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**MISSOURI PUBLIC SERVICE COMMISSION**

**UTILITY SERVICES DIVISION**

**REBUTTAL TESTIMONY**

**OF**

**DAVID MURRAY**

**THE EMPIRE DISTRICT ELELCTRIC COMPANY**

**CASE NO. ER-2006-0315**

Jefferson City, Missouri  
July 2006

**\*\*Denotes Highly Confidential Information\*\***

**NP**

**STAFF** Exhibit No. 52 NP  
Case No(s). ER-2006-0315  
Date 9-05-06 Rptr PF

**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

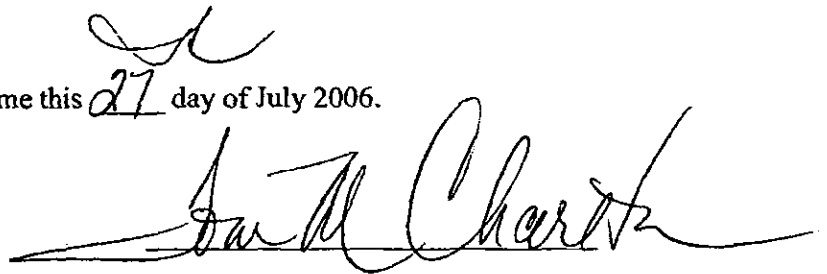
**AFFIDAVIT OF DAVID MURRAY**

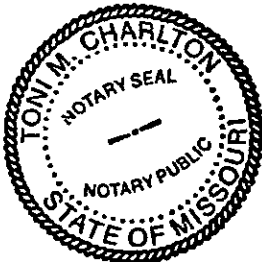
STATE OF MISSOURI     )  
                                  )  
COUNTY OF COLE     )     ss.

David Murray, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Rebuttal Testimony in question and answer form, consisting of 26 pages to be presented in the above case; that the answers in the foregoing Rebuttal 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 27 day of July 2006.





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

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Rebuttal Testimony of  
David Murray

1 corrections had on my proxy group's estimated growth rates and their estimated dividend  
2 yield, I decided to increase my recommended return on common equity (ROE) for Empire,  
3 resulting in a range of 9.50 percent to 9.60 percent. After making this revision, my revised  
4 overall recommended ROR is now 8.37 percent to 8.42 percent.

5 The second part of my rebuttal testimony addresses my critique of Dr. Vander  
6 Weide's direct testimony. The first part of this critique addresses inconsistencies in his  
7 market-value-to-book-value capital structure adjustments because market values of utility  
8 common equity are currently generally above one, compared to his 1982 observations of the  
9 same ratio when the opposite applied, i.e. market value of common equity was generally  
10 below book value of common equity for utility companies. I also address  
11 Dr. Vander Weide's inconsistency of claiming that a cost-of-common-equity analysis using a  
12 company-specific analysis may not be consistent with *Hope* and *Bluefield*, when he did a  
13 company-specific cost-of-common-equity analysis in 1982.

14 I then discuss the dangers of accepting Dr. Vander Weide's premise that all  
15 comparable utility companies should have the same cost-of-capital. This could impact other  
16 Missouri utility rate cases, especially those in which Dr. Vander Weide is the ROR witness.

17 The third part of my critique addresses what investment advisors are suggesting to  
18 use as a weighted average cost-of-capital (WACC) using some of the same financial  
19 principles that Dr. Vander Weide believes needs to be considered in utility rate-of-return  
20 authorizations.

21 The last part of my critique provides some further tests of reasonableness of my  
22 recommendation compared to Dr. Vander Weide's based on Empire's hired pension plan  
23 consultant's own expected returns on the market.

**DIRECT TESTIMONY REVISIONS**

Q. Do you have any revisions to make to your direct testimony?

A. Yes. I have made corrections to Schedules 14, 16 and 20 attached to my direct testimony (see attached revised Schedules 14, 16 and 20). These corrections included revisions to my company-specific discounted cash flow (DCF) model results, which are shown on revised Schedule 16. Because of the corrections I made to Schedule 14, I am now proposing a range of growth of 4.70 percent to 4.80 percent for my proxy group. My previous proposed range of growth had been 4.50 to 4.80 percent. Because of the corrections that I made to Schedule 16, I am now proposing a dividend yield of 4.60 percent for my proxy group. My previous proposed dividend yield had been 4.50 percent. As a result of my changes to the growth rate and the dividend yield, my estimated proxy group's cost-of-common-equity now ranges from 9.30 percent to 9.40 percent. My recommended cost-of-common-equity range for Empire is now 9.50 percent to 9.60 percent.

Q. How does this affect your estimated rate-of-return for Empire?

A. My revised recommended ROR ranges from 8.37 percent to 8.42 percent (see revised Schedule 20). This compares to my original recommended ROR of 8.22 percent to 8.37 percent.

**COST-OF-COMMON-EQUITY, CAPITAL STRUCTURE AND EMBEDDED COST OF LONG-TERM DEBT**

Q. Is there agreement between Staff, Empire and the Office of the Public Counsel (OPC) on the embedded cost of long-term debt?

A. Yes. Empire, Staff and OPC have agreed on 7.02 percent as the embedded cost of long-term debt for the update period.

Rebuttal Testimony of  
David Murray

1 Q. Is there an agreement between Staff, Empire, and OPC on Empire's capital  
2 structure?

3 A. Yes. Empire, Staff, and OPC have agreed to use Empire's consolidated  
4 capital structure.

5 Q. Is there an agreement between Staff, Empire, and OPC on Empire's cost-of-  
6 common-equity?

7 A. No. Dr. Vander Weide recommends a cost-of-common-equity of  
8 11.70 percent. OPC witness Charles W. King recommends a cost-of-common-equity of  
9 9.65 percent. I am now recommending a cost-of-common-equity of 9.50 percent to  
10 9.60 percent.

11 **UPDATED CAPITAL STRUCTURE AND EMBEDDED COSTS**

12 Q. Did you use the updated capital structure, embedded cost of long-term debt,  
13 and embedded cost of preferred stock through the end of the test year update period  
14 (March 31, 2006) in your recommendation?

