# MISSOURI PUBLIC SERVICE COMMISSION

# UTILITY SERVICES DIVISION

# REBUTTAL TESTIMONY

# OF

# DAVID MURRAY

# THE EMPIRE DISTRICT ELECTRIC COMPANY

# CASE NO. ER-2004-0570

*Jefferson City, Missouri*
*November 2004*

# BEFORE THE PUBLIC SERVICE COMMISSION

## OF THE STATE OF MISSOURI

In The Matter of the Tariff Filing of The Empire )
District Electric Company to Implement a )
General Rate Increase for Retail Electric ) Case No. ER-2004-0570
Service Provided to Customers in its Missouri )
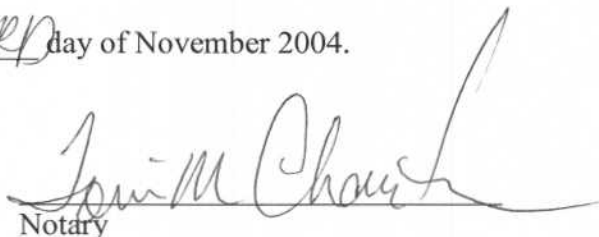Service Area. )

## AFFIDAVIT OF DAVID MURRAY

STATE OF MISSOURI )
) ss.
COUNTY OF COLE )

David Murray, being of lawful age, on his oath states: that he has participated in the preparation of the following rebuttal testimony in question and answer form, consisting of __56__ pages to be presented in the above case; that the answers in the following 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 3RD day of November 2004.

Notary

TONI M. CHARLTON
NOTARY PUBLIC STATE OF MISSOURI
COUNTY OF COLE
My Commission Expires December 28, 2004

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<p style="text-align:center">**REBUTTAL TESTIMONY**</p>

<p style="text-align:center">**OF**</p>

<p style="text-align:center">**DAVID MURRAY**</p>

<p style="text-align:center">**THE EMPIRE DISTRICT ELECTRIC COMPANY**</p>

<p style="text-align:center">**CASE NO. ER-2004-0570**</p>

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 recommend 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. Donald A. Murry and Mr. Travis Allen.  Dr. Vander Weide and Dr. Murry sponsored rate-of-return testimony on behalf of Empire.  Mr. Allen sponsored rate-of-return testimony on behalf of the Office of the Public Counsel (OPC).  I will address the issues of appropriate capital structure, embedded cost of long-term debt, and the cost of common equity to be applied to Empire for ratemaking purposes in this proceeding.

**Direct Testimony Revisions**

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

<p style="text-align:center">1</p>

1       A.      Yes.  After further review of Hawaiian Electric's financial data, I discovered

2   that Hawaiian Electric had a 2-for-1 stock split in June 2004.  This explains why its stock

3   prices in April and May 2004 were about twice as high as they were in June and July of

4   2004.  I decided to divide the stock prices in April and May of 2004 by two in order to

5   eliminate the impact of the stock split on the dividend yield.  This correction resulted in a

6   dividend yield of 4.93 percent for Hawaiian Electric and resulted in an increase in the

7   average dividend yield for the comparable companies to 5.13 percent.  However, even with

8   this revision, the highest DCF-indicated cost of common equity for the comparable

9   companies is 9.03 percent, which is within my recommended company-specific cost of

10  common equity for Empire.  Although this revision affected the Discounted Cash

11  Flow (DCF) results for my comparable companies, I believe my cost of common equity

12  recommendation for Empire based on a company-specific DCF analysis of Empire's specific

13  financial information is still more reflective of Empire's actual cost of capital and should be

14  adopted by this Commission.

15      Q.      Does the above revision affect any of the schedules that you attached to your

16  direct testimony?

17      A.      Yes.  I have attached revised Schedules 23 and 24 to this rebuttal testimony to

18  incorporate this revision.

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

20      A.      Yes.  I have attached to my rebuttal testimony a revised Attachment A to

21  make some corrections and list additional testimony filings from the recent Missouri Gas

22  Energy rate case, Case No. GR-2004-0209.  I had filed rebuttal and surrebuttal testimony in

1 that case at the time I filed direct testimony in this case. However, this testimony was left off

2 of the list on Attachment A.

