7 percent in 2006 and 3.0 percent in 2007. The Congressional Budget Office, *The Budget and Economic Outlook: Fiscal Years 2007-2016*, stated that real GDP is expected to

increase by 3.6 percent in 2006, 3.4 percent in 2007 and 3.1 percent in 2008 (see attached Schedule 6).

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

A. In summary, when combining the previously mentioned sources, inflation is expected to be in the range of 2.0 to 2.8 percent, increase in real GDP in the range of 2.7 to 3.6 percent and long-term interest rates are expected to range from 4.8 to 5.6 percent.

Selected excerpts from *The Value Line Investment Survey: Selection & Opinion,* June 2, 2006, follow:

> **The economy is moving along nicely in other areas**, led by ongoing improvement in personal income and consumer spending and by additional strength in industrial production and factory usage. This solid combination should help the economy grow by more than 3% in the current quarter and by an average of 3%, or so, from the second half of this year through 2007. Such a steady rate of growth should allow earnings to continue trending higher over the next 12 to 18 months, although at a slowing rate.
>
> **The likely 2006-2007 moderation in business activity will probably encourage the Federal Reserve to stop raising interest rates before much longer.** Our feeling is that the Fed may increase borrowing costs at its late-June Federal Open Market Committee meeting and perhaps one more time after that. By this fall, we would expect the Fed to opt for a stable rate policy, before starting to lower rates, in response to slowing GDP growth, by early-to-mid-2007.
>
> **Investors have been unforgiving in recent weeks,** driving down stock prices relentlessly on fears the Fed might decide to raise interest rates more significantly and over a longer period of time than we now suspect. We think these fears are overblown. Indeed, we feel that the recent stock market decline has produced a good buying opportunity for investors.

S&P stated the following in the June 7, 2006, issue of *The Outlook*:

> As rising interest rates and mounting inflation put a chill on global markets, escaping to the beach or boardwalk sounds increasingly

appealing to investors. But for those who look at recent market volatility as a buying opportunity, we can offer some investment ideas.

In the summer months, expect lighter volume and increased volatility, says Sam Stovall, chief investment strategist at Standard & Poor's. However, Stovall believes that regardless of what direction the markets may take in the coming months, investors could take advantage of the volatility by considering a value investing strategy...

Q. Please describe the DCF model.

A. The DCF model is a market-oriented approach for deriving the cost of common equity. The cost of common equity calculated from the DCF model is inherently capable of attracting capital. This results from the theory that security prices adjust continually over time, so that an equilibrium price exists and the stock is neither undervalued nor overvalued. It can also be stated that stock prices continually fluctuate to reflect the required and expected return for the investor.

The constant-growth form of the DCF model was used in this analysis. This model relies upon the fact that a company's common stock price is dependent upon the expected cash dividends and upon cash flows received through capital gains or losses that result from stock price changes. The interest rate which discounts the sum of the future expected cash flows to the current market price of the common stock is the calculated cost of common equity. This can be expressed algebraically as:

$$\text{Present Price} = \underset{\text{Discounted by k}}{\text{Expected Dividends}} + \underset{\text{Discounted by k}}{\text{Expected Price in 1 year}} \qquad (1)$$

where k equals the cost of equity. Since the expected price of a stock in one year is equal to the present price multiplied by one plus the growth rate, equation (1) can be restated as:

$$\text{Present Price} = \frac{\text{Expected Dividends}}{(1+k)} + \frac{\text{Present Price } (1+g)}{(1+k)} \qquad (2)$$

where g equals the growth rate and k equals the cost of equity. Letting the present price equal P_0 and expected dividends equal D_1, the equation appears as:

$$P_0 = \frac{D_1}{(1+k)} + \frac{P_0(1+g)}{(1+k)} \qquad (3)$$

The cost of equity equation may also be algebraically represented as:

$$k = \frac{D_1}{P_0} + g \qquad (4)$$

Thus, the cost of common stock equity, k, is equal to the expected dividend yield (D_1/P_0) plus the expected growth in dividends (g) continuously summed into the future. The growth in dividends and implied growth in earnings will be reflected in the current price. Therefore, this model also recognizes the potential of capital gains or losses associated with owning a share of common stock.

The discounted cash flow method is a continuous stock valuation model. The DCF theory is based on the following assumptions:

1. Market equilibrium;
2. Perpetual life of the company;
3. Constant payout ratio;
4. Payout of less than 100% earnings;
5. Constant price/earnings ratio;
6. Constant growth in cash dividends;
7. Stability in interest rates over time;
8. Stability in required rates of return over time; and
9. Stability in earned returns over time.

Flowing from these, it is further assumed that an investor's growth horizon is unlimited and that earnings, book values and market prices grow hand-in-hand. Although the entire list of the above assumptions is rarely met, the DCF model is a reasonable working model describing an actual investor's expectations and resulting behaviors.

Q. Please describe the CAPM.

A. The CAPM describes the relationship between a security's investment risk and its market rate of return. This relationship identifies the rate of return which investors expect a security to earn so that its market return is comparable with the market returns earned by other securities that have similar risk. The general form of the CAPM is as follows:

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

where:

k = the expected return on equity for a specific security;
R_f = the risk-free rate;
β = beta; and
$R_m - R_f$ = the market risk premium.

The first term of the CAPM is the risk-free rate (Rf). The risk-free rate reflects the level of return that can be achieved without accepting any risk. In reality, there is no such risk-free asset, but it is generally represented by U.S. Treasury securities.

The second term of the CAPM is beta (β). Beta is an indicator of a security's investment risk. It represents the relative movement and relative risk between a particular security and the market as a whole (where beta for the market equals 1.00). Securities with betas greater than 1.00 exhibit greater volatility than do securities with betas less than 1.00. This causes a higher beta security to be less desirable to a risk-averse investor and therefore requires a higher return in order to attract investor capital away from a lower beta security.

The final term of the CAPM is the market risk premium ($R_m - R_f$). The market risk premium represents the expected return from holding the entire market portfolio less the expected return from holding a risk-free investment.

Exhibit No.:
Issue: *Rate of Return*
Witness: *David Murray*
Sponsoring Party: *MoPSC Staff*
Type of Exhibit: *Direct Testimony*
Case No.: *ER-2006-0315*
Date Testimony Prepared: *June 23, 2006*

MISSOURI PUBLIC SERVICE COMMISSION

UTILITY SERVICES DIVISION

DIRECT TESTIMONY

OF

DAVID MURRAY

THE EMPIRE DISTRICT ELECTRIC COMPANY

CASE NO. ER-2006-0315

Jefferson City, Missouri
June 2006

AN ANALYSIS OF THE COST OF CAPITAL

FOR

THE EMPIRE DISTRICT ELECTRIC COMPANY

CASE NO. ER-2006-0315

SCHEDULES

BY

DAVID MURRAY

UTILITY SERVICES DIVISION

MISSOURI PUBLIC SERVICE COMMISSION

JUNE 2006

THE EMPIRE DISTRICT ELECTRIC COMPANY
CASE NO. ER-2006-0315

List of Schedules

THE EMPIRE DISTRICT ELECTRIC COMPANY
CASE NO. ER-2006-0315

Federal Reserve Discount Rate and Federal Reserve Funds Rate Changes

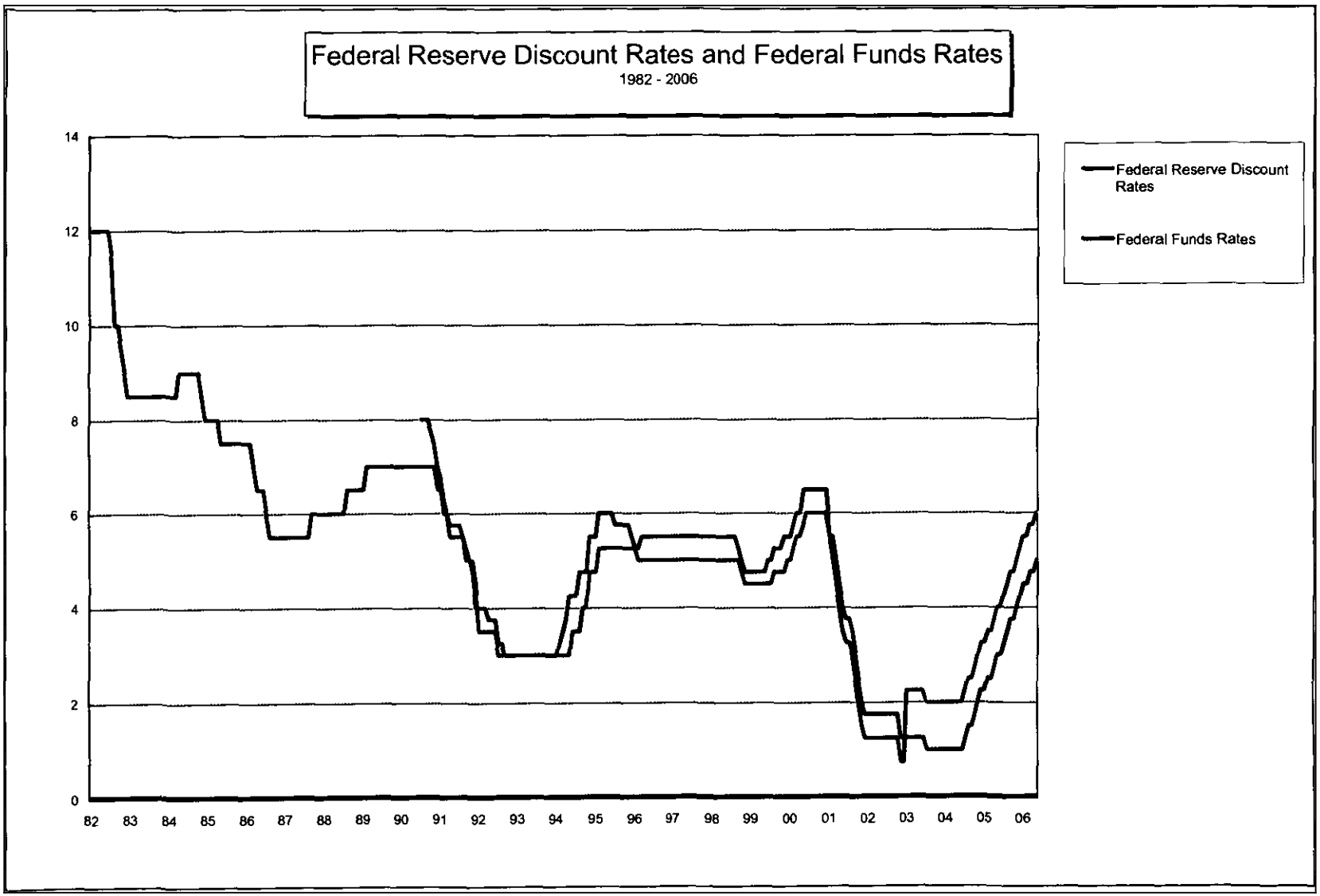
Date	Discount Rate	Funds Rate
07/19/82	11.50%	
07/31/82	11.00%	
08/14/82	10.50%	
08/26/82	10.00%	
10/10/82	9.50%	
11/20/82	9.00%	
12/14/82	8.50%	
01/01/83	8.50%	
12/31/83	8.50%	
04/09/84	9.00%	
11/21/84	8.50%	
12/24/84	8.00%	
05/20/85	7.50%	
03/07/86	7.00%	
04/21/86	6.50%	
07/11/86	6.00%	
08/21/86	5.50%	
09/04/87	6.00%	
08/09/88	6.50%	
02/24/89	7.00%	
* 07/13/90		8.00%
10/29/90		7.75%
11/13/90		7.50%
12/07/90		7.25%
12/18/90		7.00%
12/19/90	6.50%	
01/09/91		6.75%
02/01/91	6.00%	6.25%
03/08/91		6.00%
04/30/91	5.50%	5.75%
08/06/91		5.50%
09/13/91	5.00%	5.25%
10/31/91		5.00%
11/06/91	4.50%	4.75%
12/06/91		4.50%
12/20/91	3.50%	4.00%
04/09/92		3.75%
07/02/92	3.00%	3.25%
09/04/92		3.00%
01/01/93		
12/31/93	No Changes	No Changes
02/04/94		3.25%
03/22/94		3.50%
04/18/94		3.75%
05/17/94	3.50%	4.25%
08/16/94	4.00%	4.75%
11/15/94	4.75%	5.50%
02/01/95	5.25%	6.00%
07/06/95		5.75%
12/19/95		5.50%
01/31/96	5.00%	5.25%
03/25/97		5.50%
12/12/97	5.00%	
01/09/98	5.00%	
03/06/98	5.00%	
09/29/98		5.25%
10/15/98	4.75%	5.00%
11/17/98	4.50%	4.75%
06/30/99	4.50%	5.00%
08/24/99	4.75%	5.25%
11/16/99	5.00%	5.50%