15 A. Yes. However, I had already used the updated information in my direct  
16 testimony. Therefore, the only change that has affected my ROR recommendation is my  
17 revised cost-of-common-equity.

18 **DR. VANDER WEIDE'S RECOMMENDED COST-OF-COMMON-EQUITY FOR**  
19 **EMPIRE**

20 Q. Please summarize Dr. Vander Weide's recommended cost-of-common-equity  
21 for Empire's electric utility operations.

22 A. Dr. Vander Weide used five cost-of-common-equity estimation methods to  
23 estimate a cost-of-common-equity. All but the third method used two proxy groups; the first

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David Murray

1 was a group of electric utilities, and the second was a group of natural gas utilities. The third  
2 method, the ex post risk premium method, estimated the risk premium by subtracting  
3 historical returns for the S&P 500 and S&P Utilities from the returns on Moody's A-rated  
4 utility bonds. Dr. Vander Weide did not perform a cost-of-common-equity analysis directly  
5 on Empire. Dr. Vander Weide applied the following cost-of-common-equity estimation  
6 methods: (1) discounted cash flow (DCF); (2) ex ante risk premium; (3) the ex post risk  
7 premium; (4) historical capital asset pricing model (CAPM); and (5) DCF CAPM.  
8 Dr. Vander Weide then adjusted his estimated proxy group cost-of-common-equity to  
9 consider the difference between his proxy group's average market value capital structure and  
10 Empire's book value capital structure. After estimating that the cost-of-common-equity for  
11 his proxy group was 11.3 percent, Dr. Vander Weide determined that an upward adjustment  
12 of 40 basis points to his proxy group's cost-of-common-equity was appropriate because the  
13 market value of his proxy group's common equity results in a less leveraged capital structure  
14 than Empire's book value capital structure. Apparently, Dr. Vander Weide believes that his  
15 estimation of his proxy group's cost-of-common-equity understates Empire's cost-of-  
16 common-equity when applied to its book value of common equity.

17 Q. How long has Dr. Vander Weide been using his new approach of comparing  
18 his proxy group's market value capital structures to the book value capital structure of the  
19 subject company to make an upward adjustment to his initial cost-of-common-equity  
20 recommendation?

21 A. According to Dr. Vander Weide's response to a question in his deposition on  
22 November 12, 2004, in Empire's last Missouri rate case, Case No. ER-2004-0570, he began  
23 using this method in 2004 (Vander Weide deposition on p. 80, ll. 17-22).



Rebuttal Testimony of  
David Murray

1           Q.     Please provide this and other relevant excerpts from Dr. Vander Weide's  
2 deposition concerning his rationale for his change in estimating a fair return on common  
3 equity for utility companies.

4           A.     The following is an excerpt from Dr. Vander Weide's deposition in which  
5 Mr. Doug Micheel, then attorney for the OPC, asked Dr. Vander Weide about his new  
6 methodology:

7           Q.     Now, we also asked you a data request to indicate when you  
8 began doing this particular calculation and what cases, and you gave  
9 us four cases all in '04. Do you recall that, the Dominion Resources,  
10 the PG&E Company, Empire and Mid-America Energy?

11          A.     Right. Yes, I do recall that.

12          Q.     And prior to your filing testimony with this method in those  
13 cases, did you use another method?

14          A.     I didn't -- I did everything up to the fair rate-of-return the same.  
15 That is, I would do a DCF and a risk premium study, by I did not take  
16 the final step of saying that cost of equity determines why those risk --  
17 why those DCF risk and premium studies be sufficient to allow the  
18 company to earn returns that are comparable to the returns investors  
19 expect of other companies of comparable risk, and, thus, be able to  
20 attract capital.

21                     And so it's only recently that I took the final step of asking, well, what  
22 is required in order to attract capital in the marketplace?

23          Q.     And could you explain to me why you recently changed your  
24 methodology for determining ROE and you just recently started  
25 performing this leverage adjustment that you just described?

26          A.     Yes. Because I didn't believe that just looking at the results of  
27 DCF and CAB[P]-M and risk premium model would allow the  
28 companies to attract capital in the marketplace, because the  
29 marketplace looks at current interest rates and market value capital  
30 structures. Applying cost of DCF models and risk premium models  
31 and CAP-M models to the company's book value capital structures  
32 will be insufficient to allow the companies to attract capital in the  
33 marketplace.

Rebuttal Testimony of  
David Murray

1 Q. So for the previous 30 years when you weren't utilizing this  
2 leverage adjustment, you were doing it incorrectly?

3 A. I was doing it partially. I was correctly applying the DCF. I  
4 was correctly applying the risk premium and CAP-M. I did not take  
5 the final test, which I believe is necessary to allow the company to  
6 attract capital in the marketplace. I don't believe it's incorrect. It just  
7 wasn't complete.

8 Q. So for 30 years you thought it was appropriate to recommend  
9 an incomplete DCF recommendation to public utility commissions?

10 A. I viewed my assignment in those -- during that time as  
11 providing the results of cost-of-equity models, such as the DCF and  
12 the CAP-M and risk premium. I did not view my assignment as taking  
13 the further step of recommending the rate-of-return that would allow a  
14 company to truly attract capital in the marketplace. I knew that it was  
15 incomplete, but I didn't view my assignment as taking that additional  
16 step.

17 Q. And when did your assignment change?

18 A. In the testimonies that I cited.

19 Q. And why did your assignment change?

20 A. Because I informed the companies that I was working with that  
21 if we did things in the way we always have, they would not be able to  
22 attract capital in the marketplace, and they agreed that I ought to take  
23 the additional step to make sure they could attract capital in the  
24 marketplace.

25 Q. So if the Commission -- if the Missouri Public Service  
26 Commission accepts your method, are you guarantying to the company  
27 that they'll be able to attract capital in the marketplace?

28 A. One can never guarantee the future, because the future is  
29 unknown, but I can guarantee that they'll have -- and one also doesn't  
30 know what the other elements are in a rate process, like the operating  
31 expenses and fuel adjustment clauses and so on.