### Cost of Common Equity, Capital Structure and Embedded Cost of Long-Term Debt

4     Q.      Is there agreement between Staff, Empire and OPC on the embedded cost of

5 long-term debt?

6     A.      No, but the differences in the recommendations are minor. Dr. Murry

7 recommended an embedded cost of long-term debt of 7.25 percent. It appears that this

8 recommendation is based on Empire's "regulated only" debt. Mr. Allen, OPC's witness,

9 recommended an embedded cost of long-term debt of 7.23 percent. Mr. Allen relied on

10 information provided by Empire in response to OPC Data Request No. 2002. He provided

11 his supporting documentation on Schedule TA-3 attached to his direct testimony. It appears

12 that Mr. Allen relied on Empire's "regulated only" debt, because 7.23 percent is the

13 embedded cost that I originally received from Empire in response to Staff Data Request

14 No. 0338, which contained only Empire's "regulated only" debt. I recommended an

15 embedded cost of long-term debt of 7.22 percent based upon all of Empire's long-term debt,

16 which includes the debt that Empire has associated with its nonregulated operations. While

17 the differences in these recommendations are very minor, I believe it is important for the

18 Commission to know Staff's current position on this issue, because the significance of this

19 issue may become greater as Empire grows its nonregulated operations.

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

21 structure?

22     A.      No. Dr. Murry recommends using Empire's "regulated only" capital structure

23 as of December 31, 2003. It appears that Mr. Allen also recommends using the "regulated

1    only" capital structure, but he updated the capital structure as of the update period, June 30,

2    2004. However, his common equity balance does not match the "regulated only" common

3    equity balance at June 30, 2004 that Empire provided me in an updated response to Staff

4    Data Request No. 0334. However, it is clear from the amount of long-term debt that

5    Mr. Allen used in his capital structure recommendation that this portion of his capital

6    structure is based on the "regulated only" data. I recommend using Empire's capital

7    structure on a consolidated basis as of the update period.

8        Q.     Is there an agreement between Staff, Empire and OPC on Empire's cost of

9    common equity?

10       A.     No. Empire recommends a cost of common equity of 11.65 percent based on

11    the average recommendations of their two rate-of-return witnesses. Dr. Murry, Empire's

12    usual cost-of-capital witness, recommended a cost of common equity of 12.00 percent,

13    whereas, Dr. Vander Weide, Empire's new cost-of-capital witness, recommended a cost of

14    common equity of 11.30 percent. The average of these two recommendations is

15    11.65 percent. Mr. Allen recommends a cost of common equity of 8.96 percent to

16    9.41 percent. I recommend a cost of common equity of 8.29 percent to 9.29 percent.

17    **Updated Capital Structure and Embedded Costs**

18       Q.     Did you use the updated capital structure, embedded cost of long-term debt

19    and embedded cost of preferred stock through the end of the test year update period (June 30,

20    2004) in your recommendation?

21       A.     Yes. However, I had already used the updated information in my direct

22    testimony. Therefore, I do not need to provide an updated recommendation in my rebuttal

1 testimony. Consequently, the recommendation contained in my direct testimony is still

2 appropriate.

3 **Dr. Vander Weide's Recommended Cost of Common Equity for Empire**

4      Q.     Please summarize Dr. Vander Weide's recommended cost of common equity

5 for Empire's electric utility operations.

6      A.     Dr. Vander Weide applied three cost-of-common-equity models to two proxy

7 groups; the first was a group of electric utilities, and the second was a group of natural gas

8 utilities. Dr. Vander Weide was the only rate-of-return witness in this proceeding that did

9 not perform a cost-of-common-equity analysis directly on Empire. Dr. Vander Weide

10 applied the following cost-of-common-equity models to his proxy groups: (1) discounted

11 cash flow model; (2) ex ante risk premium method; and (3) the ex post risk premium method.

12 Dr. Vander Weide then adjusted his proxy group cost of common equity to consider the

13 difference between his proxy groups' average capital structure and Empire's capital structure.