Date	Discount Rate	Funds Rate
02/02/00	5.25%	5.75%
03/21/00	5.50%	6.00%
05/19/00	6.00%	6.50%
01/03/01	5.75%	6.00%
01/04/01	5.50%	6.00%
01/31/01	5.00%	5.50%
03/20/01	4.50%	5.00%
04/18/01	4.00%	4.50%
05/15/01	3.50%	4.00%
06/27/01	3.25%	3.75%
08/21/01	3.00%	3.50%
09/17/01	2.50%	3.00%
10/02/01	2.00%	2.50%
11/06/01	1.50%	2.00%
12/11/01	1.25%	1.75%
11/06/02	0.75%	1.25%
** 01/09/03	2.25%	1.25%
06/25/03	2.00%	1.00%
06/30/04	2.25%	1.25%
08/10/04	2.50%	1.50%
09/21/04	2.75%	1.75%
11/10/04	3.00%	2.00%
12/14/04	3.25%	2.25%
02/02/05	3.50%	2.50%
03/22/05	3.75%	2.75%
05/03/05	4.00%	3.00%
06/30/05	4.25%	3.25%
08/09/05	4.50%	3.50%
09/20/05	4.75%	3.75%
11/01/05	5.00%	4.00%
12/13/05	5.25%	4.25%
01/31/06	5.50%	4.50%
03/28/06	5.75%	4.75%
05/11/06	6.00%	5.00%

* Staff began tracking the Federal Funds Rate.
**Revised discount window program begins. Reflects rate on primary credit. This revised discount window policy results in incomparability of the discount rates after January 9, 2003 to discount rates before January 9, 2003.

Sources: Federal Reserve Bank of New York: http://www.newyorkfed.org/aboutthefed/fedpoint/fed18.html (1/1/2000 through 5/11/2006).
MGE direct testimony in Case No.GR-2004-0209 (all data prior to 1/1/2000).

Note: Interest rates as of December 31 for each year are underlined.


Federal Reserve Discount Rates and Federal Funds Rates
1982 - 2006
14
12
10
8
6
4
2
0
82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06
Federal Reserve Discount Rates
Federal Funds Rates

THE EMPIRE DISTRICT ELECTRIC COMPANY
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Average Prime Interest Rates

Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)
Jan 1980	15.25	Jan 1984	11.00	Jan 1988	8.75	Jan 1992	6.50	Jan 1996	8.50	Jan 2000	8.50	Jan 2004	4.00
Feb	15.63	Feb	11.00	Feb	8.51	Feb	6.50	Feb	8.25	Feb	8.73	Feb	4.00
Mar	18.31	Mar	11.21	Mar	8.50	Mar	6.50	Mar	8.25	Mar	8.83	Mar	4.00
Apr	19.77	Apr	11.93	Apr	8.50	Apr	6.50	Apr	8.25	Apr	9.00	Apr	4.00
May	16.57	May	12.39	May	8.84	May	6.50	May	8.25	May	9.24	May	4.00
Jun	12.63	Jun	12.60	Jun	9.00	Jun	6.50	Jun	8.25	Jun	9.50	Jun	4.00
Jul	11.48	Jul	13.00	Jul	9.29	Jul	6.02	Jul	8.25	Jul	9.50	Jul	4.25
Aug	11.12	Aug	13.00	Aug	9.84	Aug	6.00	Aug	8.25	Aug	9.50	Aug	4.43
Sep	12.23	Sep	12.97	Sep	10.00	Sep	6.00	Sep	8.25	Sep	9.50	Sep	4.58
Oct	13.79	Oct	12.58	Oct	10.00	Oct	6.00	Oct	8.25	Oct	9.50	Oct	4.75
Nov	16.06	Nov	11.77	Nov	10.05	Nov	6.00	Nov	8.25	Nov	9.50	Nov	4.93
Dec	20.35	Dec	11.06	Dec	10.50	Dec	6.00	Dec	8.25	Dec	9.50	Dec	5.15
Jan 1981	20.16	Jan 1985	10.61	Jan 1989	10.50	Jan 1993	6.00	Jan 1997	8.26	Jan 2001	9.05	Jan 2005	5.25
Feb	19.43	Feb	10.50	Feb	10.93	Feb	6.00	Feb	8.25	Feb	8.50	Feb	5.49
Mar	18.05	Mar	10.50	Mar	11.50	Mar	6.00	Mar	8.30	Mar	8.32	Mar	5.58
Apr	17.15	Apr	10.50	Apr	11.50	Apr	6.00	Apr	8.50	Apr	7.80	Apr	5.75
May	19.61	May	10.31	May	11.50	May	6.00	May	8.50	May	7.24	May	5.98
Jun	20.03	Jun	9.78	Jun	11.07	Jun	6.00	Jun	8.50	Jun	6.98	Jun	6.01
Jul	20.39	Jul	9.50	Jul	10.98	Jul	6.00	Jul	8.50	Jul	6.75	Jul	6.25
Aug	20.50	Aug	9.50	Aug	10.50	Aug	6.00	Aug	8.50	Aug	6.67	Aug	6.44
Sep	20.08	Sep	9.50	Sep	10.50	Sep	6.00	Sep	8.50	Sep	6.28	Sep	6.59
Oct	18.45	Oct	9.50	Oct	10.50	Oct	6.00	Oct	8.50	Oct	5.53	Oct	6.75
Nov	16.84	Nov	9.50	Nov	10.50	Nov	6.00	Nov	8.50	Nov	5.10	Nov	7.00
Dec	15.75	Dec	9.50	Dec	10.50	Dec	6.00	Dec	8.50	Dec	4.84	Dec	7.15
Jan 1982	15.75	Jan 1986	9.50	Jan 1990	10.11	Jan 1994	6.00	Jan 1998	8.50	Jan 2002	4.75	Jan 2006	7.26
Feb	16.56	Feb	9.50	Feb	10.00	Feb	6.00	Feb	8.50	Feb	4.75	Feb	7.50
Mar	16.50	Mar	9.10	Mar	10.00	Mar	6.06	Mar	8.50	Mar	4.75	Mar	7.53
Apr	16.50	Apr	8.83	Apr	10.00	Apr	6.45	Apr	8.50	Apr	4.75	Apr	7.75
May	16.50	May	8.50	May	10.00	May	6.99	May	8.50	May	4.75		
Jun	16.50	Jun	8.50	Jun	10.00	Jun	7.25	Jun	8.50	Jun	4.75		
Jul	16.26	Jul	8.16	Jul	10.00	Jul	7.25	Jul	8.50	Jul	4.75		
Aug	14.39	Aug	7.90	Aug	10.00	Aug	7.51	Aug	8.50	Aug	4.75		
Sep	13.50	Sep	7.50	Sep	10.00	Sep	7.75	Sep	8.49	Sep	4.75		
Oct	12.52	Oct	7.50	Oct	10.00	Oct	7.75	Oct	8.12	Oct	4.75		
Nov	11.85	Nov	7.50	Nov	10.00	Nov	8.15	Nov	7.89	Nov	4.35		
Dec	11.50	Dec	7.50	Dec	10.00	Dec	8.50	Dec	7.75	Dec	4.25		
Jan 1983	11.16	Jan 1987	7.50	Jan 1991	9.52	Jan 1995	8.50	Jan 1999	7.75	Jan 2003	4.25		
Feb	10.98	Feb	7.50	Feb	9.05	Feb	9.00	Feb	7.75	Feb	4.25		
Mar	10.50	Mar	7.50	Mar	9.00	Mar	9.00	Mar	7.75	Mar	4.25		
Apr	10.50	Apr	7.75	Apr	9.00	Apr	9.00	Apr	7.75	Apr	4.25		
May	10.50	May	8.14	May	8.50	May	9.00	May	7.75	May	4.25		
Jun	10.50	Jun	8.25	Jun	8.50	Jun	9.00	Jun	7.75	Jun	4.22		
Jul	10.50	Jul	8.25	Jul	8.50	Jul	8.80	Jul	8.00	Jul	4.00		
Aug	10.89	Aug	8.25	Aug	8.50	Aug	8.75	Aug	8.06	Aug	4.00		
Sep	11.00	Sep	8.70	Sep	8.20	Sep	8.75	Sep	8.25	Sep	4.00		
Oct	11.00	Oct	9.07	Oct	8.00	Oct	8.75	Oct	8.25	Oct	4.00		
Nov	11.00	Nov	8.78	Nov	7.58	Nov	8.75	Nov	8.37	Nov	4.00		
Dec	11.00	Dec	8.75	Dec	7.21	Dec	8.65	Dec	8.50	Dec	4.00		

Source:
http://research.stlouisfed.org/fred2/data/MPRIME.txt

THE EMPIRE DISTRICT ELECTRIC COMPANY
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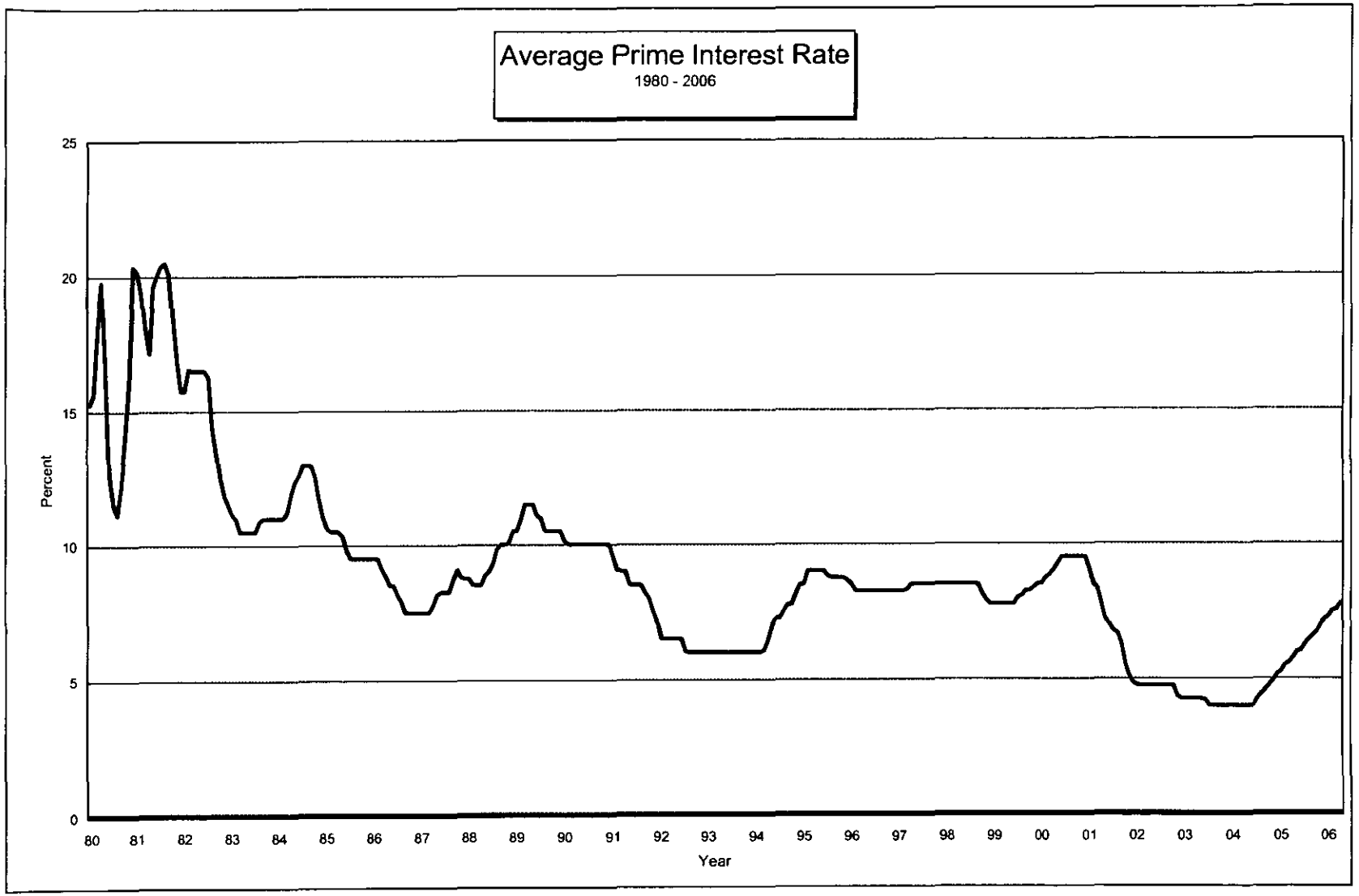

