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Witness: *David Murray*
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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****

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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 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 SEAL
NOTARY PUBLIC
STATE OF MISSOURI

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

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Q. Please state your name.

A. My name is David Murray.

Q. Are you the same David Murray who filed direct testimony in this proceeding for the Staff of the Missouri Public Service Commission (Staff)?

A. Yes, I am.

Q. In your direct testimony, did you provide your expert opinion on what you considered to be a fair and reasonable rate-of-return on the Missouri jurisdictional electric utility rate base for The Empire District Electric Company (Empire)?

A. Yes, I did.

Q. What is the purpose of your rebuttal testimony?

A. The purpose of my rebuttal testimony is to respond to the direct testimony of Dr. James H. Vander Weide. Dr. Vander Weide sponsored rate-of-return(ROR) testimony on behalf of Empire. I will address the issue of the appropriate cost-of-common-equity to be applied to Empire for ratemaking purposes in this proceeding.

EXECUTIVE SUMMARY

Q. Please provide an executive summary of your rebuttal testimony.

A. My rebuttal testimony starts with some corrections I made to my calculations in three schedules attached to my direct testimony. After reviewing the effect that these

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

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

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

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

The last part of my critique provides some further tests of reasonableness of my recommendation compared to Dr. Vander Weide's based on Empire's hired pension plan 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.

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

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

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

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

UPDATED CAPITAL STRUCTURE AND EMBEDDED COSTS

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

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

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

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

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

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

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

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

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

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

> Q. Now, we also asked you a data request to indicate when you began doing this particular calculation and what cases, and you gave us four cases all in '04. Do you recall that, the Dominion Resources, the PG&E Company, Empire and Mid-America Energy?
>
> A. Right. Yes, I do recall that.
>
> Q. And prior to your filing testimony with this method in those cases, did you use another method?
>
> A. I didn't -- I did everything up to the fair rate-of-return the same. That is, I would do a DCF and a risk premium study, by I did not take the final step of saying that cost of equity determines why those risk -- why those DCF risk and premium studies be sufficient to allow the company to earn returns that are comparable to the returns investors expect of other companies of comparable risk, and, thus, be able to attract capital.
>
> And so it's only recently that I took the final step of asking, well, what is required in order to attract capital in the marketplace?
>
> Q. And could you explain to me why you recently changed your methodology for determining ROE and you just recently started performing this leverage adjustment that you just described?
>
> A. Yes. Because I didn't believe that just looking at the results of DCF and CAB[P]-M and risk premium model would allow the companies to attract capital in the marketplace, because the marketplace looks at current interest rates and market value capital structures. Applying cost of DCF models and risk premium models and CAP-M models to the company's book value capital structures will be insufficient to allow the companies to attract capital in the marketplace.

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

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

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

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

Q. And when did your assignment change?

A. In the testimonies that I cited.

Q. And why did your assignment change?

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

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

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

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

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

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

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

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

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

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

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

Q. Okay.

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

Okay. I'm finished.

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

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

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

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

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

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

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

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

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

Q. That would be great.

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

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

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

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

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

Q. So this is a new idea?

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

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

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

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

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

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

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

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

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

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

Q. How did you become aware of this testimony?

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

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

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

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

A. Dr. Vander Weide stated the following:

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

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

[1] 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.

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

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

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

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

> Undoubtedly the average investor determines the company in terms of the market value capital structure.
>
> That's the fundamental principle of finance. It states in every finance textbook that I've read in 30-some years, and it's -- it's how investors look at investments in terms of market value.

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

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

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

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

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

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

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

> Q. Are these economic principles stated in previous regulatory cases regarding the fair return for capital?
>
> A. Yes. Previous regulatory cases have produced two principles applicable to the regulated firm's allowed return on invested capital.

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

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

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

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

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

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

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

A. No.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

A. Yes.

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

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

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

A. Yes.

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

A. Yes.

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

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

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

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

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

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

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

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

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

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

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

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

HC

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

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

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

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

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

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

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

HC

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

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

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

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

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

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

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

SUMMARY AND CONCLUSIONS

Q. Please summarize the conclusions of your rebuttal testimony.

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

Q. Does this conclude your rebuttal testimony?

A. Yes, it does.

THE EMPIRE DISTRICT ELECTRIC COMPANY
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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	**100.00%**		**8.36%**

SCHEDULE 1

THE EMPIRE DISTRICT ELECTRIC COMPANY
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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	**100.00%**		**8.36%**

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

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%	5.00%	4.89%	3.07%
Average	**-0.22%**	**4.81%**	**4.80%**	**4.70%**	**4.77%**	**2.28%**
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.

**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%
Average			4.58%	2.28%	6.85%
Empire District Electric Company	$1.28	$22.398	5.71%	1.88%	7.59%

Proposed Dividend Yield:	**4.60%**
Proposed Range of Growth:	**4.70% - 4.80%**
Estimated Proxy Cost of Common Equity:	**9.30% - 9.40%**
Empire Company-Specific Using Same Growth Range in Last Rate Case	**7.96%-8.96%**
Empire Company-Specific Using IBES Average Growth	**8.71%**
Empire Company-Specific Using Average Projected Growth	**9.55%**

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
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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	**100.00%**		**8.37%**	**8.40%**	**8.42%**

REVISED SCHEDULE 20