14 After estimating that the cost of common equity for his proxy groups was 10.7 percent,

15 Dr. Vander Weide determined that an upward adjustment of 60 basis points to his proxy

16 groups' cost of common equity was appropriate for his belief that Empire had more financial

17 risk.

18      Q.     Do you have any concerns about the companies Dr. Vander Weide selected

19 for his electric utility proxy group that would cast doubt on the application of his proxy

20 group's cost of common equity to Empire?

21      A.     Yes. Many of the companies in his comparable electric group do not receive

22 at least 60 percent of their revenues from electric utility operations. Although I prefer to use

23 the more stringent criterion of at least 70 percent of revenues from electric utility operations,

1   Company witness Murry and OPC witness Allen both chose the less stringent criterion of at

2   least 60 percent revenues from electric utility operations.  Although Dr. Murry, Mr. Allen

3   and I may differ on the level of revenues that must come from electric utility operations in

4   order for a company to be considered comparable, it is interesting to note that three of the

5   four witnesses in this case have determined that it is important to screen for the level of

6   revenues from electric utility operations.  It is important to use this criterion because the

7   objective of selecting a comparable group is to find companies that are as "pure play" as

8   possible.  "Pure play" means that the comparable company is confined, as much as possible,

9   to the operation that is the subject of the cost-of-capital study.  Although approximately

10  40 percent of the companies in Dr. Vander Weide's proxy group don't meet the 60 percent of

11  electric revenues criterion, to be conservative, I will list only those companies that received

12  less than 40 percent of their revenues from electric utility operations.

13          According to the August 2004 C.A. Turner Utility Reports, the following companies

14  in Dr. Vander Weide's electric proxy group received less than 40 percent of their revenues

15  from electric utility operations:  ALLETE, Black Hills, DTE Energy, Duke Energy, MDU

16  Resources, OGE Energy, Otter Tail Corp. and WPS Resources.  Although all of these

17  companies received less than 40 percent of their revenues from electric utility operations, I

18  believe it is especially important to note that Dr. Vander Weide included Duke Energy as a

19  comparable company.  It is widely recognized that Duke is a large, diversified energy

20  company.  When doing a proxy group analysis for a regulated electric utility, it is important

21  to exclude companies that have diversified extensively in the energy industry.  This is the

22  same reason why Staff did not rely on UtiliCorp's (now named Aquila) cost of common

23  equity in Case No. ER-2001-672.

1      Q.      How would elimination of the companies you mentioned affect

2  Dr. Vander Weide's results using his methodology?

3      A.      Even with the inclusion of the companies that receive less than 40 percent of

4  their revenues from electric utility operations, Dr. Vander Weide's average DCF results for

5  his "electric energy" companies is 9.4 percent, which is close to the high end of my

6  recommendation. If I were to eliminate only the companies that receive less than 40 percent

7  of their revenues from electric utility operations, then the average DCF results using

8  Dr. Vander Weide's methodology would have been 9.2 percent, which is within my

9  recommended cost-of-common-equity range for Empire. I believe that these results are

10  conservative at the high end because I did not review these companies' historical growth

11  rates to test the reasonableness of the projected growth rates that Dr. Vander Weide used in

12  his methodology. I believe the results of this DCF analysis using only projected growth rates

13  and such a large proxy group confirms that, on average, companies are able to realize a lower

14  cost of capital than in the recent past because of the current capital and economic

15  environment.

16      Q.      Do you have any other concerns about Dr. Vander Weide's proxy companies?

17      A.      I am not sure that I steadfastly oppose Dr. Vander Weide's idea of using

18  natural gas distribution companies (LDCs) as comparable companies to electric utility

19  companies because both of these industries are regulated industries. However, I follow the

20  philosophy that the main criterion that makes a proxy group comparable to the operation

21  being analyzed is that it is within the same industry and has similar operations. However,

22  these concerns aside, if I were to use LDCs as a proxy group for a regulated electric utility

23  such as Empire, then I would want to make sure that these companies are indeed considered

1    LDCs. I would do this to ensure that most of the proxy group's operations are regulated

2    natural gas distribution operations.

3        Q.      When you select a comparable group to do a cost-of-capital study for Missouri

4    natural gas distribution companies, how do you ensure that the companies that you select for

5    your comparable group are LDCs?