SCHEDULE 3-2

THE EMPIRE DISTRICT ELECTRIC COMPANY
CASE NO. ER-2006-0315

Rate of Inflation

Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)
Jan 1980	13.90	Jan 1984	4.20	Jan 1988	4.00	Jan 1992	2.60	Jan 1996	2.70	Jan 2000	2.70	Jan 2004	1.90
Feb	14.20	Feb	4.60	Feb	3.90	Feb	2.80	Feb	2.70	Feb	3.20	Feb	1.70
Mar	14.80	Mar	4.80	Mar	3.90	Mar	3.20	Mar	2.80	Mar	3.70	Mar	1.70
Apr	14.70	Apr	4.60	Apr	3.90	Apr	3.20	Apr	2.90	Apr	3.00	Apr	2.30
May	14.40	May	4.20	May	3.90	May	3.00	May	2.90	May	3.20	May	3.10
Jun	14.40	Jun	4.20	Jun	4.00	Jun	3.10	Jun	2.80	Jun	3.70	Jun	3.30
Jul	13.10	Jul	4.20	Jul	4.10	Jul	3.20	Jul	3.00	Jul	3.70	Jul	3.00
Aug	12.90	Aug	4.30	Aug	4.00	Aug	3.10	Aug	2.90	Aug	3.40	Aug	2.70
Sep	12.60	Sep	4.30	Sep	4.20	Sep	3.00	Sep	3.00	Sep	3.50	Sep	2.50
Oct	12.80	Oct	4.30	Oct	4.20	Oct	3.20	Oct	3.00	Oct	3.40	Oct	3.30
Nov	12.60	Nov	4.10	Nov	4.20	Nov	3.00	Nov	3.30	Nov	3.40	Nov	3.50
Dec	12.50	Dec	3.90	Dec	4.40	Dec	2.90	Dec	3.30	Dec	3.40	Dec	3.30
Jan 1981	11.80	Jan 1985	3.50	Jan 1989	4.70	Jan 1993	3.30	Jan 1997	3.00	Jan 2001	3.70	Jan 2005	3.00
Feb	11.40	Feb	3.50	Feb	4.80	Feb	3.20	Feb	3.00	Feb	3.50	Feb	3.00
Mar	10.50	Mar	3.70	Mar	5.00	Mar	3.10	Mar	2.80	Mar	2.90	Mar	3.10
Apr	10.00	Apr	3.70	Apr	5.10	Apr	3.20	Apr	2.50	Apr	3.30	Apr	3.50
May	9.80	May	3.80	May	5.40	May	3.20	May	2.20	May	3.60	May	2.80
Jun	9.60	Jun	3.80	Jun	5.20	Jun	3.00	Jun	2.30	Jun	3.20	Jun	2.50
Jul	10.80	Jul	3.60	Jul	5.00	Jul	2.80	Jul	2.20	Jul	2.70	Jul	3.20
Aug	10.80	Aug	3.30	Aug	4.70	Aug	2.80	Aug	2.20	Aug	2.70	Aug	3.60
Sep	11.00	Sep	3.10	Sep	4.30	Sep	2.70	Sep	2.20	Sep	2.60	Sep	4.70
Oct	10.10	Oct	3.20	Oct	4.50	Oct	2.80	Oct	2.10	Oct	2.10	Oct	4.30
Nov	9.60	Nov	3.50	Nov	4.70	Nov	2.70	Nov	1.80	Nov	1.90	Nov	3.50
Dec	8.90	Dec	3.80	Dec	4.60	Dec	2.70	Dec	1.70	Dec	1.60	Dec	3.40
Jan 1982	8.40	Jan 1986	3.90	Jan 1990	5.20	Jan 1994	2.50	Jan 1998	1.60	Jan 2002	1.10	Jan 2006	4.00
Feb	7.60	Feb	3.10	Feb	5.30	Feb	2.50	Feb	1.40	Feb	1.10	Feb	3.60
Mar	6.80	Mar	2.30	Mar	5.20	Mar	2.50	Mar	1.40	Mar	1.50	Mar	3.40
Apr	6.50	Apr	1.60	Apr	4.70	Apr	2.40	Apr	1.40	Apr	1.60	Apr	3.50
May	6.70	May	1.50	May	4.40	May	2.30	May	1.70	May	1.20		
Jun	7.10	Jun	1.80	Jun	4.70	Jun	2.50	Jun	1.70	Jun	1.10		
Jul	6.40	Jul	1.60	Jul	4.80	Jul	2.90	Jul	1.70	Jul	1.50		
Aug	5.90	Aug	1.60	Aug	5.60	Aug	3.00	Aug	1.60	Aug	1.80		
Sep	5.00	Sep	1.80	Sep	6.20	Sep	2.60	Sep	1.50	Sep	1.50		
Oct	5.10	Oct	1.50	Oct	6.30	Oct	2.70	Oct	1.50	Oct	2.00		
Nov	4.60	Nov	1.30	Nov	6.30	Nov	2.70	Nov	1.50	Nov	2.20		
Dec	3.80	Dec	1.10	Dec	6.10	Dec	2.80	Dec	1.60	Dec	2.40		
Jan 1983	3.70	Jan 1987	1.50	Jan 1991	5.70	Jan 1995	2.90	Jan 1999	1.70	Jan 2003	2.60		
Feb	3.50	Feb	2.10	Feb	5.30	Feb	2.90	Feb	1.60	Feb	3.00		
Mar	3.60	Mar	3.00	Mar	4.90	Mar	3.10	Mar	1.70	Mar	3.00		
Apr	3.90	Apr	3.80	Apr	4.90	Apr	2.40	Apr	2.30	Apr	2.20		
May	3.50	May	3.90	May	5.00	May	3.20	May	2.10	May	2.10		
Jun	2.60	Jun	3.70	Jun	4.70	Jun	3.00	Jun	2.00	Jun	2.10		
Jul	2.50	Jul	3.90	Jul	4.40	Jul	2.80	Jul	2.10	Jul	2.10		
Aug	2.60	Aug	4.30	Aug	3.80	Aug	2.60	Aug	2.30	Aug	2.20		
Sep	2.90	Sep	4.40	Sep	3.40	Sep	2.50	Sep	2.60	Sep	2.30		
Oct	2.90	Oct	4.50	Oct	2.90	Oct	2.80	Oct	2.60	Oct	2.00		
Nov	3.30	Nov	4.50	Nov	3.00	Nov	2.60	Nov	2.60	Nov	1.80		
Dec	3.80	Dec	4.40	Dec	3.10	Dec	2.50	Dec	2.70	Dec	1.90		

Source: U.S. Dept of Labor, Bureau of Labor Statistics, Consumer Price Index - All Urban Consumers,
Change for 12-Month Period, Bureau of Labor Statistics,
http://www.bls.gov/schedule/archives/cpi_nr.htm

THE EMPIRE DISTRICT ELECTRIC COMPANY
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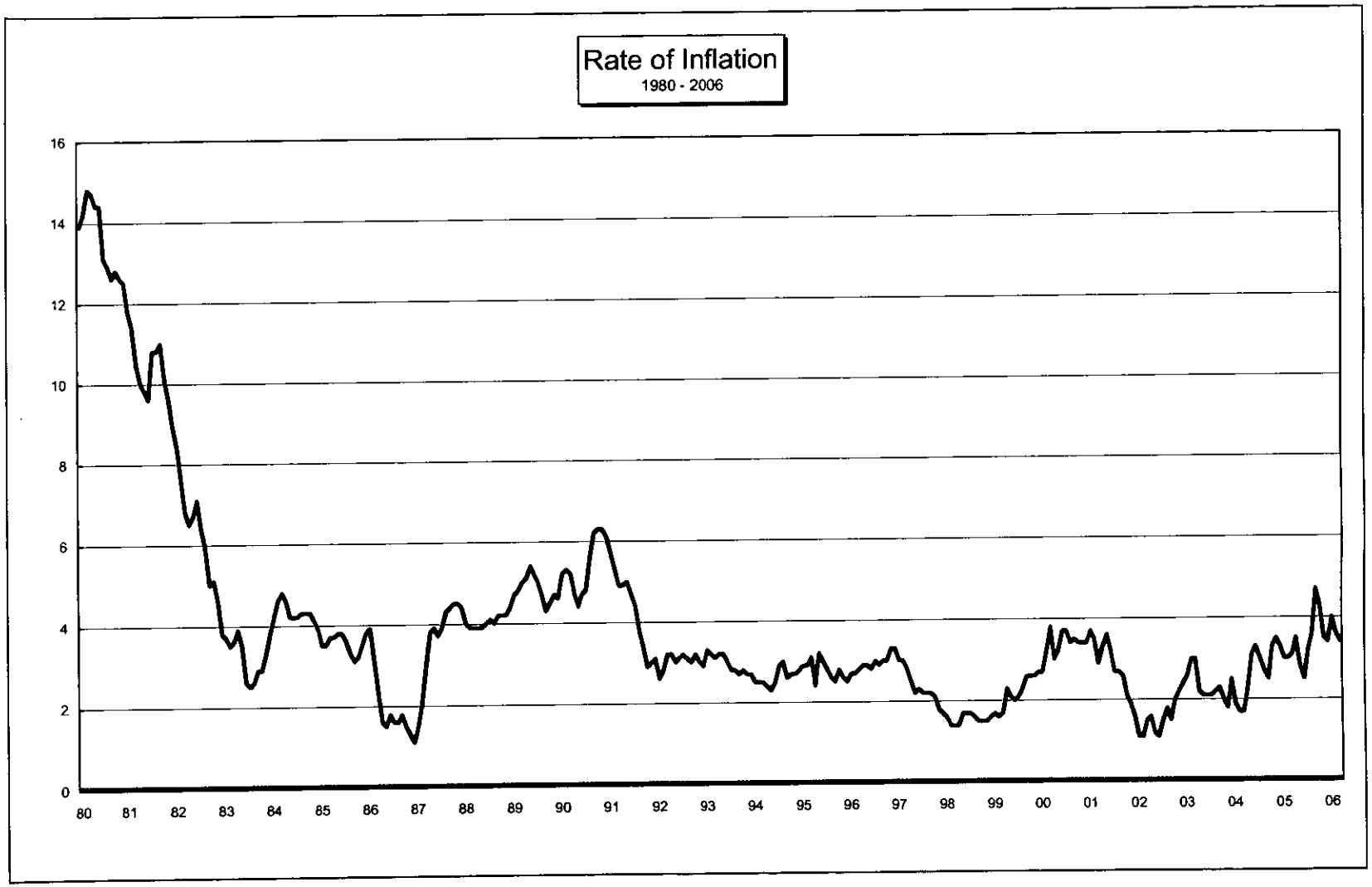