32 But I am saying, with regard to the cost-of-capital itself, it would have  
33 the opportunity to attract capital in the marketplace. Whereas, if one  
34 doesn't take this final step, then with regard to the cost-of-capital  
35 components themselves, we would know in advance they wouldn't  
36 even have an opportunity to attract capital in the marketplace.

Rebuttal Testimony of  
David Murray

1 Q. Well, let me ask you this, Doctor: Why is it appropriate to  
2 compare Empire's book capital structure with the market-to-book  
3 capital structure of your proxy groups?

4 A. Because when investors invest in companies in the  
5 marketplace, they necessarily have to invest at the market price. And  
6 so when companies determine their weighted average cost to capital  
7 that would be required to attract capital in the marketplace, we use  
8 current interest rates, and they use market value capital structures to  
9 calculate that average weight of cost to capital.

10 And if one uses a book-value capital structure for rate-setting purposes  
11 without adjusting the cost of equity, as I have suggested, one will  
12 assure that the company has no opportunity to earn or to attract capital  
13 in the marketplace and to earn a return that's commensurate with what  
14 investors actually require in a marketplace.

15 Q. Why isn't that an apples-to-oranges comparison, Doctor?

16 A. It's not an apples-to-oranges comparison, because one isn't just  
17 comparing the capital structures. One is asking what return on equity  
18 would one need, if one uses -- one calculates for rate purposes a cost-  
19 of-capital based on a book-value capital structure, what rate-of-return  
20 on equity would one need in order to give the same weighted average  
21 cost to capital as investors require in the marketplace? I'm not  
22 attempting just to strictly compare the capital structures.

23 Q. Well, when I look -- when I look at Page 50 of your direct  
24 testimony --

25 A. I'm not finished with my answer yet.

26 Q. Okay.

27 A. My answer is that investors look at market value capital  
28 structures in determining their required return on the marketplace  
29 structures of the process frequently, and if they do, they won't give the  
30 company an opportunity to earn.

31 Okay. I'm finished.

32 Q. Why don't you -- at Page 50 of your direct testimony, you  
33 indicate that you are looking at the leverage of capital structures, both  
34 Empire's capital structure, vis-a-vis your comparable electric proxy  
35 group and your LDC proxy group capital structures. Am I  
36 misunderstanding that?

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David Murray

1           A.     I believe you are. First of all, on Page 49 of my testimony of --  
2           Mr. Allen asserted that I didn't see that this was a market value capital  
3           structure, implying that I somehow intentionally had hidden the fact  
4           that this was a market value capital structure, when, in fact, on Page  
5           49, Line 9 through 11, I say that the -- the sentence begins, The  
6           10.7 percent cost of equity from my proxy group affects the financial  
7           risk associated with my proxy company's average capital structures,  
8           where the capital structure weights are measured in terms of market  
9           value.

10           It couldn't get much clearer than that. And so when the investors look  
11           at the average risk of companies in the marketplace, the financial risk,  
12           that's the market value capital structures of those companies.

13           If one is now going to assign to a company a book-value capital  
14           structure that has more leverage than the capital structure they are  
15           looking at in the marketplace, then that's necessarily going to be --  
16           have greater risk than what they were looking at when they determined  
17           their required return for the proxy company.

18           Q.     And it's your belief that the average investor is doing this?

19           A.     Undoubtedly the average investor determines the company in  
20           terms of the market value capital structure.

21           That's the fundamental principle of finance. It states in every finance  
22           textbook that I've read in 30-some years, and it's -- it's how investors  
23           look at investments in terms of market value.

24           Q.     If this is how investors look at investment in terms of market  
25           value, why did you just start doing it this year, if it's such a  
26           fundamental bedrock calculation?

27           A.     We've -- I've answered that question already. Would you like  
28           me to repeat my answer?

29           Q.     That would be great.

30           A.     All right. The answer that I gave was that I gave an analysis --  
31           I've used [viewed] my assignment as being to provide a cost of equity  
32           based on a cost-of-equity model for a group of proxy companies that  
33           did not include the final step of asking what the cost of equity would  
34           be required if the basis of capital structure on a book-value capital  
35           structure allows the company to attract capital in the marketplace.

36           Essentially, I took the capital structure as given and didn't adjust the  
37           cost of equity to reflect the difference in the capital structure that the  
38           Commission used to the capital structure that's used in the

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David Murray

1 marketplace. So my analysis was correct as far as the when, but it  
2 didn't go far enough.

3 Q. Are you aware of any public service commissions that have  
4 accepted this method?

5 A. No, I am not. I'm not aware of any that have addressed it.

6 Q. So this is a new idea?

7 A. In terms of rate-setting principles, it is. It's an old idea in terms  
8 of basic financial principles.

9 Q. Are there any articles out there, journal articles that support use  
10 of this method in rate making?

11 A. I believe I've answered -- I believe you've asked that question  
12 earlier, and I've answered that one as well. And my answer was that I  
13 haven't seen any that have even discussed it, but it is perfectly  
14 consistent with financial -- basic financial principles, which is the  
15 main reason for recommending it.

16 Q. What was the trend in the cost-of-capital environment for utilities at the time  
17 Dr. Vander Weide made the change to his methodology to determine what he suddenly  
18 realized was the "final step" that was needed to "truly" attract capital in the marketplace?

19 A. The cost-of-capital to utilities was approaching recent historical lows around  
20 the time that Dr. Vander Weide made this change in his methodology. A review of  
21 Schedule 5-1 and 5-3, attached to my direct testimony, shows the general decline in average  
22 public utility bond yields. As recently as June 2005, average public utility bond yields  
23 reached a recent historic low of 5.39 percent. These are the lowest public utility bond yields  
24 experienced since approximately the 1960's.

25 Q. If Dr. Vander Weide believes that an upward adjustment should be made to  
26 his initial cost-of-common-equity estimate if the market value of common equity is higher  
27 than the book value of common equity, then wouldn't it be logical to expect that  
28 Dr. Vander Weide would make a downward adjustment to his initial cost-of-common-equity

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1 estimate if the market value of common equity had been lower than the book value of  
2 common equity?