6        A.      I use Edward Jones' quarterly publication, *Natural Gas Industry Summary*,

7    which classifies natural gas companies into three different categories: distribution natural

8    gas companies, diversified natural gas companies and combination natural gas companies.

9        Q.      How does Edward Jones define each of these classifications?

10       A.      Edward Jones provides specific definitions for each of these categories with

11    the qualifier that the classification is based on discretion of stock market performance. The

12    definitions are as follows:

13
14               Distribution: Natural gas companies with at least 90% of their
              operating revenues from distribution.

15
16               Diversified: Natural gas companies with at least 20% but less than
              90% of their net operating revenues from distribution.

17
18               Combination: Electric utilities with at least 15% of their net operating
              revenues from regulated natural gas distribution.

19       Q.      Which of these classifications do you believe would be most appropriate, if

20    you were to decide it was appropriate to use LDCs as comparable companies for Empire?

21       A.      The companies would have to be classified as either a natural gas distribution

22    company or a combination natural gas company in order for me to consider them as

23    comparable to Empire. When I perform a proxy group cost-of-capital analysis for a Missouri

24    natural gas local distribution company, I normally only select distribution companies

25    because this would be the type of operation that is the subject of my cost of capital study.

1   But since we are discussing the possibility of using natural gas companies as proxies for an

2   electric company, then I would also consider a combination company, provided the electric

3   utility operations and the gas distribution operations, combined, accounted for 70 percent of

4   total operating revenues.  However, I would not use diversified companies, because their

5   other revenues may not come from regulated gas and electric operations.

6   Q.    Based on your aforementioned rationale, which companies would you exclude

7   from Dr. Vander Weide's LDC proxy group, if you were to consider gas companies as

8   comparable to Empire?

9   A.    According to Edward Jones' June 30, 2004 *Natural Gas Industry Summary*,

10  the following companies are classified as diversified natural gas companies, and therefore

11  should be excluded:  Entergen Corp., Equitable Resources, KeySpan Corp., NICOR Inc.,

12  Southwest Gas and UGI Corp.

13  Q.    What would Dr. Vander Weide's LDC group's market-weighted average DCF

14  cost of common equity be if the aforementioned companies were excluded?

15  A.    It would be 9.6 percent, based on Dr. Vander Weide's methodology.  This is

16  near the upper end of my recommended cost-of-common-equity range, based on Empire's

17  company-specific cost of common equity.

18  Q.    On page 17, lines 10 through 12 of his direct testimony, Dr. Vander Weide

19  gives the impression that S&P's target values (guidelines or benchmarks) are ratios that a

20  company "must achieve in order to be assigned a specific rating."  Is this your understanding

21  of S&P's financial guidelines that were revised on June 2, 2004?

22  A.    No.  S&P indicates the following in its June 2, 2004 report that revised the

23  guidelines and the business profile system:

1              It is important to emphasize that these metrics are only guidelines
2              associated with the expectations for various rating levels. Although
3              credit ratio analysis is an important part of the rating process, these
4              three statistics are by no means the only critical financial measures that
5              Standard & Poor's uses in its analytical process. We also analyze a
6              wide array of financial ratios that do not have published guidelines for
7              each rating category.

8              Again, ratings analysis is not driven solely by these financial ratios,
9              nor has it ever been. In fact, the new financial guidelines that Standard
10             & Poor's is incorporating for the specified rating categories reinforce
11             the analytical framework whereby other factors can outweigh the
12             achievement of otherwise acceptable ratios.

13      I emphasize S&P's comments because many times witnesses give the impression that

14 companies have to maintain these ratios in order to maintain a specific credit rating. In fact,

15 even Dr. Vander Weide gives this impression when he says that "Standard & Poor's has

16 determined that, to maintain its ratings, the company should have financial ratios…" It is

17 also important to understand that just because a company has a more leveraged capital

18 structure (i.e. more debt in its capital structure), this does not necessarily mean that the

19 company is riskier than another company with a less leveraged capital structure. All risk

20 factors have to be analyzed to determine the total risk level; this includes business risk as

21 well as financial risk. This is why comparing electric utility companies that have the same

22 average credit rating as the subject company is appropriate, regardless of the varying

23 financial risk between the comparable group and the subject company. The credit rating

24 assigned to a company contemplates all of the risks of that company, which includes business

25 risk and financial risk. It is not appropriate to focus only on a company's capital structure,

26 i.e. financial risk, when there may be other risks, i.e. business risk, that offset higher financial

27 risks.