SCHEDULE 4-2

THE EMPIRE DISTRICT ELECTRIC COMPANY
CASE NO. ER-2006-0315

Average Yields on Mergent's Public Utility Bonds

Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)
Jan 1980	12.12	Jan 1984	13.40	Jan 1988	10.75	Jan 1992	8.67	Jan 1996	7.20	Jan 2000	8.22	Jan 2004	6.23
Feb	13.48	Feb	13.50	Feb	10.11	Feb	8.77	Feb	7.37	Feb	8.10	Feb	6.17
Mar	14.33	Mar	14.03	Mar	10.11	Mar	8.84	Mar	7.72	Mar	8.14	Mar	6.01
Apr	13.50	Apr	14.30	Apr	10.53	Apr	8.79	Apr	7.88	Apr	8.14	Apr	6.38
May	12.17	May	14.95	May	10.75	May	8.72	May	7.99	May	8.55	May	6.68
Jun	11.87	Jun	15.16	Jun	10.71	Jun	8.64	Jun	8.07	Jun	8.22	Jun	6.53
Jul	12.12	Jul	14.92	Jul	10.96	Jul	8.46	Jul	8.02	Jul	8.17	Jul	6.34
Aug	12.82	Aug	14.29	Aug	11.09	Aug	8.34	Aug	7.84	Aug	8.05	Aug	6.18
Sep	13.29	Sep	14.04	Sep	10.56	Sep	8.32	Sep	8.01	Sep	8.16	Sep	6.01
Oct	13.53	Oct	13.68	Oct	9.92	Oct	8.44	Oct	7.76	Oct	8.08	Oct	5.95
Nov	14.07	Nov	13.15	Nov	9.89	Nov	8.53	Nov	7.48	Nov	8.03	Nov	5.97
Dec	14.48	Dec	12.96	Dec	10.02	Dec	8.36	Dec	7.58	Dec	7.79	Dec	5.93
Jan 1981	14.22	Jan 1985	12.88	Jan 1989	10.02	Jan 1993	8.23	Jan 1997	7.79	Jan 2001	7.76	Jan 2005	5.80
Feb	14.84	Feb	13.00	Feb	10.02	Feb	8.00	Feb	7.68	Feb	7.69	Feb	5.64
Mar	14.86	Mar	13.66	Mar	10.16	Mar	7.85	Mar	7.92	Mar	7.59	Mar	5.86
Apr	15.32	Apr	13.42	Apr	10.14	Apr	7.76	Apr	8.08	Apr	7.81	Apr	5.72
May	15.84	May	12.89	May	9.92	May	7.78	May	7.94	May	7.88	May	5.60
Jun	15.27	Jun	11.91	Jun	9.49	Jun	7.68	Jun	7.77	Jun	7.75	Jun	5.39
Jul	15.87	Jul	11.88	Jul	9.34	Jul	7.53	Jul	7.52	Jul	7.71	Jul	5.50
Aug	16.33	Aug	11.93	Aug	9.37	Aug	7.21	Aug	7.57	Aug	7.57	Aug	5.51
Sep	16.89	Sep	11.95	Sep	9.43	Sep	7.01	Sep	7.50	Sep	7.73	Sep	5.54
Oct	16.76	Oct	11.84	Oct	9.37	Oct	6.99	Oct	7.37	Oct	7.64	Oct	5.79
Nov	15.50	Nov	11.33	Nov	9.33	Nov	7.30	Nov	7.24	Nov	7.61	Nov	5.88
Dec	15.77	Dec	10.82	Dec	9.31	Dec	7.33	Dec	7.16	Dec	7.86	Dec	5.83
Jan 1982	16.73	Jan 1986	10.66	Jan 1990	9.44	Jan 1994	7.31	Jan 1998	7.03	Jan 2002	7.69	Jan 2006	5.77
Feb	16.72	Feb	10.16	Feb	9.66	Feb	7.44	Feb	7.09	Feb	7.62	Feb	5.83
Mar	16.07	Mar	9.33	Mar	9.75	Mar	7.83	Mar	7.13	Mar	7.83	Mar	5.98
Apr	15.82	Apr	9.02	Apr	9.87	Apr	8.20	Apr	7.12	Apr	7.74	Apr	6.28
May	15.60	May	9.52	May	9.89	May	8.32	May	7.11	May	7.76		
Jun	16.18	Jun	9.51	Jun	9.69	Jun	8.31	Jun	6.99	Jun	7.67		
Jul	16.04	Jul	9.19	Jul	9.66	Jul	8.47	Jul	6.99	Jul	7.54		
Aug	15.22	Aug	9.15	Aug	9.84	Aug	8.41	Aug	6.96	Aug	7.34		
Sep	14.56	Sep	9.42	Sep	10.01	Sep	8.65	Sep	6.88	Sep	7.23		
Oct	13.88	Oct	9.39	Oct	9.94	Oct	8.88	Oct	6.88	Oct	7.43		
Nov	13.58	Nov	9.15	Nov	9.76	Nov	9.00	Nov	6.96	Nov	7.31		
Dec	13.55	Dec	8.96	Dec	9.57	Dec	8.79	Dec	6.84	Dec	7.20		
Jan 1983	13.46	Jan 1987	8.77	Jan 1991	9.56	Jan 1995	8.77	Jan 1999	6.87	Jan 2003	7.13		
Feb	13.60	Feb	8.81	Feb	9.31	Feb	8.56	Feb	7.00	Feb	6.92		
Mar	13.28	Mar	8.75	Mar	9.39	Mar	8.41	Mar	7.18	Mar	6.80		
Apr	13.03	Apr	9.30	Apr	9.30	Apr	8.30	Apr	7.16	Apr	6.68		
May	13.00	May	9.82	May	9.29	May	7.93	May	7.42	May	6.35		
Jun	13.17	Jun	9.87	Jun	9.44	Jun	7.62	Jun	7.70	Jun	6.21		
Jul	13.28	Jul	10.01	Jul	9.40	Jul	7.73	Jul	7.66	Jul	6.54		
Aug	13.50	Aug	10.33	Aug	9.16	Aug	7.86	Aug	7.86	Aug	6.78		
Sep	13.35	Sep	11.00	Sep	9.03	Sep	7.62	Sep	7.87	Sep	6.58		
Oct	13.19	Oct	11.32	Oct	8.99	Oct	7.46	Oct	8.02	Oct	6.50		
Nov	13.33	Nov	10.82	Nov	8.93	Nov	7.40	Nov	7.86	Nov	6.44		
Dec	13.48	Dec	10.99	Dec	8.76	Dec	7.21	Dec	8.04	Dec	6.36		

Source: Mergent Bond Record

THE EMPIRE DISTRICT ELECTRIC COMPANY
CASE NO. ER-2006-0315

Average Yields on Thirty-Year U.S. Treasury Bonds

Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)
Jan 1980	10.60	Jan 1984	11.75	Jan 1988	8.83	Jan 1992	7.58	Jan 1996	6.05	Jan 2000	6.63	Jan 2004	4.99
Feb	12.13	Feb	11.95	Feb	8.43	Feb	7.85	Feb	6.24	Feb	6.23	Feb	4.93
Mar	12.34	Mar	12.38	Mar	8.63	Mar	7.97	Mar	6.60	Mar	6.05	Mar	4.74
Apr	11.40	Apr	12.65	Apr	8.95	Apr	7.96	Apr	6.79	Apr	5.85	Apr	5.14
May	10.36	May	13.43	May	9.23	May	7.89	May	6.93	May	6.15	May	5.42
Jun	9.81	Jun	13.44	Jun	9.00	Jun	7.84	Jun	7.06	Jun	5.93	Jun	5.41
Jul	10.24	Jul	13.21	Jul	9.14	Jul	7.60	Jul	7.03	Jul	5.85	Jul	5.22
Aug	11.00	Aug	12.54	Aug	9.32	Aug	7.39	Aug	6.84	Aug	5.72	Aug	5.06
Sep	11.34	Sep	12.29	Sep	9.06	Sep	7.34	Sep	7.03	Sep	5.83	Sep	4.90
Oct	11.59	Oct	11.98	Oct	8.89	Oct	7.53	Oct	6.81	Oct	5.80	Oct	4.86
Nov	12.37	Nov	11.56	Nov	9.02	Nov	7.61	Nov	6.48	Nov	5.78	Nov	4.89
Dec	12.40	Dec	11.52	Dec	9.01	Dec	7.44	Dec	6.55	Dec	5.49	Dec	4.86
Jan 1981	12.14	Jan 1985	11.45	Jan 1989	8.93	Jan 1993	7.34	Jan 1997	6.83	Jan 2001	5.54	Jan 2005	4.73
Feb	12.80	Feb	11.47	Feb	9.01	Feb	7.09	Feb	6.69	Feb	5.45	Feb	4.55
Mar	12.69	Mar	11.81	Mar	9.17	Mar	6.82	Mar	6.93	Mar	5.34	Mar	4.78
Apr	13.20	Apr	11.47	Apr	9.03	Apr	6.85	Apr	7.09	Apr	5.65	Apr	4.65
May	13.60	May	11.05	May	8.83	May	6.92	May	6.94	May	5.78	May	4.49
Jun	12.96	Jun	10.44	Jun	8.27	Jun	6.81	Jun	6.77	Jun	5.67	Jun	4.29
Jul	13.59	Jul	10.50	Jul	8.08	Jul	6.63	Jul	6.51	Jul	5.61	Jul	4.41
Aug	14.17	Aug	10.56	Aug	8.12	Aug	6.32	Aug	6.58	Aug	5.48	Aug	4.46
Sep	14.67	Sep	10.61	Sep	8.15	Sep	6.00	Sep	6.50	Sep	5.48	Sep	4.47
Oct	14.68	Oct	10.50	Oct	8.00	Oct	5.94	Oct	6.33	Oct	5.32	Oct	4.67
Nov	13.35	Nov	10.06	Nov	7.90	Nov	6.21	Nov	6.11	Nov	5.12	Nov	4.73
Dec	13.45	Dec	9.54	Dec	7.90	Dec	6.25	Dec	5.99	Dec	5.48	Dec	4.66
Jan 1982	14.22	Jan 1986	9.40	Jan 1990	8.26	Jan 1994	6.29	Jan 1998	5.81	Jan 2002	5.44	Jan 2006	4.59
Feb	14.22	Feb	8.93	Feb	8.50	Feb	6.49	Feb	5.89	Feb	5.39	Feb	4.58
Mar	13.53	Mar	7.96	Mar	8.56	Mar	6.91	Mar	5.95	Mar	5.71	Mar	4.73
Apr	13.37	Apr	7.39	Apr	8.76	Apr	7.27	Apr	5.92	Apr	5.67	Apr	5.06
May	13.24	May	7.52	May	8.73	May	7.41	May	5.93	May	5.64		
Jun	13.92	Jun	7.57	Jun	8.46	Jun	7.40	Jun	5.70	Jun	5.52		
Jul	13.55	Jul	7.27	Jul	8.50	Jul	7.58	Jul	5.68	Jul	5.38		
Aug	12.77	Aug	7.33	Aug	8.86	Aug	7.49	Aug	5.54	Aug	5.08		
Sep	12.07	Sep	7.62	Sep	9.03	Sep	7.71	Sep	5.20	Sep	4.76		
Oct	11.17	Oct	7.70	Oct	8.86	Oct	7.94	Oct	5.01	Oct	4.93		
Nov	10.54	Nov	7.52	Nov	8.54	Nov	8.08	Nov	5.25	Nov	4.95		
Dec	10.54	Dec	7.37	Dec	8.24	Dec	7.87	Dec	5.06	Dec	4.92		
Jan 1983	10.63	Jan 1987	7.39	Jan 1991	8.27	Jan 1995	7.85	Jan 1999	5.16	Jan 2003	4.94		
Feb	10.88	Feb	7.54	Feb	8.03	Feb	7.61	Feb	5.37	Feb	4.81		
Mar	10.63	Mar	7.55	Mar	8.29	Mar	7.45	Mar	5.58	Mar	4.80		
Apr	10.48	Apr	8.25	Apr	8.21	Apr	7.36	Apr	5.55	Apr	4.90		
May	10.53	May	8.78	May	8.27	May	6.95	May	5.81	May	4.53		
Jun	10.93	Jun	8.57	Jun	8.47	Jun	6.57	Jun	6.04	Jun	4.37		
Jul	11.40	Jul	8.64	Jul	8.45	Jul	6.72	Jul	5.98	Jul	4.93		
Aug	11.82	Aug	8.97	Aug	8.14	Aug	6.86	Aug	6.07	Aug	5.30		
Sep	11.63	Sep	9.59	Sep	7.95	Sep	6.55	Sep	6.07	Sep	5.14		
Oct	11.58	Oct	9.61	Oct	7.93	Oct	6.37	Oct	6.26	Oct	5.16		
Nov	11.75	Nov	8.95	Nov	7.92	Nov	6.26	Nov	6.15	Nov	5.13		
Dec	11.88	Dec	9.12	Dec	7.70	Dec	6.06	Dec	6.35	Dec	5.08		