3 A. Yes. Based on Dr. Weide's rationale for adjusting his cost-of-common-equity  
4 upward in this case because Empire's book value capital structure is more leveraged than the  
5 average market value capital structure of his comparable companies, one would expect that  
6 he would also make a downward adjustment if the book value capital structure had been less  
7 leveraged than the average market value capital structure in order to be consistent with his  
8 current position.

9 Q. Did Dr. Vander Weide sponsor any electric utility rate-of-return testimony  
10 that involved a situation in which the market value of the equity was less than the book value  
11 of the equity?

12 A. Yes. He sponsored testimony in a Carolina Power & Light Company(CP&L)  
13 rate case (Docket No. 81-163-E) in South Carolina in 1982.

14 Q. How did you become aware of this testimony?

15 A. I submitted two data requests (Staff Data Request Nos. 0232 and 0232.1) to  
16 Empire requesting information about any cost of equity testimony Dr. Vander Weide may  
17 have sponsored from 1978 through 1982 for an electric utility. I was interested in reviewing  
18 his testimony during this period because I knew market-to-book equity ratios were generally  
19 below one at this time, meaning market value capital structures would be more leveraged  
20 than book value capital structures. I was curious as to whether Dr. Vander Weide discussed  
21 in testimony during this period the effect the level of market-to-book ratios may have on the  
22 reliability of estimating utility companies' cost-of-common-equity.

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1 Q. Did Dr. Vander Weide make downward adjustments to his cost-of-common-  
2 equity recommendations in this case?

3 A. No. In fact, Dr. Vander Weide indicated that because market-to-book ratios  
4 were below one at the time, his recommended cost-of-common-equity based on his use of the  
5 DCF and "Spread Test"<sup>1</sup> models should be considered the "bare minimum" allowed return.  
6 Dr. Vander Weide indicated that this was the case because if market value of equity is less  
7 than book value of equity, a company may not be able to recover a higher cost-of-common-  
8 equity caused by flotation costs and market pressure. Dr. Vander Weide did not mention the  
9 possibility that investors would perceive the less leveraged book value capital structure as  
10 less risky than the more leveraged market value capital structure, and therefore, a downward  
11 adjustment to his recommended return on common equity would be warranted.

12 Q. What did Dr. Vander Weide state in testimony as his assignment in the 1982  
13 CP&L case?

14 A. Dr. Vander Weide stated the following:

15 I have been asked to make an independent appraisal of the cost of  
16 invested capital to the Carolina Power & Light Company (CP&L) and  
17 to recommend a return on such capital which will be fair, **allow the**  
18 **firm to attract capital** and maintain its financial integrity. As part of  
19 this appraisal, I have analyzed the cost to CP&L of each component of  
20 its capital structure and examined the economic conditions underlying  
21 the current level of these costs. (emphasis added)

22 Q. Did Dr. Vander Weide claim in his deposition that he did not know his  
23 assignment before 2004 had been to recommend a ROR that would allow the company to  
24 attract capital?

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<sup>1</sup> Dr. Vander Weide used what he referred to as a "Spread Test" in 1982. This methodology is the same as what is commonly referred to as the "risk premium" methodology. Dr. Vander Weide compared the differences in S&P high grade bond returns and S&P 500 stock returns for forty-four years.

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1           A.     Yes. As cited earlier in my testimony, Dr. Vander Weide indicated that he  
2 started making his market-value-to-book-value adjustment when he realized that his  
3 assignment in utility rate cases was to recommend a rate-of-return that would allow a  
4 company to "...truly attract capital in the marketplace." He indicated that he didn't view his  
5 previous assignments as taking this "additional step."

6           Based on Dr. Vander Weide's testimony in the CP&L case, I am not sure how it  
7 could be any more clear that Dr. Vander Weide's stated assignment in the CP&L case was to  
8 recommend a rate-of-return to allow the company to attract capital in the marketplace.

9           Q.     At the time he performed his cost-of-common-equity study in 1982, was  
10 Dr. Vander Weide aware of the theory that he used to justify his upward adjustment to his  
11 cost-of-common-equity recommendation in this current Empire rate case?

12          A.     Yes. As indicated in the above citation from Dr. Vander Weide's deposition,  
13 Dr. Vander Weide has been aware of this for at least the past 30 years. For convenience, his  
14 specific statements were:

15                   Undoubtedly the average investor determines the company in terms of  
16                   the market value capital structure.

17                   That's the fundamental principle of finance. It states in every finance  
18                   textbook that I've read in 30-some years, and it's -- it's how investors  
19                   look at investments in terms of market value.

20          Q.     What is the most important thing to consider concerning the above discussion  
21 about Dr. Vander Weide's market-to-book-value comparisons in order to make adjustments  
22 to his recommended cost-of-common-equity?

23          A.     In both cases, in the early 1980's and now, Dr. Vander Weide has evaluated  
24 the market-to-book ratio and determined that the cost-of-common-equity is impacted by the  
25 level of this ratio. In 1982, he believed that because market-to-book ratios were below one,



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1 his estimated cost-of-common-equity should be considered the "bare minimum" for reasons  
2 different than in his testimony in this case. Now that utility market-to-book ratios are  
3 generally above one, he has now developed a rationale that claims when market-to-book  
4 ratios are above one, his initial cost-of-common-equity estimation underestimates the  
5 cost-of-common-equity to the company. Clearly, Dr. Vander Weide's new argument and his  
6 old one are logically inconsistent. If Dr. Vander Weide believes that an upward adjustment  
7 to cost-of-common-equity indications should now be applied because the book value capital  
8 structure has more financial risk, then he would have made downward adjustments in the  
9 early 1980's when the opposite was true, but he didn't do so.

10 Q. Is there anything else in Dr. Vander Weide's testimony in the CP&L case that  
11 is noteworthy?

12 A. Yes. Dr. Vander Weide performed a company-specific DCF analysis and a  
13 company-specific "Spread Test" method to estimate the appropriate recommended return on  
14 common-equity.

15 Q. Does it appear that Dr. Vander Weide believed that performing a cost-of-  
16 common-equity study based on company-specific inputs was consistent with the *Hope* and  
17 *Bluefield* cases?

