

Exhibit No.:
Issue: *Cost of Capital*
Witness: *ROBERTA A. McKIDDY*
Sponsoring Party: *MoPSC Staff*
Type of Exhibit: *Rebuttal Testimony*
Case No.: *ER-2001-299*
Date Testimony Prepared: *May 2, 2001*

MISSOURI PUBLIC SERVICE COMMISSION
UTILITY SERVICES DIVISION

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Service Commission

REBUTTAL TESTIMONY
OF
ROBERTA A. McKIDDY

THE EMPIRE DISTRICT ELECTRIC COMPANY

CASE NO. ER-2001-299

Jefferson City, Missouri
May 2001

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Capital Structure and Embedded Cost of Long-Term Debt

Q. Has an agreement been reached concerning the appropriate capital structure and embedded cost of long-term debt to be applied to EDE for ratemaking purposes in this proceeding?

A. No. There has not been an agreement reached on the appropriate capital structure or the embedded cost of long-term debt. However, Staff, EDE and the Office of Public Counsel (OPC) have tentatively agreed to true-up the capital structure and embedded cost of long-term debt as of the true-up period ending date of June 30, 2001.

Q. What type of capital structure did Mr. Murry employ in developing a weighted cost of capital for EDE?

A. Mr. Murry employed a "hypothetical" pro forma capital structure at the twelve-month period ending date of December 31, 1999 of 47.50 percent common equity and 52.50 percent long-term debt.

Q. Do you believe Mr. Murry employed an appropriate capital structure for EDE?

A. No, I do not.

Q. What capital structure did Staff employ in developing a weighted cost of capital for EDE?

A. Staff employed an "actual" capital structure at the twelve-month period ending date of December 31, 2000 of 39.80 percent common equity and 60.20 percent long-term debt.

Q. Do you believe Staff employed a more appropriate capital structure for EDE?

1 A. Yes, I do. When EDE entered into an agreement with UtiliCorp United, Inc.
2 (UtiliCorp) to merge operations (Case No. EM-2000-369), EDE's management made a
3 conscious decision to change its capital structure by buying back its preferred stock
4 outstanding. In spite of this decision, EDE's stock price continued to rise in anticipation of
5 completion of the aforementioned merger. However, UtiliCorp terminated the merger
6 transaction. It appears that EDE would like Staff to assist in minimizing the impact of the
7 merger termination by using a hypothetical capital structure for purposes of setting rate of
8 return, in essence, assisting EDE in obtaining recovery through rates of costs associated with
9 the failed merger. However, Staff does not believe this would be appropriate and cites the
10 following as a basis for its belief:

11 In cases where the balancing of consumer interests against the
12 interest of investors causes rates to be set at a "just and reasonable"
13 level which is insufficient to ensure the continued financial
14 integrity of the utility, it may simply be said that the utility has
15 encountered one of the risks that imperil any business enterprise,
16 namely the risk of financial failure...In addition, the *Hope* decision
17 observed, "regulation does not insure that the business shall
18 produce net revenues." [quoting *Federal Power commission v.*
19 *Natural Gas Pipeline Co.*, 315 U.S. 575, 590, 62 S.Ct. 736 [745],
20 86 L.Ed. 1037, 1052 (1942).] 320 U.S. at 602, 64 S.Ct. at 288, 88
21 L.Ed. at 345. The risks, which utilities are to bear, were further
22 noted in *Natural Gas Pipeline*, 315 U.S. at 590, 62 S.Ct. at 745,
23 86 L.Ed. at 1052, where it was stated that "the hazard that the
24 property shall not earn a profit remains on the company in the case
25 of a regulated, as well as an unregulated business." Since the risk
26 of non-profitability remains upon regulated utility companies, it
27 follows that the consequence of that lack of profitability, to wit
28 diminished financial integrity, also rests upon utility companies.
29

30 If the impact of diminished financial integrity were shifted from
31 utility companies to the consumers, as would be the case if the
32 utilities were regarded as having a constitutionally guaranteed right
33 to rates which would preserve their financial integrity, elevating
34 their rates above those levels that would otherwise be regarded as
35 providing a "just and reasonable" return on assets utilized in the
36 public service, the result would effectively circumvent the

longstanding principle... [Source: Pennsylvania Electric Company v. Pennsylvania Public Utility Commission, 502 A.2d 130, pp. 134-135 (Pa. 1985), cert. denied, 476 U.S. 1137 (1986).]