Sources: Federal Reserve, http://research.stlouisfed.org/fred2/data/GS3
yahoo finance http://finance.yahoo.com/q/hp?s=^TYX

THE EMPIRE DISTRICT ELECTRIC COMPANY
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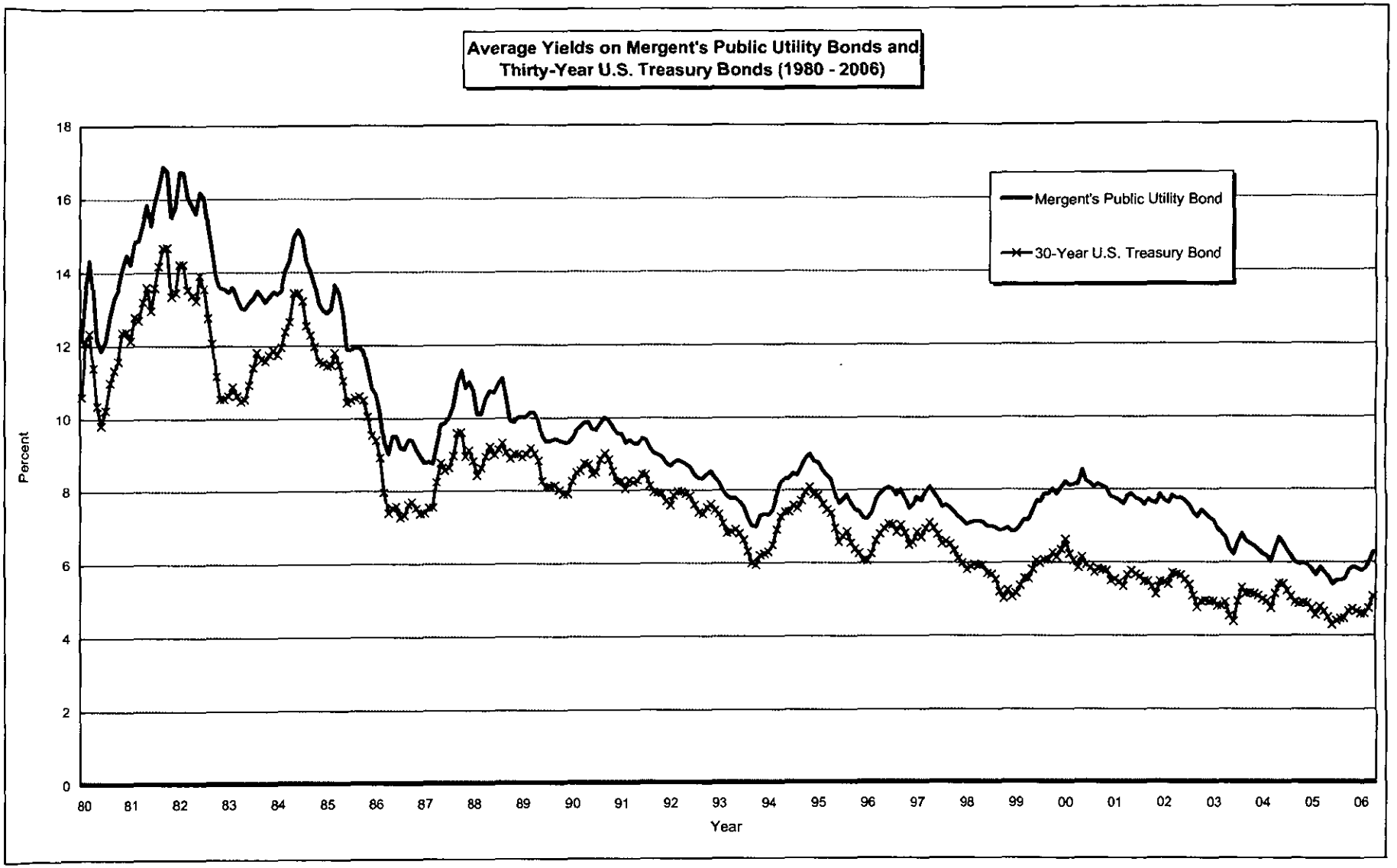
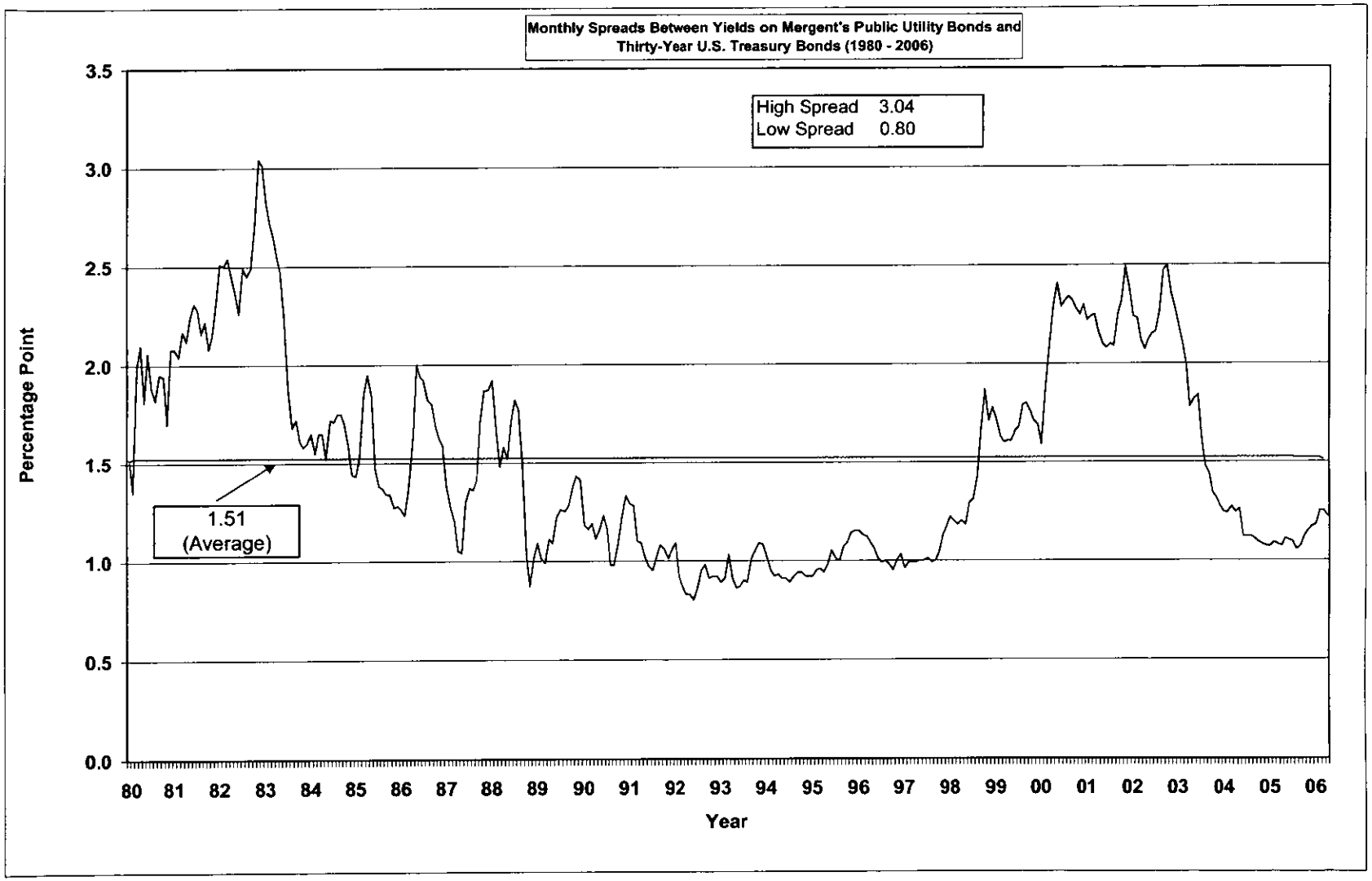


SCHEDULE 5-3

THE EMPIRE DISTRICT ELECTRIC COMPANY
CASE NO. ER-2006-0315



SCHEDULE 5-4

THE EMPIRE DISTRICT ELECTRIC COMPANY
CASE NO. ER-2006-0315

Economic Estimates and Projections, 2006 - 2008

	Inflation Rate			Real GDP			Unemployment			3-Mo. T-Bill Rate			30-Year T-Bond Rate		
Source	2006	2007	2008	2006	2007	2008	2006	2007	2008	2006	2007	2008	2006	2007	2008
Value Line Investment Survey -- Selection & Opinion (02-24-06, page 1257)	2.40%	2.00%	2.20%	3.10%	2.70%	3.00%	4.80%	4.90%	4.80%	4.60%	4.60%	4.70%	4.80%	5.30%	5.60%
The Budget and Economic Outlook FY2007-2016	2.80%	2.20%	2.20%	3.60%	3.40%	3.10%	5.00%	5.00%	5.20%	4.50%	4.50%	4.40%	N.A.	N.A.	N.A.
Current rate	3.50%			4.80%			4.70%			4.72%			5.20%		

Notes: N.A. = Not Available.