18 A. Yes. Considering that Dr. Vander Weide discussed the importance of the  
19 economic principles at the beginning of his testimony in 1982, it would appear that he  
20 believed that this type of analysis was consistent with *Hope* and *Bluefield*. Specifically, Dr.  
21 Vander Weide's testimony stated the following:

22 Q. Are these economic principles stated in previous regulatory  
23 cases regarding the fair return for capital?

24 A. Yes. Previous regulatory cases have produced two principles  
25 applicable to the regulated firm's allowed return on invested capital.

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The first was expounded by the Supreme Court in the 1923 Bluefield Water Works Case (Bluefield Water Works and Improvement Co. vs. Public Service Comm'n, 262 U.S. 679 (1923) at 692):

"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."

The Bluefield Water Works Case refers mainly to the returns which the utility should be allowed to earn on the value of its property. In the 1944 Hope Natural Gas Case (Federal Power Comm'n vs. Hope Natural Gas Co., 320 U.S. 591 (1944) at 603), the Court comments on the returns earned by the equity investor:

"From the investor or company point of view 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."

In order to apply this second standard, one must estimate the returns which investors expect to receive on alternative investments of comparable risk. Both of these standards are consistent with the economic principles stated earlier.

Q. What practical difficulties arise when one attempts to apply these principles?

A. The problems arising in the application of the above principles stem from the fact that the return to the equity investor, over any period of time, is not fixed by contract, and thus is not known with any certainty until he disposes of his investment. To induce the investor to part with his money, the firm must offer him an expected return that is

Rebuttal Testimony of  
David Murray

1 commensurate with expected returns on investments of similar risk.  
2 The need to measure expected returns make the application of the  
3 above principles difficult.

4 Q. What methods did you use to determine the fair rate-of-return  
5 on CP&L's common equity?

6 A. I used two generally accepted methods for measuring this  
7 return: (1) Discounted Cash Flow and (2) Spread Test.

8 The Discounted Cash Flow method assumes that the current market  
9 price of the firm's stock is equal to the discounted value of all  
10 expected future dividends. The Spread Test relates investors' current  
11 expectations to the historical record of comparable returns on stock  
12 and bond investments. In my opinion, these methods provide a range  
13 of returns within which the fair rate-of-return may be reasonably  
14 expected to lie.

15 Although Dr. Vander Weide did not mention his company-specific analysis in the  
16 testimony above, Dr. Vander Weide explains his company-specific analysis later in his  
17 testimony in the CP&L case.

18 Q. Did Dr. Vander Weide select a utility proxy group to at least test the  
19 reasonableness of his company-specific recommended return on common equity in the  
20 CP&L case?

21 A. No.

22 Q. Did Dr. Vander Weide express concern in Empire's last rate case that a  
23 company-specific cost-of-common-equity analysis may be inconsistent with the economic  
24 principles outlined in *Hope* and *Bluefield*?

25 A. Yes. Dr. Vander Weide dedicated approximately eight pages of surrebuttal  
26 testimony to why he believed it was better to estimate the cost-of-common-equity for a utility  
27 company based on a proxy group analysis versus a company-specific analysis.

28 Q. Did Dr. Vander Weide make the same claim in this case?

Rebuttal Testimony of  
David Murray

1           A.     Yes. On page 5, lines 12 through 16, of his direct testimony, Dr. Vander  
2 Weide reiterates his current belief that the use of a proxy group to estimate the cost-of-  
3 common-equity is supported by the *Hope* and *Bluefield* cases.

4           Q.     Does Dr. Vander Weide believe that his recommended rates-of-return in  
5 utility rate cases over the past 30 years have been consistent with *Hope* and *Bluefield*?

6           A.     I don't know. Empire objected to the Staff data request that requested this  
7 information (Staff Data Request No. 0351).

8           Q.     On page 50, lines 3 through 6, of his direct testimony, Dr. Vander Weide  
9 states that his proxy companies' capital structures are measured in terms of market weights.  
10 Is this entirely true?

11          A.     No. This is only true with respect to the common equity in his capital  
12 structure. The other capital components, long-term debt and preferred stock, are measured in  
13 terms of book value.

14          Q.     Isn't it possible that the market value of the debt used in Dr. Vander Weide's  
15 capital structure may be higher than the book values that he used?

16          A.     Yes. Because the U.S. economy has experienced a downward trend in interest  
17 rates since the early 1980's, any debt that was issued at historical higher yields would be  
18 worth more today because of its more attractive coupon. This is not captured in Dr. Vander  
19 Weide's "market value" capital structure. This would cause Dr. Vander Weide's proxy  
20 group to look less leveraged than it actually is.

21          Q.     Please explain how Dr. Vander Weide's cost-of-capital inputs in Table 5 and  
22 Table 6, on page 52, of his direct testimony, differ from that of the inputs that are  
23 traditionally used to determine a fair rate-of-return in utility ratemaking.

Rebuttal Testimony of  
David Murray

1           A.     Although not explained in his testimony, I was able to find information in  
2 Dr. Vander Weide's workpapers to determine how he arrived at his cost rates for the debt and  
3 preferred stock in the tables. The cost-of-common-equity used was explained in  
4 Dr. Vander Weide's testimony.

5           According to Dr. Vander Weide's workpapers, the after-tax cost-of-debt was based  
6 on the November 2005 A-bond yield of 5.90 percent, which was then reduced by a tax rate of  
7 39 percent to arrive at an after-tax cost-of-debt of 3.60 percent ( $5.90 \times .61$ ).

8           Dr. Vander Weide used Value Line as his source for the 7.15 percent cost of preferred  
9 stock. According to Dr. Vander Weide's workpapers, this yield was based on A-rated  
10 preferred stock as of December 8, 2005.

11          Q.     What is the main difference between Dr. Vander Weide's debt cost for his  
12 market-derived weighted average cost-of-capital (WACC) and the debt cost traditionally  
13 used in utility rate case proceedings?