Mr. Don Murry's Return on Common Equity for EDE

Q. Please summarize Mr. Murry's analysis for EDE's required ROE.

A. Mr. Murry performed a discounted cash flow model (DCF) analyses on The Empire District Electric Company, as well as a Value Line group of electric utility companies, which consisted of the following companies: (1) CH Energy Group; (2) CLECO Corporation; (3) Hawaiian Electric; (4) IDACorp; (5) PGS Energy Group and (6) UIL Holdings.

A summary of Mr. Murry's DCF model ROE analyses for EDE and the comparable electric utility group are as follows:

	<u>High</u>	<u>Low</u>
<i>DCF Using Dividend Growth Rates</i>		
Empire District Electric Company	6.77%	4.72%
Comparable Companies' Average	8.50%	5.98%
<i>Using Earnings Growth Rates</i>		
Empire District Electric Company	12.20%	10.15%
Comparable Companies' Average	11.42%	8.89%
<i>DCF Using Projected Growth Rates</i>		
Empire District Electric Company	12.77%	10.72%
Comparable Companies' Average	12.29%	8.51%

Mr. Murry also performed capital asset pricing model (CAPM) analyses on EDE and the comparable group of electric utility companies. A summary of Mr. Murry's CAPM model ROE analyses for EDE and the comparable electric utility group are as follows:

Cost of Equity: Historical Capital Asset Pricing Model

	<u>Cost of Equity</u>
Empire District Electric	12.33%
CH Energy Group	12.80%
CLECO Corporation	12.80%
Hawaiian Electric	12.33%
IDACorp	12.33%
RGS Energy Group	12.80%
UIL Holdings	12.80%
Comparable Companies' Average	12.64%

Cost of Equity: Size Adjusted Capital Asset Pricing Model

	<u>Cost of Equity</u>
Empire District Electric	10.57%
CH Energy Group	10.98%
CLECO Corporation	10.98%
Hawaiian Electric	9.97%
IDACorp	9.97%
RGS Energy Group	10.98%
UIL Holdings	10.98%
Comparable Companies' Average	10.77%

From these analyses, Mr. Murry recommended a range of return on equity for EDE of 11.50 percent to 12.50 percent.

Q. Do you believe Mr. Murry applied the DCF model appropriately in determining his recommended range of return on equity for EDE?

A. No, I do not. In determining a growth rate for purposes of his DCF analyses, it appears Mr. Murry chose to disregard dividend growth simply because it did not produce desired results. The growth rate component of the DCF equation "g" is usually the most crucial and controversial element in the use of this methodology. In estimating the

1 appropriate growth rate, it is important to recognize two factors. First, the proper growth rate
2 reflects the growth expectations of investors embodied in the price (i.e., yield component) of
3 the company's stock. Analysts should recognize that individual investors have different
4 expectations regarding growth and, therefore, no single indicator captures the growth
5 expectations of all investors. Second, since the DCF model combines price (i.e., yield) and
6 growth, the focus on growth expectations should target estimates of growth within a
7 consistent time frame of the stock price contained in the yield component.

8 Q. On Schedules DAM-8, DAM-9 and DAM-10, Mr. Murry states high and low
9 share prices for EDE, as well as his comparable electric utility group. Do you have any
10 concerns about the share prices chosen by Mr. Murry for purposes of his DCF analyses?

11 A. Yes, I do. Mr. Murry utilizes a single high and low share price for EDE
12 quoted from Value Line that represents the entire calendar year 2000, which are very similar
13 to those stock prices reported in Standard and Poor's Stock Guide for the reporting period
14 ending October 2000. Staff believes that in doing so, Mr. Murry has over-stated the dividend
15 yields of EDE and his comparable electric utility group. Staff believes the methodology
16 employed in its analysis (i.e., averaging high and low stock prices over the time period
17 October 2000 through March 4, 2001) yields a stock price that is more representative of the
18 price investors are currently willing to pay for the stock of EDE. As stated in my direct
19 testimony at page 23, lines 19 through 22, "this averaging technique is an attempt to
20 minimize the effects on the dividend yield, which can occur due to daily volatility in the
21 stock market. It is also an attempt to minimize the effect of the terminated merger between
22 Empire and UtiliCorp United, Inc. (UCU)."