Sources of Current Rates:

Inflation:	The Bureau of Labor Statistics, Consumer Price Index - All Urban Consumers, 12-Month Period Ending, April 30, 2006 (see first paragraph). http://www.bls.gov/schedule/archives/cpi_nr.htm
GDP:	U.S. Department of Commerce, Bureau of Economic Analysis for the Quarter Ending April 28, 2006 (see first paragraph). http://www.bea.gov/bea/newsrel/gdpnewsrelease.htm
Unemployment:	The Bureau of Labor Statistics, Economy Situation Summary - Unemployment Rate, April 2006. http://www.bls.gov/news.release/empsit.nr0.htm
3-Month Treasury:	St. Louis Federal Reserve website for May 2006. http://research.stlouisfed.org/fred2/series/TB3MS/22
30-Yr. T-Bond:	St. Louis Federal Reserve website for May 2006. http://www.marketwatch.com/tools/marketsummary/default.asp?site=mktw
Other Sources (2006 - 2008):	ValueLine Investment Survey Selection & Opinion, February 24, 2006, page 1257.
	The Congressional Budget Office, The Budget and Economic Outlook: Fiscal Years 2007-2016, January 2006, page 46. http://www.cbo.gov/ftpdocs/70xx/doc7027/01-26-BudgetOutlook.pdf

THE EMPIRE DISTRICT ELECTRIC COMPANY
CASE NO. ER-2006-0315

Historical Capital Structures for The Empire District Electric Company

Capital Components	2001	2002	2003	2004	2005
Common Equity	$268,307,971.0	$ 329,314,662.0	$ 378,824,831.0	$ 379,180,000.0	$ 393,411,000.0
Preferred Stock	50,000,000.0	$ 50,000,000.0	$ -	$ -	$ -
Long-Term Debt	346,273,007.0	$ 361,429,110.0	$ 411,027,316.0	$ 410,379,000.0	$ 409,880,170.0
Short-Term Debt	55,500,000.0	$ 22,541,000.0	$ 13,000,000.0	$ -	$ 30,952,000.0
Total	$720,080,978.0	$763,284,772.0	$802,852,147.0	$789,559,000.0	$834,243,170.0

Capital Structure	2001	2002	2003	2004	2005
Common Equity	37.26%	43.14%	47.18%	48.02%	47.16%
Preferred Stock	6.94%	6.55%	0.00%	0.00%	0.00%
Long-Term Debt	48.09%	47.35%	51.20%	51.98%	49.13%
Short-Term Debt	7.71%	2.95%	1.62%	0.00%	3.71%
Total	100.00%	100.00%	100.00%	100.00%	100.00%

Notes:
-$50 Million in trust preferred stock for 2001 and 2002 included as long-term debt for 2003 per FASB interpretation 46-R as indicated on page 29 of Empire's 2003 Annual Report.
-2002 long-term debt includes $236,872 of current maturities of long-term debt that was restated as current maturities of long-term debt in Empire's 2003 Annual Report.
-Current maturities included in long-term debt.

Source: The Empire District Electric Company's Annual Reports for 2001, 2002, 2003, 2004 and 2005.

SCHEDULE 7

THE EMPIRE DISTRICT ELECTRIC COMPANY
CASE NO. ER-2006-0315

Selected Financial Ratios for The Empire District Electric Company

Financial Ratios	2001	2002	2003	2004	2005
Return on Common Equity	8.31%	9.83%	3.89%	5.76%	6.04%
Earnings Per Common Share	$1.13	$1.35	$0.59	$0.86	$0.92
Cash Dividends Per Common Share	$1.28	$1.28	$1.28	$1.28	$1.28
Common Dividend Payout Ratio	113.27%	94.81%	216.95%	148.84%	139.13%
Year-End Market Price Per Common Share	$22.625	$26.312	$21.000	$22.680	$20.330
Year-End Book Value Per Common Share	$13.44	$13.62	$13.64	$14.76	$15.08
Year-End Market-to- Book Ratio	1.68 x	1.93 x	1.54 x	1.54 x	1.35 x
Funds From Operations (FFO) Interest Coverage Ratio	2.40 x	3.50 x	3.60 x	3.10 x	3.90 x
FFO/Average Total Debt	9.1 %	13.3 %	20.5 %	17.8 %	17.0 %
Corporate Credit Rating (Standard & Poor's Corporation)	A-	A-	A-	A-/BBB[1]	BBB

Formulas:

Common Dividend Payout Ratio = Common Dividends Paid / Net Income Available for Common Stock.

Year-End Market-to-Book Ratio = *Year-End Market Price Per Common Share / Year-End Book Value Per Common Share.*

Note:
1. S&P downgraded Empire to BBB on July 2, 2002.

Sources: The Empire District Electric Company's Annual Reports for 2001, 2002, 2003, 2004 and 2005.
Standard and Poor's Empire Research Update, February 13, 2006.
Standard and Poor's Empire Research Update, May 17, 2006.
Standard and Poor's CreditStats, August 11, 2005.

SCHEDULE 8

THE EMPIRE DISTRICT ELECTRIC COMPANY
CASE NO. ER-2006-0315

Capital Structure as of March 31, 2006 for The Empire District Electric Company

Capital Component	Amount in Dollars		Percentage of Capital
Common Stock Equity	$384,040,776		49.74%
Preferred Stock	48,434,238	1.	6.27%
Long-Term Debt	339,603,458	2.	43.99%
Short-Term Debt	0	3.	0.00%
Total Capitalization	**$772,078,472**		**100.00%**

Electric Financial Ratio Benchmark
Total Debt / Total Capital

Standard & Poor's Corporation's RatingsDirect, Revised Financial Guidelines as of June 2, 2004	BBB Credit Rating based on a "6" Business Profile
	48% to 58%

Notes: 1. Preferred Stock at March 31, 2006 is based on total trust preferred outstanding in Empire's March 31, 2006 consolidated balance sheet less unamortized expense provided in Empire's response to DR 0178.1. Although this amount is part of long-term debt on Empire's balance sheet, it has been separated out here to show the embedded cost of the issuance.

2. Long-term Debt at March 31, 2006 is based on the net balance of long-term debt, including current maturities, (total principal amount of long-term debt outstanding less unamortized expenses and discounts) shown on Schedule 10. This balance also includes the amount of non-regulated debt. These balances were provided in Empire's responses to DR 0178 and DR 0178.1 .

3. Short-term debt balance net of construction work in progress (CWIP) was negative as of March 31, 2006. Therefore, no short-term debt is included in the capital structure.

Source: The Empire District Electric Company's response to Staff's Data Request Nos. 0178.1, 0181 and 0335.

SCHEDULE 9

THE EMPIRE DISTRICT ELECTRIC COMPANY
CASE NO. ER-2006-0315

Embedded Cost of Long-Term Debt as of March 31, 2006
for The Empire District Electric Company

Long-Term Debt	(1) Interest Rate	(2) Prinicipal Amount Outstanding (03/31/06)	(3) Annualized Cost to Company (1 * 2)	(4) Individual Embedded Cost	(5) Amount Used for Embedded Cost	(6) Weight	(7) Weighted Embedded Cost (4) * (6)	(8) Amount Used for Capital Structure
Empire's "Regulated" Debt Provided in Response to Staff Data Request 0178.1				7.02% 1.	$337,324,380	99.50%	6.99%	$337,324,380
Empire's Non-Regulated Debt Provided in Response to Staff Data Request 0181:								
MAPP US Bank Loan	6.13%	1,678,428	102,888	6.13% 2.	1,678,428	0.50%	0.03%	2,279,078
Total		$1,678,428	$102,888		$339,002,808	100.00%	7.02%	$339,603,458

Notes: 1. Embedded cost of debt was provided in Empire's response to Staff Data Request 0178.1. Empire maintained that this was the debt held at Empire and was "regulated" debt.
2. Embedded cost of debt was based on the weighted average cost of the MAPP debt that Empire guaranteed.

Criteria for Selecting Comparable Electric Utility Companies

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Vertically Integrated Electric Utility Companies(Ticker)	Stock Publicly Traded	Information Printed In Value Line	10-Years of Data Available	At Least Investment Grade Credit Rating	Two Sources for Projected Growth Available with One from Value Line	**Comparable Company Met All Criteria**
Cen. Vermont Pub. Serv.(CV)	Yes	Yes	Yes	Yes	No	
El Paso Electric(EE)	Yes	Yes	No			
Empire Dist. Electric(EDE)	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
Green Mountain Power(GMP)	Yes	Yes	Yes	Yes	No	
Hawaiian Electric(HE)	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
IDACORP,Inc.(IDA)	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
PacifiCorp(N.A.)	No					
Pinnacle West Capital(PNW)	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
Portland General Electric Co.(N.A.)	No					
Puget Energy Inc.(PSD)	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
Southern Co.(SO)	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**

Sources: Columns 1, 2 and 5 = Standard & Poor's RatingsDirect.
Columns 3, 4 and 6 = The Value Line Investment Survey: Ratings & Reports.
Column 6 = May 2006 Earnings Guide and I/B/E/S Inc.'s Institutional Brokers Estimate System, May 18, 2006.

Note: N.A. = Not available because not publicly traded.

Comparable Electric Utility Companies for The Empire District Electric Company

Number	Ticker Symbol	Company Name
1	HE	Hawaiian Electric Industries, Inc.
2	IDA	IDACORP, Inc.
3	PNW	Pinnacle West Capital
4	PSD	Puget Energy Inc.
5	SO	Southern Co.

Note: Although Empire has been removed from the list of comparable companies because it is the subject company, Empire is broken out in subsequent schedules to show Empire's estimated cost of common equity.

THE EMPIRE DISTRICT ELECTRIC COMPANY
CASE NO. ER-2006-0315

Ten-Year Dividends Per Share, Earnings Per Share & Book Value Per Share Growth Rates for the Comparable Electric Utility Companies and The Empire District Electric Company

	10-Year Annual Compound Growth Rates			
Company Name	DPS	EPS	BVPS	Average of 10 Year Annual Compound Growth Rates
Hawaiian Electric Industries, Inc.	0.50%	1.50%	2.00%	1.33%
IDACORP, Inc.	-3.00%	-2.50%	2.50%	-1.00%
Pinnacle West Capital	11.00%	2.00%	5.00%	6.00%
Puget Energy Inc.	-6.00%	-3.50%	-1.00%	-3.50%
Southern Co.	2.00%	2.50%	1.00%	1.83%
Average	**0.90%**	**0.00%**	**1.90%**	**0.93%**
Standard Deviation	5.77%	2.49%	1.96%	3.16%
Empire District Electric Company	0.00%	-1.50%	2.00%	0.17%

Source: The Value Line Investment Survey: Ratings & Reports, March 3, March 31 and May 12, 2006.

THE EMPIRE DISTRICT ELECTRIC COMPANY
CASE NO. ER-2006-0315

Five-Year Dividends Per Share, Earnings Per Share & Book Value Per Share Growth Rates for the Comparable Electric Utility Companies and The Empire District Electric Company

	5-Year Annual Compound Growth Rates			
Company Name	DPS	EPS	BVPS	Average of 5 Year Annual Compound Growth Rates
Hawaiian Electric Industries, Inc.	0.00%	1.00%	3.00%	1.33%
IDACORP, Inc.	-6.00%	-11.00%	3.00%	-4.67%
Pinnacle West Capital	6.50%	-4.50%	4.00%	2.00%
Puget Energy Inc.	-11.50%	-7.50%	0.50%	-6.17%
Southern Co.	1.00%	2.50%	-1.50%	0.67%
Average	**-2.00%**	**-3.90%**	**1.80%**	**-1.37%**
Standard Deviation	6.19%	5.07%	2.01%	3.37%
Empire District Electric Company	0.00%	-5.00%	2.00%	-1.00%

Source: The Value Line Investment Survey: Ratings & Reports, March 3, March 31 and May 12, 2006.