28      Q.      On page 18, lines 4 through 8 of his direct testimony, Dr. Vander Weide

29 provides various financial ratios for Empire. Are these ratios accurate?

1    A.    No.    Dr. Vander Weide provided supporting documentation for his

2    calculations in response to Staff Data Request No. 0478, which was based on the 2003

3    calendar year.  After reviewing S&P's April 26, 2004 research report on Empire, I found that

4    Dr. Vander Weide's ratios do not match those that are calculated by S&P, which were also

5    based on the 2003 calendar year.  I have attached Table 2 from this research report as

6    Schedule 1.

7    Q.    Should Dr. Vander Weide's or S&P ratios be given more weight in evaluating

8    Empire's current financial condition?

9    A.    The ratios that were calculated by S&P, because it is the entity that will make

10   the ultimate decision on Empire's credit rating.

11   Q.    What were S&P's results for the same ratios that were calculated by

12   Dr. Vander Weide?

13   A.    According to S&P, Empire's FFO/total debt was 20.5, compared to

14   Dr. Vander Weide's corrected ratio of 18.1, which he provided in response to Staff Data

15   Request No. 0478; its FFO/interest coverage ratio was 3.6, compared to Dr. Vander Weide's

16   corrected ratio of 2.47, which he provided in response to Staff Data Request No. 0478; its

17   pretax interest coverage ratio was 2.4, compared to Dr. Vander Weide's ratio of 2.45,

18   indicated in his direct testimony; and its total debt/capital ratio was 49.7 percent, compared to

19   Dr. Vander Weide's ratio of 52.8 percent indicated in his direct testimony.

20   Q.    Why do you believe it is important to note these discrepancies in

21   Dr. Vander Weide's calculations and the ratios calculated by S&P?

22   A.    Because Dr. Vander Weide is using his calculations to support his

23   recommended cost of common equity of 11.30 percent.  Dr. Vander Weide maintains that,

1   based on his calculations, Empire's financial ratios are below the target ranges for two of the

2   four categories that he chose to evaluate. However, after reviewing the financial ratios

3   calculated by S&P (the entity that publishes the benchmarks and ultimately determines the

4   creditworthiness of the companies that it analyzes) it is clear that all four ratios that

5   Dr. Vander Weide evaluated fall within the target ranges shown in Dr. Vander Weide's

6   testimony. In fact, one of the most important ratios, FFO/interest coverage, was over a point

7   higher than the ratio calculated by Dr. Vander Weide.

8       Q.      On page 33, line 20, through page 34, line 6, Dr. Vander Weide explains why

9   the empirical evidence proves that his use of LDCs as a proxy group is a "conservative proxy

10  for Empire." Is there a discrepancy in Dr. Vander Weide's DCF results that call this

11  empirical evidence into question?

12      A.      Yes. Dr. Vander Weide's average DCF result for his LDC proxy group was

13  10.4 percent, whereas his average DCF result for his electric proxy group was 9.7 percent.

14  On page 31 of his direct testimony, Dr. Vander Weide indicated that the average Value Line

15  Safety Rank for his proxy group of electric companies was 2, where 1 is the most safe and 5

16  is the least safe. The average Value Line Safety Rank was also 2 for his proxy group of

17  LDCs. Additionally, on page 31 of his direct testimony, Dr. Vander Weide indicated that the

18  average S&P bond rating of the electric companies in his proxy group was approximately

19  BBB+ with a business profile of 5 (on scale of 1 to 10, 1 is considered to have the least

20  amount of risk and 10 is considered to have the most amount of risk). The average S&P

21  bond rating of Dr. Vander Weide's LDC proxy group was an A with a business profile of 4.