14          A.     The debt cost used by Dr. Vander Weide is not based on historical coupon  
15 rates and it does not include items such as unamortized issuance expenses, losses on  
16 reacquired debt and/or discounts on debt issuances. Dr. Vander Weide's debt cost is simply  
17 based on a current yield in the market. Dr. Vander Weide also reduced the debt cost by one  
18 minus the tax rate because interest payments on debt are tax deductible and this lowers the  
19 effective cost of the debt. It is important to make this adjustment if an analyst is estimating a  
20 WACC for the purposes of estimating the value of the firm because the analyst is estimating  
21 the value of after-tax cash flows.

22          In utility rate case proceedings the cost-of-debt is not reduced on account of its tax  
23 deductibility because the revenue requirement has already contemplated the tax deductibility

Rebuttal Testimony of  
David Murray

1 of the interest expense. However, in the case of the ROE, the revenue requirement has to be  
2 increased because the recommended cost-of-common-equity is based on an after-tax required  
3 return.

4 In summary, in the case of estimating the WACC, as Dr. Vander Weide is attempting  
5 to do, one is trying to estimate an appropriate discount rate to apply to the firm's estimated  
6 cash flows to determine its inherent value. In the case of utility regulatory proceedings, the  
7 purpose of estimating the WACC is to determine the appropriate costs to add to the  
8 cost-of-service to compensate all of the capital providers.

9 Q. What is the difference in Dr. Vander Weide's use of a current preferred yield  
10 versus the preferred cost traditionally used in utility rate case proceedings?

11 A. Dr. Vander Weide simply used a current yield that he found in Value Line.  
12 Because traditional preferred stock dividends are not tax deductible, he did not need to  
13 reduce the cost of this capital by any tax savings. In utility rate case proceedings, the  
14 preferred stock cost would be based on the historical coupon/dividend rate with consideration  
15 for such items as issuance expenses and discounts.

16 Q. Based on Dr. Vander Weide's proposition that Empire should have the same  
17 WACC as his proxy group's market-determined cost-of-capital, do the weights of the capital  
18 and the costs of the capital matter from company to company?

19 A. No. According to Dr. Vander Weide's proposition, investors will discount  
20 electric utility cash flows by the same discount rate (8.361 percent according to Dr. Vander  
21 Weide) regardless of the types of capital used, the weights of the capital used, or the  
22 individual costs of the capital used. It is only the weighted average cost-of-capital (WACC)  
23 that matters.

Rebuttal Testimony of  
David Murray

1           Q.     After Dr. Vander Weide estimates the WACC for his proxy group, how does  
2 he determine the appropriate ROE for Empire?

3           A.     He backs into it based on Empire's current book value capital structure  
4 weights. He subtracts the weighted embedded costs of preferred stock and long-term debt  
5 from his estimated "market-determined" cost-of-capital and then determines how much  
6 equity return is needed to make everything add up to his "market-determined" WACC.

7           Q.     Did you notice any errors in Dr. Vander Weide's calculation to determine  
8 what Empire's return on common equity would need to be in order to arrive at his proxy  
9 group's average WACC?

10          A.     Yes, and I informed Dr. Vander Weide of this error shortly before rebuttal  
11 testimony was due. Therefore, I anticipate that he will address this in rebuttal testimony.

12          Q.     What was the error that needs to be corrected?

13          A.     Table 7, on page 53, of Dr. Vander Weide's direct testimony, indicates that  
14 Empire's after-tax embedded cost of preferred stock is 8.91 percent. This cost would be  
15 correct if Empire's preferred stock was more traditional and its dividends were not tax  
16 deductible. However, Empire's preferred stock is considered a hybrid of debt and preferred  
17 stock. Its dividends are tax deductible just as interest expense is tax deductible. Therefore,  
18 the cost of Empire's preferred stock needs to be reduced to consider this. After making this  
19 correction, Dr. Vander Weide's after-tax cost of preferred stock would be 5.44 percent.

20          Q.     How does this impact the ROE input needed in Table 7?

21          A.     This would actually result in the need for a higher ROE input. The ROE  
22 needed to ensure an overall cost-of-capital of 8.361 percent would now need to be 12.07  
23 percent (see Schedule 1 attached to this rebuttal testimony). This increased

Rebuttal Testimony of  
David Murray

1 cost-of-common-equity substitutes for the decreased cost of preferred stock shown in Table  
2 7, on page 53, of his direct testimony.

3 Q. Could the Commission's acceptance of Dr. Vander Weide's methodology  
4 shown in Table 7 have an impact on ratepayers and investors of other Missouri utilities?

5 A. Yes. According to Dr. Vander Weide, all utility companies that are similar in  
6 risk to his comparable group should have the same cost-of-capital. I noticed that Dr. Vander  
7 Weide included Ameren Corporation and Great Plains Energy in his comparable group of  
8 companies. According to Dr. Vander Weide's theory, this means that AmerenUE,  
9 Kansas City Power & Light (KCPL), and Empire should have the same cost-of-capital  
10 because they are comparable.

11 Q. Did Dr. Vander Weide file rate-of-return testimony in the pending AmerenUE  
12 electric utility rate case, Case No. ER-2007-0002?

13 A. Yes.

14 Q. Did he use the same selection criteria in the AmerenUE rate case as he did in  
15 the Empire rate case to select his comparable group?

16 A. Yes, and other than a few minor changes, his comparable group is in large part  
17 the same as it is in this case.

18 Q. Does this imply that Dr. Vander Weide believes that Empire and AmerenUE  
19 should have the same cost-of-capital?

20 A. Yes.

21 Q. If Dr. Vander Weide had applied the same criteria for selecting a comparable  
22 group for KCPL, then wouldn't this imply that he would conclude that KCPL should have  
23 the same cost-of-capital as Empire and AmerenUE?



Rebuttal Testimony of  
David Murray

1           A.     Yes.

2           Q.     Do AmerenUE, KCPL, and Empire have the same cost-of-debt?

3           A.     No. AmerenUE and KCPL have lower debt costs than Empire.

4           Q.     If this is the case, then if Dr. Vander Weide's methodology were to be applied  
5 to KCPL and AmerenUE, how would his methodology make up for this lower cost-of-debt to  
6 ensure that AmerenUE's and KCPL's costs of capital are similar to Empire's?

7           A.     Using Dr. Vander Weide's methodology would result in the need for a higher  
8 ROE for AmerenUE and KCPL in order to make up for the lower embedded costs of debt in  
9 their capital structure.