THE EMPIRE DISTRICT ELECTRIC COMPANY
CASE NO. ER-2006-0315

Average of Ten- and Five-Year Dividends Per Share, Earnings Per Share & Book Value Per Share Growth Rates for the Comparable Electric Utility Companies and The Empire District Electric Company

Company Name	10-Year Average DPS, EPS & BVPS	5-Year Average DPS, EPS & BVPS	Average of 5-Year & 10-Year Averages
Hawaiian Electric Industries, Inc.	1.33%	1.33%	1.33%
IDACORP, Inc.	-1.00%	-4.67%	-2.83%
Pinnacle West Capital	6.00%	2.00%	4.00%
Puget Energy Inc.	-3.50%	-6.17%	-4.83%
Southern Co.	1.83%	0.67%	1.25%
Average	**0.93%**	**-1.37%**	**-0.22%**
Empire District Electric Company	0.17%	-1.00%	-0.42%

THE EMPIRE DISTRICT ELECTRIC COMPANY
CASE NO. ER-2006-0315

Historical and Projected Growth Rates
for the Comparable Electric Utility Companies
and The Empire District Electric Company

Company Name	(1) Historical Growth Rate (DPS, EPS and BVPS)	(2) Projected 5-Year Growth IBES (Mean)	(3) Projected 5-Year EPS Growth S&P	(4) Projected 3-5 Year EPS Growth Value Line	(5) Average Projected Growth	(6) Average of Historical & Projected Growth
Hawaiian Electric Industries, Inc.	1.33%	3.50%	4.00%	3.00%	3.50%	2.42%
IDACORP, Inc.	-2.83%	4.67%	5.00%	4.50%	4.72%	0.95%
Pinnacle West Capital	4.00%	7.20%	6.00%	6.00%	6.40%	5.20%
Puget Energy Inc.	-4.83%	4.00%	4.00%	5.00%	4.33%	-0.25%
Southern Co.	1.25%	4.67%	5.00%	4.00%	4.56%	2.90%
Average	**-0.22%**	**4.81%**	**4.80%**	**4.50%**	**4.70%**	**2.24%**
Empire District Electric Company	-0.08%	3.00%	2.00%	6.50%	3.83%	1.88%

Proposed Range of Growth for Comparables: **4.5%-4.8%**

Column 5 = [(Column 2 + Column 3 + Column 4) / 3]

Column 6 = [(Column 1 + Column 5) / 2]

Sources: Column 1 = Average of 10-Year and 5-Year Annual Compound Growth Rates from Schedule 13-3.

Column 2 = I/B/E/S Inc.'s Institutional Brokers Estimate System, May 18, 2006.

Column 3 = Standard & Poor's Earnings Guide, May 2006.

Column 4 = The Value Line Investment Survey: Ratings and Reports, March 3, March 31 and May 12, 2006.

THE EMPIRE DISTRICT ELECTRIC COMPANY
CASE NO. ER-2006-0315

Average High / Low Stock Price for January 2006 through April 2006
for the Comparable Electric Utility Companies and
The Empire District Electric Company

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	-- Jan 2006 --		-- Feb 2006 --		-- March 2006 --		-- April 2006 --		**Average High/Low Stock Price (1/06 - 4/06)**
Company Name	High Stock Price	Low Stock Price	High Stock Price	Low Stock Price	High Stock Price	Low Stock Price	High Stock Price	Low Stock Price	
Hawaiian Electric Industries, Inc.	26.740	25.710	27.050	25.910	27.260	26.350	27.440	26.200	**26.583**
IDACORP, Inc.	32.450	28.970	33.280	30.500	33.100	30.700	34.180	32.000	**31.898**
Pinnacle West Capital	44.140	41.340	42.650	40.890	41.010	38.760	41.060	38.980	**41.104**
Puget Energy Inc.	21.470	20.260	21.670	20.750	21.680	20.700	21.430	20.130	**21.011**
Southern Co.	35.890	34.450	34.850	33.020	34.100	32.340	33.250	31.130	**33.629**
Empire District Electric Company	22.680	20.330	23.000	21.700	24.410	22.300	23.050	21.710	**22.398**

Note:

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

Sources: S & P Stock Guides: February 2006, March 2006, April 2006 and May 2006.

Discounted Cash Flow (DCF) Estimated Costs of Common Equity for the Comparable Electric Utility Companies and The Empire District Electric Company

	(1)	(2)	(3)	(4)	(5)
Company Name	Expected Annual Dividend	Average High/Low Stock Price	Projected Dividend Yield	Average of Historical & Projected Growth	Estimated Cost of Common Equity
Hawaiian Electric Industries, Inc.	$1.24	$26.583	4.66%	2.42%	7.08%
IDACORP, Inc.	$1.20	$31.898	3.76%	0.95%	4.71%
Pinnacle West Capital	$1.98	$41.104	4.82%	5.20%	10.02%
Puget Energy Inc.	$1.00	$21.011	4.76%	-0.25%	4.51%
Southern Co.	$1.51	$33.629	4.48%	2.90%	7.38%
Average			4.50%	2.24%	6.74%
Empire District Electric Company	$1.28	$22.398	5.71%	1.88%	7.59%

Proposed Dividend Yield:	**4.50%**
Proposed Range of Growth:	**4.50% - 4.80%**
Estimated Proxy Cost of Common Equity:	**9.00%-9.30%**
Empire Company-Specific Using Same Growth Range in Last Rate Case	**8.07%-9.07%**
Empire Company-Specific Using IBES Average Growth	**8.82%**
Empire Company-Specific Using Average Projected Growth	**9.55%**

Notes: Column 1 = Expected annual dividend per share represents the average projected dividends for 2006 and 2007.

Column 3 = (Column 1 / Column 2).

Column 5 = (Column 3 + Column 4).

Sources: Column 1 = The Value Line Investment Survey: Ratings and Reports, March 3, March 31 and May 12, 2006.

Column 2 = Schedule 15.

Column 4 = Schedule 14.

Capital Asset Pricing Model (CAPM) Costs of Common Equity Estimates
Based on Historical Return Differences Between Common Stocks and Long-Term U.S. Treasuries
for the Comparable Electric Utility Companies and The Empire District Electric Company

Company Name	(1) Risk Free Rate	(2) Company's Value Line Beta	(3) Arithmetic Average Market Risk Premium (1926-2005)	(4) Geometric Average Market Risk Premium (1926-2005)	(5) Geometric Average Market Risk Premium (1996-2005)	(6) Arithmetic CAPM Cost of Common Equity (1926-2005)	(7) Geometric CAPM Cost of Common Equity (1926-2005)	(8) Geometric CAPM Cost of Common Equity (1996-2005)
Hawaiian Electric Industries, Inc.	5.06%	0.70	6.50%	4.90%	1.48%	9.61%	8.49%	6.10%
IDACORP, Inc.	5.06%	0.95	6.50%	4.90%	1.48%	11.24%	9.72%	6.47%
Pinnacle West Capital	5.06%	0.95	6.50%	4.90%	1.48%	11.24%	9.72%	6.47%
Puget Energy Inc.	5.06%	0.80	6.50%	4.90%	1.48%	10.26%	8.98%	6.24%
Southern Co.	5.06%	0.65	6.50%	4.90%	1.48%	9.29%	8.25%	6.02%
Average		**0.81**				**10.33%**	**9.03%**	**6.26%**
Empire District Electric Company	5.06%	0.75	6.50%	4.90%	1.48%	9.94%	8.74%	6.17%

Sources:

Column 1 = The appropriate yield is equal to the average 30-year U.S. Treasury Bond yield for April 2006 which was obtained from *the St. Louis Federal Reserve website at* http://research.stlouisfed.org/fred2/series/GS30/22

Column 2 = Beta is a measure of the movement and relative risk of an individual stock to the market as a whole as reported by The Value Line Investment Survey: Ratings & Reports, March 3, March 31 and May 12, 2006.

Column 3 = The Market Risk Premium represents the expected return from holding the entire market portfolio *less the expected return from* holding a risk free investment. The appropriate Market Risk Premium for the period 1926 - 2005 was determined to be 6.50% based on an *arithmetic average as calculated in* Ibbotson Associates, Inc.'s Stocks, Bonds, Bills, and Inflation: 2006 Yearbook.

Column 4 = The Market Risk Premium represents the expected return from holding the entire market portfolio less the expected return from holding a risk free investment. The appropriate Market Risk Premium for the period 1926 - 2005 was determined to be 4.90% based on a geometric average as calculated in Ibbotson Associates, Inc.'s Stocks, Bonds, Bills, and Inflation: 2006 Yearbook.

Column 5 = The Market Risk Premium represents the expected return from holding the entire market portfolio less the expected return from holding *a risk free investment. The appropriate* Market Risk Premium for the period 1996 - 2005 was determined to be 2.29% as calculated in Ibbotson Associates, Inc.'s Stocks, Bonds, Bills, and Inflation: 2006 Yearbook.

Column 6 = (Column 1 + (Column 2 * Column 3)).

Column 7 = (Column 1 + (Column 2 * Column 4)).

Column 8 = (Column 1 + (Column 2 * Column 5)).

Capital Asset Pricing Model (CAPM) Costs of Common Equity Estimates
Based on Forward-Looking/Implied Equity Risk Premiums
for the Comparable Electric Utility Companies and The Empire District Electric Company

Company Name	(1) Risk Free Rate	(2) Company's Value Line Beta	(3) *Ex-Ante* Risk Premium Based on Ibbotson & Chen Expected Return	(4) Damodaran Ex-Ante Risk Premium	(5) CAPM Cost of Common Equity (Ibbotson & Chen)	(6) CAPM Cost of Common Equity (Damodaran)
Hawaiian Electric Industries, Inc.	5.06%	0.70	4.61%	2.88%	8.29%	7.08%
IDACORP, Inc.	5.06%	0.95	4.61%	2.88%	9.44%	7.80%
Pinnacle West Capital	5.06%	0.95	4.61%	2.88%	9.44%	7.80%
Puget Energy Inc.	5.06%	0.80	4.61%	2.88%	8.75%	7.36%
Southern Co.	5.06%	0.65	4.61%	2.88%	8.06%	6.93%
Average		**0.81**			**8.79%**	**7.39%**
Empire District Electric Company	5.06%	0.70	4.61%	2.88%	8.29%	7.08%

Sources:

Column 1 = The appropriate yield is equal to the average 30-year U.S. Treasury Bond yield for April 2006 which was obtained from the St. Louis Federal Reserve website at http://research.stlouisfed.org/fred2/series/GS30/22

Column 2 = Beta is a measure of the movement and relative risk of an individual stock to the market as a whole as reported by the *Value Line Investment Survey:* Ratings & Reports, March 3, March 31 and May 12, 2006.

Column 3 = *The Market Risk Premium represents the expected return* from holding the entire market portfolio less the expected holding period return from holding long-term treasury bonds. The appropriate Market Risk Premium of 4.61% is based on Roger G. Ibbotson and Peng Chen's expected return from investing in the stock market of 9.67% over the long run, which was indicated in Ibbotson Associates, Inc.'s Stocks, Bonds, Bills, and Inflation: 2006 Yearbook and the average 30-year U.S. Treasury Bond yield of 5.06% for April 2006.

Column 4 = The Market Risk Premium represents the expected return from holding the entire market portfolio less the expected return from holding a risk free investment The appropriate Market Risk Premium of 2.88% is based on Dr. Aswath Damadoran's implied equity risk premium model provided on New York University's Leanard N. Stern School of Business' website. *Inputs: 2.02% dividend yield (spot dividend yield from* April 2006 Standard & Poor's Poor's Stock Guide multiplied by 1.1061), 10.61% S&P 500 earnings growth rate (http://finance.yahoo.com) and 5.06% growth in earnings over the long-run.

*Column 5 = (Column 1 + (Column 2 * Column 3)).*

Column 6 = (Column 1 + (Column 2 * Column 4)).

THE EMPIRE DISTRICT ELECTRIC COMPANY
CASE NO. ER-2006-0315

Selected Financial Ratios for the Comparable Electric Utility Companies and The Empire District Electric Company

Company Name	(1) 2005 Common Equity Ratio	(2) 2005 Long-Term Debt Ratio	(3) Funds From Operations Interest Coverage	(4) Funds From Operations to Total Debt	(5) Market-to-Book Value	(6) 2006 Projected Return on Common Equity	(7) Bond Rating
Hawaiian Electric Industries, Inc.	53.3%	45.2%	3.90 x	18.0%	1.76 x	9.7%	BBB
IDACORP, Inc.	50.0%	50.0%	2.80 x	12.0%	1.35 x	6.2%	BBB+
Pinnacle West Capital	56.8%	43.2%	N.A. x	15.0%	1.14 x	6.5%	BBB-
Puget Energy Inc.	45.6%	54.4%	2.90 x	14.0%	1.02 x	7.2%	BBB-
Southern Co.	45.0%*	55.0%*	5.30 x	N.A.	2.19 x	15.0%*	A
Average	**50.1%**	**49.6%**	**3.73** x	**14.8%**	**1.49** x	**8.9%**	**BBB+**
Empire District Electric Company	49.00%	51.00%	3.90 x	17.0%	1.45 x	6.0%	BBB-

Sources: The Value Line Investment Survey Ratings & Reports, March 3, March 31 and May 12, 2006: for columns (1), (2) and (6).
Standard & Poor's RatingsDirect for columns (3), (4) and (7).
AUS Utility Reports, May 2006 for column (5).