22  These risk measures would imply that the cost of common equity would be lower, on

23  average, for his LDC proxy group than for his electric proxy group, but Dr. Vander Weide's

1    DCF cost of common equity results are actually higher for his proxy group of LDCs.  This

2    calls into question his hypothesis that using these risk measures makes companies in different

3    industries comparable, even if they are sub-sectors of the utility industry.  This is why I

4    believe it is preferable to select companies that are in the same industry for the proxy group

5    to estimate the cost of common equity for a company in that industry.  Of course, because

6    Empire is publicly traded and is largely confined to the electric utility business, it is

7    preferable to go even one step further and perform a cost-of-common-equity analysis on

8    Empire itself.  I believe this provides the best estimate of Empire's cost of common equity.

9         Q.    Do you have any concerns about Dr. Vander Weide's ex ante risk premium

10   approach?

11        A.    Yes.  The primary concern I have about this approach is that it uses DCF cost

12   of common equity estimates to estimate the risk premium for the comparable companies.  As

13   this Commission is well aware, application of the DCF model on its own to arrive at a cost-

14   of-common-equity recommendation is the subject of much contention.  Obviously, if an

15   approach relies on a model that has contentious results, then the results from the model using

16   DCF results as inputs will also be the subject of much contention.  For example,

17   Dr. Vander Weide chose to rely only on projected growth rates from I/B/E/S to perform the

18   DCF analysis for purposes of determining the ex ante risk premium.  While use of the ex ante

19   model, based on DCF results using only projected growth, may give some indication of the

20   reasonableness of a company-specific DCF cost of common equity recommendation for

21   Empire, it should only be used as a test of reasonableness, if at all.

22        Q.    Do you have any other concerns with Dr. Vander Weide's ex ante risk

23   premium approach?

1    A.    Yes.  Although the use of the DCF model to arrive at a risk premium result is

2  my primary concern, I have several other concerns as well.  First, I have the same concern

3  with the proxy group that Dr. Vander Weide used for his risk premium analysis as I did with

4  his DCF analysis.  However, I am not sure why Dr. Vander Weide would start with the

5  Moody's group of electric utilities in his risk premium analysis, when he started with the

6  Value Line group of electric utilities in his DCF analysis.  Nevertheless, both of his

7  "comparable" groups include several companies that are not comparable to Empire.

8  According to the September 2004 C.A. Turner Utility Reports, the following companies

9  received less than 40 percent of their revenues from electric utility operations:  DTE Energy

10  Co., Duke Energy Corp., OGE Energy Corp., Constellation Energy and NiSource Inc.

11  Again, the principle objective of doing a proxy group analysis is to select companies that are

12  as "pure play" as possible, meaning that the companies should be confined, as much as

13  reasonably possible, to the type of operation that is the subject of the cost-of-capital

14  recommendation.

15    A second concern that I have is Dr. Vander Weide's use of Moody's A-rated utility

16  bonds for the yield to subtract from his DCF-derived cost of common equity.  Although the

17  most important factor in performing a risk premium analysis is to use the same debt security

18  over the period that you compare its yields to equity returns, an important concept underlying

19  a risk premium analysis is to determine the required risk premium over the risk-free rate.

20  This is exactly why the market risk premium in the Capital Asset Pricing Model (CAPM) is

21  based on the difference between the return on stocks and the return on risk-free securities.

22  While there is no true risk-free security, it is generally recognized that there is no default risk

23  in U.S. treasuries.  Corporate bonds, on the other hand, have a risk premium built in for

1   default risk. Dr. Vander Weide minimized this default risk premium somewhat by using A-

2   rated utility bonds; nevertheless, these bonds still contain a risk premium for the possibility

3   of default. Consequently, I believe it is inappropriate to use the yields on A-rated utility

4   bonds, instead of the yields on U.S. treasuries, to determine the expected risk premium.

5        Q.     Did Dr. Vander Weide make any mistakes in his ex ante risk premium

6   analysis?