Rebuttal Testimony of
Roberta A. McKiddy

1 Q. Do you have specific concerns regarding the data contained on Mr. Murry's
2 Schedule DAM-8?

3 A. Yes, I do. Mr. Murry ignored the dividend per share for EDE and his
4 comparable electric utility group for the time period 1997 through 2002 in determining the
5 growth rate used for purposes of developing his range for cost of capital. Staff believes that
6 in doing so, Mr. Murry has misrepresented the growth rates.

7 Q. Do you have specific concerns regarding the data contained on Mr. Murry's
8 Schedule DAM-9?

9 A. Yes, I do. Mr. Murry ignored the earnings per share for EDE and his
10 comparable electric utility group for the time period 1997 through 2002 in determining the
11 growth rate used for purposes of developing his range for cost of capital. Staff believes that
12 in doing so, Mr. Murry has misrepresented the growth rates.

13 Q. Do you have specific concerns regarding the data contained on Mr. Murry's
14 Schedule DAM-10?

15 A. Yes, I do. Mr. Murry quotes two sources for projected growth rates, Value
16 Line Investment Survey and Standard & Poor's Earnings Guide. While Staff is not
17 concerned with the sources cited by Mr. Murry, Staff is concerned with the manner in which
18 Mr. Murry applied the projected growth rates obtained from those sources in developing his
19 range for cost of capital. It appears Mr. Murry chose to apply the projected growth rate that
20 results in the highest costs of capital for each respective company rather than averaging the
21 source data, thus overstating his estimated range for cost of capital.

22 Q. On Schedules DAM-11, DAM-12 and DAM-13, Mr. Murry states "current"
23 high and low share prices for EDE, as well as his comparable electric utility group. Do you

1 have any concerns about the share prices chosen by Mr. Murry for purposes of his DCF
2 analyses?

3 A. Yes, I do. Mr. Murry states, beginning on page 12, line 21 and ending on
4 page 13, line 1 of his direct testimony that, "...I also used the current prices from a recent
5 two-week period as reported in the *Wall Street Journal*. In this way, I identified the cost of
6 capital measures over the period of this year's market, and I also identified the cost of capital
7 using the current market values." Again, Mr. Murry utilizes a single high and low stock
8 price for the time period reflected. Staff believes that in doing so, Mr. Murry has
9 misrepresented the dividend yields of EDE and his comparable electric utility group. Staff
10 believes the methodology employed in its analysis (i.e., averaging high and low stock prices
11 over the time period October 2000 through March 4, 2001) yields a stock price that is more
12 representative of the price investors are currently willing to pay for the stock of EDE. As
13 stated in my direct testimony at page 23, lines 19 through 22, "this averaging technique is an
14 attempt to minimize the effects on the dividend yield, which can occur due to daily volatility
15 in the stock market. It is also an attempt to minimize the effect of the terminated merger
16 between Empire and UtiliCorp United, Inc. (UCU)."

17 Q. How did Staff calculate growth for purposes of their DCF analyses?

18 A. Staff developed a range for projected growth based on an average
19 historical growth and an average projected growth. Historical data is often used in DCF
20 analyses. The logic here is that investors rely, to some extent, on past rates of growth in
21 making estimates of future growth (Source: Gordon, Gordon and Gould, 1989, 50).
22 Three issues to be considered in the use of historic growth are: first, what financial
23 indicator of growth is to be considered; second, how is growth to be measured; and third,

1 over what time period is growth to be measured. Staff relies on a publication entitled,
2 "The Cost of Capital – A Practitioner's Guide," by David C. Parcell, for its methodology
3 in determining an appropriate growth rate to be used in its DCF analyses. This method
4 has been used consistently by the Commission's Financial Analysis Department and has
5 been accepted by this Commission. The following statements can be found on pages
6 8-18 through 8-20 of this publication:

7 Financial Indicators of Growth
8

9 There are a wide variety of acceptable methods for using historical
10 growth to estimate future growth in the DCF model (Gordon,
11 Gordon and Gould, 1989 50). The three most commonly-used
12 financial indicators of growth are dividends per share (DPS),
13 earnings per share (EPS), and book value per share (BVPS) (Howe
14 & Rasmussen, 1982, 1333). Actually, DPS, EPS and BVPS can be
15 defined in terms of each other, as $DPS = EPS - \Delta BVPS$ (Patterson,
16 1971). Viewed this way, any of the three terms is dependent upon
17 the others and each can be viewed as the investors' perceived
18 growth rate.
19

20 Dividends Per Share

21 Past growth of DPS is the most direct link between historic
22 dividend growth and projected dividend growth. However, in the
23 long-run, dividends can grow at a rate no greater than that of
24 earnings. If the dividends out-paced earnings for an extended
25 period of time the company would deplete its equity capital. In the
26 short-run, the two growth rates can diverge without causing
27 financial harm to the company. The average of these growth rates
28 may provide a better forecast of the long-run dividend growth rate
29 than any of the individual forecasts, because in the long-run the
30 dividend growth rate should equal the growth rate of the earnings
31 since it is primarily earnings that are used to support the dividends.
32

33 Earnings Per Share

34 An investor's expectations concerning a company's cash flows
35 include both dividends plus the eventual proceeds from the sale of
36 the stock. Earnings provide the source of both the dividends paid
37 to stockholders and the retained earnings, which increase the book

1 value and ultimately the market price of the stock. As a result,
2 EPS is often used as a substitute for DPS.
3

4 Book Value Per Share

5 The growth of BVPS is used as a proxy for DPS growth since
6 BVPS growth principally reflects (in the absence of large stock
7 sales at prices well above or below book value) the retention (i.e.,
8 not paying out all of earnings as dividends) of earnings. The
9 purpose of earnings retention is to enhance the level of future EPS
10 and DPS. In addition, a company's EPS is equal to the BVPS
11 times return on equity (ROE). As a result, any factor that causes
12 the BVPS to increase (decrease) will tend to cause the EPS to
13 increase (decrease).
14

15 Relationship Among Growth Rates

16 Even though the DCF model assumes that EPS, DPS, BVPS and
17 the market price all grow at the same rate, it is generally
18 recognized that in practice this does not normally occur. However,
19 what is important to recognize in using the simplified version of
20 the DCF model is that the analyst has no basis to forecast different
21 future rates of growth for each of these items.
22

23 Therefore, Staff believes it is reasonable to assume that projected growth
24 rates are fairly represented by an average of DPS, EPS and BVPS.

25 Q. Do you have concerns about the manner in which Mr. Murry applied other
26 models in his analysis?

27 A. Yes. Mr. Murry also performed a CAPM analysis. Staff believes Mr.
28 Murry's CAPM analysis is fundamentally flawed. Mr. Murry used a risk-free rate in his Cost
29 of Equity-Size Adjusted Capital Asset Pricing Model analysis that falls within the range
30 proposed by Staff, 5.49 percent to 5.83 percent. However, Mr. Murry chose to use a market
31 risk premium of 8.10 percent, which reflects the difference between what Ibbotson
32 Associates Inc.'s Stocks, Bonds, Bills and Inflation: 2000 Yearbook refers to as Small
33 Company Stocks and Long-Term Government Bonds annual total returns. In contrast, Staff

1 chose to use a market risk premium that reflects the difference between what Ibbotson
2 Associates Inc.'s Stocks, Bonds, Bills and Inflation: 2000 Yearbook refers to as Large
3 Company Stocks and Long-Term Government Bonds annual total returns. Staff believes
4 their calculation of market risk premium is more reflective of the risk associated with
5 Empire's regulated utility operations, whereas Mr. Murry's calculation of market risk
6 premium would be more appropriate for those companies traded on the New York Stock
7 Exchange (NYSE) who are "unregulated" and subject to more volatility in the market place.
8 Finally, Mr. Murry chose to adjust his estimated range of cost of equity by an arbitrary "size
9 premium." It does not appear that Mr. Murry addresses or explains this adjustment in his
10 direct testimony, which calls into question the basis for Mr. Murry's adjustment. Staff
11 believes this "adjustment" is simply a reflection of Mr. Murry's desire to achieve a specific
12 end result.