10          Q.     Please provide an example of what AmerenUE's ROE would need to be if you  
11 used the AmerenUE capital structure provided in Schedule JVW-11, attached to  
12 Dr. Vander Weide's direct testimony, in the AmerenUE rate case, Case No. ER-2007-0002,  
13 and AmerenUE's embedded cost-of-debt and preferred stock proposed in the direct  
14 testimony of Lee R. Nickloy, in the same case.

15          A.     Schedule 2 attached to my rebuttal testimony indicates that using  
16 Dr. Vander Weide's methodology in this case, would require AmerenUE's ROE to be 12.86  
17 percent. This is the case even though AmerenUE has a higher common equity balance in its  
18 capital structure. This higher ROE result is driven by the lower cost of the other capital  
19 components in AmerenUE's capital structure.

20          Q.     This methodology seems to be illogical, do you know if any other  
21 commissions have adopted Dr. Vander Weide's recommendation recently?

22          A.     No. Empire objected to the Staff data request that requested this information  
23 (Staff Data Request No. 0349).

Rebuttal Testimony of  
David Murray

1           Q.     Are you aware of any evidence that indicates that WACCs, i.e. discount rates,  
2     used by investors for valuation purposes are lower than the 8.361 percent for Dr. Vander  
3     Weide's electric utility companies and the 9.217 percent for his natural gas utility  
4     companies?

5           A.     Yes. Empire hired UBS Investment Bank as its adviser to do a valuation  
6     analysis of Aquila's Missouri gas distribution properties when Empire was considering the  
7     purchase of these properties. Empire provided Staff UBS Investment Bank's various  
8     presentations to Empire's Board of Directors in response to Staff Data Request 0019 in  
9     Empire and Aquila's Application to approve Empire's proposed acquisition of Aquila's  
10    Missouri gas properties, Case No. GO-2006-0205. These presentations contained a DCF  
11    analysis of the gas properties. The WACC suggested by UBS Investment Bank ranged from

12    \*\* \_\_\_\_\_ \*\*

13           Q.     What capital structure was used to estimate the required rates-of-return used  
14    by UBS Investment Bank?

15           A.     According to Empire's response to Staff Data Request 0234.1 in this case,  
16    this WACC, i.e. required rate-of-return, was based on a capital structure consisting of  
17    \*\* \_\_\_\_\_ \*\* According to Table 6, in Dr. Vander Weide's  
18    direct testimony, the capital structure that investors are using to determine a discount rate for  
19    the natural gas industry is comprised of 26.99 percent long-term debt, .09 percent preferred  
20    stock and 72.91 percent common equity. Again, this resulted in Dr. Vander Weide's much  
21    higher estimated discount rate of 9.217 percent.

Rebuttal Testimony of  
David Murray

1           Q.     Are you aware of other valuation analyses in which an investment advisor  
2     used a WACC when advising its client on the value of the cash flows of an electric utility  
3     property?

4           A.     Yes. These analyses were done on electric properties. Please see my direct  
5     testimony in the most recent Aquila, Inc., rate case, Case No. ER-2005-0436, to view this  
6     highly confidential estimate.

7           Q.     Using Dr. Vander Weide's methodology, what would Empire's cost of equity  
8     need to be in order to arrive at a WACC of \*\* \_\_\_\_\_ \*\*?

9           A.     As can be seen in Schedule 3, attached to this rebuttal testimony, in order to  
10    arrive at a WACC of \*\* \_\_\_\_\_ \*\*, Dr. Vander Weide would actually have to adjust  
11    his cost-of-common-equity down to \*\* \_\_\_\_\_ \*\*. This is below the cost-of-common-  
12    equity range I am recommending in this case.

13          Q.     If you applied Dr. Vander Weide's current methodology to Empire's updated  
14    capital structure as of March 31, 2006, what would Empire's cost-of-common-equity need to  
15    be in order to arrive at a WACC of \*\* \_\_\_\_\_ \*\*?

16          A.     Applying Dr. Vander Weide's methodology to the March 31, 2006, capital  
17    structure results in a cost-of-common-equity of \*\* \_\_\_\_\_ \*\* (see Schedule 4 attached  
18    to this rebuttal testimony). This is at the high end my recommended cost-of-common-equity  
19    range in this case.

20          Q.     What do the above results imply about the reasonableness of your  
21    cost-of-common-equity estimate if Dr. Vander Weide applied his methodology to a  
22    WACC, i.e., discount rate, that is being used by investment advisors?

Rebuttal Testimony of  
David Murray

1           A.     It implies that my recommendation is quite reasonable if one were to accept  
2 Dr. Vander Weide's methodology and apply it to a discount rate of \*\* \_\_\_\_\_ \*\* being  
3 used by investment advisors.

4           Q.     Are you aware of any other information that illustrates the unreasonableness  
5 of Dr. Vander Weide's cost-of-capital recommendation in this case?

6           A.     Yes, and this information is particularly enlightening considering that  
7 Dr. Vander Weide is attempting to adjust his cost-of-common-equity recommendation to be  
8 more consistent with what he believes should be done to make his recommendation more  
9 compatible with market expectations.

10           In response to Staff Data Request 0295, Empire provided information supporting its  
11 expected return of 8.50 percent on pension plan assets. This supporting information is shown  
12 on Schedule 5, attached to my rebuttal testimony. According to Towers Perrin, the expected  
13 nominal return on the S&P 500 is in the range of 7.9 percent to 8.9 percent. This compares  
14 to Dr. Vander Weide's DCF estimated nominal return on the S&P 500 of 13.15 percent in his  
15 DCF CAPM analysis. Towers Perrin's expected return on the S&P 500, which has more risk  
16 than utilities in general, is lower than my recommendation in this case. This provides a good  
17 check of the reasonableness of Dr. Vander Weide's recommendation because Towers Perrin  
18 is an independent party with no specific interest in this rate case. Towers Perrin was hired by  
19 Empire to provide its best estimate of expected rates-of-return for purposes of determining  
20 appropriate contribution levels to Empire's pension plan. If Towers Perrin overestimates the  
21 expected return on pension plan assets, then this may result in Empire's pension plan being  
22 under-funded. However, even keeping this in mind, these expected returns show how much  
23 more realistic my recommendation is than Dr. Vander Weide's recommendation.