Note: * Estimated.

THE EMPIRE DISTRICT ELECTRIC COMPANY
CASE NO. ER-2006-0315

Public Utility Revenue Requirement

or

Cost of Service

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

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

or

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

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

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

THE EMPIRE DISTRICT ELECTRIC COMPANY
CASE NO. ER-2006-0315

Weighted Cost of Capital as of March 31, 2006 for The Empire District Electric Company

Capital Component	Percentage of Capital	Embedded Cost	Weighted Cost of Capital Using Common Equity Return of: 9.20%	9.35%	9.50%
Common Stock Equity	49.74%	---	4.58%	4.65%	4.73%
Preferred Stock	6.27%	8.90%	0.56%	0.56%	0.56%
Long-Term Debt	43.99%	7.02%	3.09%	3.09%	3.09%
Short-Term Debt	0.00%		0.00%	0.00%	0.00%
Total	**100.00%**		**8.22%**	**8.30%**	**8.37%**

Notes:

See Schedule 9 for the Capital Structure Ratios.

Embedded Cost of Long-Term Debt and Embedded Cost of Preferred Stock Taken from Response to DR 0178.1.

SCHEDULE 20

STANDARD &POOR'S RATINGSDIRECT

RESEARCH

Research Update: Empire District Electric Downgraded To 'BBB-' On Expected Tight Financials

Publication date: 17-May-2006
Primary Credit Analyst: Gerrit Jepsen, CFA, New York (1) 212-438-2529; gerrit_jepsen@standardandpoors.com

Credit Rating: BBB-/Stable/A-3

Rationale

On May 17, 2006, Standard & Poor's Ratings Services lowered its long-term corporate credit rating on The Empire District Electric Co., an integrated electric utility, to 'BBB-' from 'BBB'. The downgrade reflects Standard & Poor's view that Empire's financial measures will be constrained over the next several years by fuel and power costs that continue to exceed the level recoverable in rates, and by Empire's higher-than-historical level of capital spending, including the acquisition of a Missouri gas utility. Also, senior secured debt ratings were lowered to 'BBB+' from 'A-', and senior unsecured debt ratings were lowered to 'BB+' from 'BBB-'. The short-term rating of 'A-3' was affirmed. The outlook is stable.

Joplin, Mo.-based Empire had $456 million in debt and trust-preferred securities as of March 31, 2006.

Empire's satisfactory business risk profile benefits from a service territory that has limited industrial concentration as well as mostly residential and small commercial customers. In addition, Empire has few competitive operations, and has been willing to sell these unregulated businesses due to financial underperformance. These attributes, however, have historically been moderated by less-than-adequate recovery of O&M expenses and other costs. This will continue to weaken Empire's financial measures during the heavy capital spending phase, which includes the Iatan 2 and Plum Point coal units. Empire's business risk profile is a '6' (satisfactory). (Utility business risk profiles are categorized from '1' (excellent) to '10' (vulnerable).)

To strengthen Empire's cash flow during its planned capital spending for generation and environmental compliance, constructive rate relief will be essential and should include recovery of fuel and purchased power on a timely basis. Historically, Missouri regulation has been restrictive regarding fuel and purchased-power costs because a permanent energy cost recovery (ECR) rider was not statutorily authorized. Under a new Missouri law, utilities operating in the state can seek Missouri Public Service Commission approval of an ECR rider that, if authorized, would provide for the pass-through of rising fuel and power costs. Timely recovery of such expenses, particularly when commodity prices rise rapidly, is important for Empire's credit quality because the company relies on a relatively high level of natural-gas-fired generation and power purchases for its supply. Although Empire filed for a $30 million electric base rate increase in Missouri that, if authorized, would strengthen creditworthiness, the inability to implement an ECR in the near term weakens credit quality, particularly since fuel and power costs currently exceed the level recoverable through base rates and the commpany's interim energy charge.

Empire's adjusted financial ratios are mixed for the 'BBB-' rating, with funds from operations (FFO) interest coverage of about 3.9x, FFO to total debt of about 17%, and total debt to total capital of approximately

Schedule 21-1

56%. When calculating these ratios, Standard & Poor's considers Empire's trust-preferred securities as having minimal equity content due to a lack of deferability of dividends, and adjusts ratios for operating leases and purchase-power agreements. Moreover, net cash flow FFO less dividends to capital expenditures is expected to decline to about 50%, so Empire will need to seek external financing to fund its large capital needs.

Short-term credit factors

Empire's short-term rating is 'A-3'. As of March 31, 2006, Empire had $3.4 million of cash and a $226 million unsecured revolving credit facility available for working capital and as backup for its CP. The facility was recently increased from $150 million, with the incremental $76 million allocated to support an LOC issued in connection with the company's participation in the Plum Point coal unit. As of March 31, 2006, Empire had $46 million drawn on its revolver and no CP outstanding. Empire currently maintains sufficient liquidity to post additional collateral under a stressed scenario in which the company would experience a materially negative credit event and a simultaneous adverse energy price movement. Empire's next long-term debt maturity is $20 million in 2009.

Outlook

The outlook is stable and incorporates the expectation of steady financial performance through its construction program and successful integration of the gas utility. In addition, we expect that Empire will finance its capital needs in a manner that is consistent with the current rating. The outlook could be revised to negative as a result of unfavorable regulatory actions or if the financial measures weaken from increased capital spending or higher-than-expected use of leverage over the next several years. The outlook could be revised to positive if rate recovery is supportive during the construction program, if a reasonable energy cost recovery mechanism is adopted, and if financial measures begin to show sustainable improvement.

Ratings List

Ratings Lowered

	To	From
The Empire District Electric Co.		
Corp credit rtg	BBB-/Stable/--	BBB/Negative/--
Sr secd debt	BBB+	A-
Sr unsecd debt	BB+	BBB-
Pfd stk	BB	BB+

Rating Affirmed

The Empire District Electric Co.	
CP	A-3

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.

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other opinion contained herein in making any investment decision. Ratings are based on information received by Ratings Services. Other divisions of Standard & Poor's may have information that is not available to Ratings Services. Standard & Poor's has established policies and procedures to maintain the confidentiality of non-public information received during the ratings process.

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STANDARD &POOR'S | RATINGSDIRECT

RESEARCH

Research Update: S&PCORRECT: Empire District Electric's 'BBB' Rating Affirmed; Off Watch, Outlook Negative

Publication date: 13-Feb-2006
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(**Editor's Note:** In the article published earlier today, the outlook was misstated in the headline. It is negative.)

Credit Rating: BBB/Negative/A-2

Rationale

On Feb. 13, 2006, Standard & Poor's Ratings Services affirmed its 'BBB' corporate credit rating on integrated electric utility Empire District Electric Co. and removed it from CreditWatch, where it was placed with negative implications on Sept. 22, 2005. The outlook is negative.

In addition, the rating on Empire's senior unsecured debt was affirmed at 'BBB-'; first mortgage bonds were affirmed at 'A-' because of over-collateralization; and, the preferred stock was affirmed at 'BB+'. Empire's short-term corporate credit and commercial paper ratings were affirmed at 'A-2'.

Joplin, Mo.-based Empire had about $410 million in debt and trust-preferred securities outstanding as of Sept. 30, 2005.

The rating on Empire was removed from CreditWatch after Standard & Poor's met with company management to discuss the company's acquisition of a gas distribution utility in Missouri for $84 million plus closing adjustments and assessing the assets being acquired. The rating was also removed from CreditWatch after Standard & Poor's reviewed the acquisition proceeding pending before the Missouri Public Service Commission (MPSC), and analyzed an updated financial forecast that incorporates the gas utility and the effect of higher commodity prices on the company's cash flow relative to the level in current rates.

Empire's business risk profile is rated a '6' (satisfactory). (Utility business risk profiles are categorized from '1' (excellent) to '10' (vulnerable)).

The ratings on Empire reflect the company's position as a predominately integrated electric utility operating in Missouri. Empire benefits from a healthy service territory with limited industrial concentration and mostly residential and small commercial customers that have below-average rates partly because of low-cost generation. Empire has few competitive operations and it has been willing to sell these businesses due to financial underperformance. Restrictive regulation has historically moderated these attributes, but lately the regulatory environment in Missouri, where about 90% of utility operating revenues are realized, has gradually become more supportive of credit quality.

To strengthen Empire's cash flow during its planned capital spending for generation and environmental compliance, it will be critical for the MPSC to provide the necessary rate relief as indicated by the commission in an order authorizing the company's ownership interest in the Iatan 2 unit. Historically, Missouri regulation was restrictive regarding fuel and purchased-power costs because a permanent energy cost recovery (ECR) rider was not statutorily authorized. Under a new Missouri law, utilities

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operating in Missouri can seek MPSC approval of an ECR rider that should provide for the pass through of rising fuel and power costs. Timely recovery of such expenses is important for Empire's credit quality because it operates a relatively high level of natural gas-fired generation that is even more crucial during rapidly rising commodity prices. Given the recent increase in natural gas costs, Empire recently filed for about a $30 million electric base rate increase and the enactment of an ECR rider that, if authorized, should strengthen the company's creditworthiness by 2007.

Standard & Poor's considers Empire's financial risk profile to be intermediate. As of Sept. 30, 2005, Empire's adjusted financial ratios were mixed for the 'BBB' rating with funds from operations (FFO) interest coverage of 3.3x, FFO to average total debt of 16.3%, and total debt to total capital of 53.5%. However, when calculating these ratios, $50 million of trust-preferred securities were treated as debt and the $4.25 million of related dividends were treated as interest expense. After making adjustments for operating leases and power-purchase agreements, FFO interest coverage is expected to improve to about 4x, FFO to average total debt is expected to rise to at least 19%, and debt to total capitalization is expected to increase to about 54%, all by 2008 following the expected rate increase and implementation of the ECR rider.

Short-term credit factors

Empire's short-term rating is 'A-2'. As of Sept. 30, 2005, Empire has adequate liquidity, with $10.3 million of cash and equivalents and a $150 million unsecured revolving credit facility that is available for working capital and to backup the company's commercial paper. 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), both of which Empire complied with as of Sept. 30, 2005. Empire maintains sufficient liquidity to post additional collateral under a stressed scenario in which the company would experience a materially negative credit event and a simultaneous adverse energy price movement. Empire's next long-term debt maturity is $20 million in 2009.

Standard & Poor's expects Empire to have negative free operating cash flow after capital expenditures and before dividend payments. Therefore, with the projected capital spending for generation and environmental compliance upgrades, and the gas utility acquisition, Empire will likely seek external financing given that the company has a high dividend payout and any unregulated asset sales would generate only nominal proceeds. Management, however, has exhibited credit consciousness and has been willing to partly fund capital expenditures by issuing equity.

Outlook

The outlook is negative because Empire has multiple events that must be successfully completed before the company's performance can be considered stable. The gas utility should successfully be integrated into the existing corporate family and meet Standard & Poor's expectations for contributions to consolidated FFO. In addition, the acquisition should be financed in a manner that is consistent with Empire's current rating. An outlook revision to stable, which is unlikely before a favorable rate case outcome, would require a solid indication that the company's financial position will strengthen and the current construction program will remain on time and on budget. Ratings could be lowered as a result of unfavorable regulatory actions, or if the company fails to achieve substantial improvement in its financial metrics in the next few years.

Ratings List

Ratings Affirmed And Removed From CreditWatch

	To	From

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

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