13 Q. What is the Efficient Market Hypothesis?

14 A. One of the underlying assumptions of the DCF and CAPM models is
15 acceptance of the Efficient Market Hypothesis. This hypothesis holds that securities are
16 typically in equilibrium, meaning they are fairly priced in the sense that the price reflects all
17 publicly available information on each security. Therefore, one could conclude that the
18 public is fully aware of all publicly available information related to EDE and its operations.
19 One could also conclude that the public is fully aware that EDE is a regulated entity and,
20 therefore, shielded to a certain degree from the volatility of the market and subject to less
21 risk.

22 Q. Are there any limitations in using the DCF model for estimating cost of
23 common equity?

Rebuttal Testimony of
Roberta A. McKiddy

1 A. Yes. The assumptions used by the DCF model do create some limitations.
2 Several studies have shown that these assumptions do not hold true in a technical sense.
3 However, an important factor to consider in evaluating the reliability of a model is not the
4 strict real-world existence of its assumptions, but rather whether the relaxation of these
5 assumptions affects the overall reliability of the model. Staff believes that the Efficient
6 Market Hypothesis, as defined above, validates the assumptions used by the DCF model.
7 Staff believes the DCF model is a very reliable tool in estimating the cost of common equity
8 and one that is widely recognized and most commonly used by regulatory commissions
9 including the Missouri Public Service Commission. Therefore, Staff does not agree with
10 Mr. Murry's contention that his resultant DCF cost rates for EDE should be given minimal
11 weight and that his comparable electric utility group cost rates be given more weight simply
12 to provide EDE with a higher estimated range for cost of common equity.

13 Q. Are there any limitations in using the CAPM model for estimating cost of
14 common equity?

15 A. Yes. Again, the assumptions of the CAPM, like those of other models, are not
16 necessarily representative of actual experience. However, as noted previously in Staff's
17 discussion of the DCF model, an analyst should evaluate whether the relaxation of the
18 technical assumptions affects the overall reliability of the model. As with the DCF model,
19 Staff believes that the Efficient Market Hypothesis validates the assumptions used by the
20 CAPM.

21 Staff does not believe that CAPM analysis should be given equal weight to DCF
22 analysis of cost of common equity. However, Staff does believe, as does the financial

Rebuttal Testimony of
Roberta A. McKiddy

1 community at large, that CAPM analysis is a valuable tool in testing the reasonableness of
2 the results derived from the use of the DCF model.

3 Q. Please summarize the conclusions of your rebuttal testimony.

4 A. I conclude the following:

5 1. Staff, EDE and the Office of Public Counsel (OPC) have
6 tentatively agreed to true-up the capital structure and embedded cost of long-term debt as
7 of the true-up period ending date of June 30, 2001; and

8 2. Staff's DCF methodology should be adopted as the appropriate
9 method for calculating EDE's cost of common equity and, therefore, the Commission
10 should approve a return on common equity for EDE within the range of 8.50 percent to
11 9.50 percent, as recommended by Staff in its direct testimony.

12 Q. Does this conclude your prepared rebuttal testimony?

13 A. Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

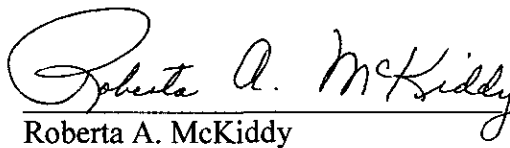
In the Matter of The Empire District Electric)
Company's Tariff Sheets Designed To Implement)
a General Rate Increase for Retail Electric Service)
Provided to Customers in the Missouri Service)
Area of the Company)

Case No. ER-2001-299

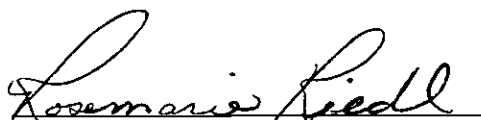
AFFIDAVIT OF ROBERTA A. McKIDDY

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

Roberta A. McKiddy, of lawful age, on her oath states: that she has participated in the preparation of the foregoing Rebuttal Testimony in question and answer form, consisting of 13 pages to be presented in the above case; that the answers in the foregoing Rebuttal Testimony were given by her; that she has knowledge of the matters set forth in such answers; and that such matters are true and correct to the best of her knowledge and belief.


Roberta A. McKiddy

Subscribed and sworn to before me this 1st day of May 2001.


Rosemarie Riedel