Rebuttal Testimony of  
David Murray

1           Q.     Has your review of the evidence that supports a lower recommendation than  
2 the one you have already made caused you to lower your recommended cost-of-common-  
3 equity?

4           A.     No. I think the fact that OPC ROR witness King's cost-of-common-equity  
5 recommendation, which is driven by his DCF analysis, is only slightly higher than the high  
6 end of my recommendation provides another test of reasonableness for my recommendation.  
7 Mr. King arrived at his recommendation with a broader group of comparable companies than  
8 the ones that I used, but his DCF results are still firmly in the single digits.

9           I still believe that the DCF model is the most accurate and reliable method to estimate  
10 the cost-of-common-equity for a utility. The information I reviewed when writing rebuttal  
11 testimony in this case has only provided me with further evidence to confirm the  
12 reasonableness of my DCF recommendation.

13           **SUMMARY AND CONCLUSIONS**

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

15           A.     My revised recommended cost-of-common-equity, which is in the range of  
16 9.50 percent to 9.60 percent, would produce a fair and reasonable rate-of-return of  
17 8.37 percent to 8.42 percent for Empire's Missouri jurisdictional electric utility rate base.

18           Q.     Does this conclude your rebuttal testimony?

19           A.     Yes, it does.

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

**Dr. Vander Weide's Corrected Table 7**

Capital Component	Percentage of Capital	After-tax Cost	Weighted Cost
Common Stock Equity	51.45%	12.07%	6.21%
Preferred Stock	6.11%	5.44%	0.33%
Long-Term Debt	42.45%	4.29%	1.82%
Total	<u>100.00%</u>		<u>8.36%</u>

**Cost-of-Common-Equity Required for AmerenUE Using  
Dr. Vander Weide's Methodology and the  
Capital Structure, Embedded Cost-of-Debt  
and Preferred Stock from AmerenUE Rate Case,  
Case No. ER-2007-0002**

Capital Component	Percentage of Capital	After-tax Cost	Weighted Cost
Common Stock Equity	52.49%	12.86%	6.75%
Preferred Stock	2.04%	5.19%	0.11%
Long-Term Debt	45.46%	3.31%	1.50%
Total	<u>100.00%</u>		<u>8.36%</u>

Sources:

Schedule JVW-11-1 attached to Dr. Vander Weide's direct testimony in Case No. ER-2007-0002.

Schedule LRN-E1-1 attached to Lee R. Nickloy's direct testimony in Case No. ER-2007-0002.

Schedule 3 has been marked Highly Confidential in its entirety.



Schedule 4 has been marked Highly Confidential in its entirety.

## BUILDING-BLOCK ANALYSIS FOR THE EMPIRE DISTRICT ELECTRIC COMPANY

One approach that is commonly used to support a long-term expected return on assets (EROA) assumption is the building-block method. Under this method, a plan's expected return is determined as the sum of (i) the expected weighted-average real return of the fund based on its asset-class mix, plus (ii) the expected rate of inflation.

In applying this method, companies typically look at historical return data. The following table shows historical return data compiled by Ibbotson Associates for the 40-year period ending December 31, 2005:

	40 Years
Real equity return (S&P 500)	5.4%
Real equity return (Russell 2000)	9.1%
Real corporate bond return	3.2%

Empire's current target asset mix is 40% large company equities, 15% smaller company equities, 10% international equities, and 35% corporate bonds. Assuming this asset mix, an 8% return on international equities, and an inflation level of 2.5% - 3.5% the building block method produces the following expected returns:

	40 Years
Equity return (S&P 500) * 40%	2.2%
Equity return (Russell 2000) * 15%	1.4%
Equity return (international) * 10%	0.8%
Corporate bond return * 35%	1.1%
Inflation	2.5% - 3.5%
Expected return	8.0% - 9.0%

These results support an EROA assumption of 8.0% to 9.0%

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

	(1)	(2)	(3)	(4)	(5)	(6)
Company Name	Historical Growth Rate (DPS, EPS and BVPS)	Projected 5-Year Growth IBES (Mean)	Projected 5-Year EPS Growth S&P	Projected 3-5 Year EPS Growth Value Line	Average Projected Growth	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%	5.00%	4.89%	3.07%
<b>Average</b>	<b>-0.22%</b>	<b>4.81%</b>	<b>4.80%</b>	<b>4.70%</b>	<b>4.77%</b>	<b>2.28%</b>
Empire District Electric Company	-0.08%	3.00%	2.00%	6.50%	3.83%	1.88%

**Proposed Range of Growth for Comparables: 4.7%-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

**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	\$2.08	\$41.104	5.06%	5.20%	10.26%
Puget Energy Inc.	\$1.00	\$21.011	4.76%	-0.25%	4.51%
Southern Co.	\$1.56	\$33.629	4.64%	3.07%	7.71%
<b>Average</b>			<u>4.58%</u>	<u>2.28%</u>	<u>6.85%</u>
Empire District Electric Company	\$1.28	\$22.398	5.71%	1.88%	7.59%
<b>Proposed Dividend Yield:</b>					<b>4.60%</b>
<b>Proposed Range of Growth:</b>					<b><u>4.70% - 4.80%</u></b>
<b>Estimated Proxy Cost of Common Equity:</b>					<b>9.30% - 9.40%</b>
<b>Empire Company-Specific Using Same Growth Range in Last Rate Case</b>					<b>7.96%-8.96%</b>
<b>Empire Company-Specific Using IBES Average Growth</b>					<b>8.71%</b>
<b>Empire Company-Specific Using Average Projected Growth</b>					<b>9.55%</b>

Notes: Column 1 = Estimated Dividends Declared 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.

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:		
			9.50%	9.55%	9.60%
Common Stock Equity	49.74%	---	4.73%	4.75%	4.78%
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	<u>100.00%</u>		<u>8.37%</u>	<u>8.40%</u>	<u>8.42%</u>