7        A.     Yes. On page 36, line 12 of his direct testimony, Dr. Vander Weide stated

8   that he had eliminated Reliant from his proxy group. But when I reviewed

9   Dr. Vander Weide's workpapers, I found that he did not eliminate this company. If he had

10   properly eliminated this company, his average DCF-estimated cost of common equity would

11   have been 11.87 percent rather than 11.95 percent. This would reduce Dr. Vander Weide's

12   ex ante risk premium result to 10.76 percent.

13       Q.     What would Dr. Vander Weide's ex ante risk premium analysis show if you

14   excluded the companies from his proxy group that received less than 40 percent of their

15   revenues from electric utility operations?

16       A.     When I eliminated these companies, the resulting cost of common equity

17   decreased to 11.67 percent from 11.95 percent. This would reduce Dr. Vander Weide's

18   ex ante risk premium result to 10.56 percent.

19       Q.     Regardless of the concerns you have with Dr. Vander Weide's use of the

20   ex ante risk premium model, what does Dr. Vander Weide's analysis indicate about the

21   general trend in the cost of common equity to utility companies?

22       A.     It indicates that the cost of common equity has been coming down recently. A

23   review of Dr. Vander Weide's Schedule JVW-5 shows his DCF costs of common equity

1    were in the 11 to 13 percent range until approximately April 2003. However, starting in May

2    of 2003, Dr. Vander Weide's DCF indicated cost of common equity fell into the

3    10.00 percent territory and hit its low of 9.05 percent in January 2004, the last month that

4    Dr. Vander Weide included in Schedule JVW-5. I have attached Schedule 2 to this

5    testimony to give a graphical representation of Dr. Vander Weide's Schedule JVW-5. This

6    graph confirms Staff's position that the cost of common equity has declined lately and Staff

7    has reflected this in its recommended rate of return for Empire.

8          Q.      Does Dr. Vander Weide's ex ante risk premium analysis of LDCs show the

9    same trend in the cost of common equity?

10         A.      Yes it does. This is shown numerically on Dr. Vander Weide's

11    Schedule JVW-6 and graphically on Schedule 3 attached to this rebuttal testimony.

12         Q.      Do you have any concerns about Dr. Vander Weide's ex post risk premium

13    analysis?

14         A.      Yes. First, it is not appropriate to use historical risk premiums based on

15    S&P 500 returns as a comparison to the risk premium expected for an electric utility

16    company, unless this historical risk premium is adjusted for the lower risk level associated

17    with utilities. This adjustment is often made by multiplying the market risk premium by a

18    beta that is appropriate for the utility. For example, Empire's beta is .65. Therefore, it would

19    be appropriate to multiply the market risk premium by .65 to determine the lower risk

20    premium that would be required to invest in Empire's stock. Multiplying .65 times

21    Dr. Vander Weide's market risk premium of 5.22 percent, results in an adjusted risk

22    premium of 3.39 percent for Empire. Adding this adjusted risk premium to the yield on

1  Moody's A-rated utility bonds for January 2004 results in an adjusted cost of common equity

2  result of 9.55 percent.

3       Q.     Isn't the adjustment you made similar to the methodology that would be used

4  if you were employing the CAPM?

5       A.     Yes.  However, Dr. Vander Weide's application of his ex post risk premium

6  model by using the broader S&P 500 market for required equity returns requires some type

7  of adjustment.  If one were to rely on a risk premium based on the broad S&P 500 index to

8  estimate the cost of common equity for an electric utility such as Empire, then it would

9  obviously be higher than Empire's cost of common equity.  The S&P 500 should have an

10  average beta close to 1.00.  Because Empire's beta is 35 percent less than the market, modern

11  portfolio theory dictates that Empire's cost of common equity would be approximately

12  35 percent less than the market.

13       Q.     Do you have any concerns about Dr. Vander Weide's use of the S&P Utility

14  Index to estimate the cost of common equity for Empire?

15       A.     Yes.  The S&P Utility Index is composed of 33 companies that range from

16  energy marketing and trading companies, such as Dynegy, which has a beta of 2.6, to electric

17  utility companies, such as Consolidated Edison, which has a beta of .55.  While the S&P

18  Utility Index may give some indication of the general direction of returns for utilities, by no

19  means should this index be considered an appropriate proxy for the cost of common equity

20  for Empire.  If the average beta for the S&P Utility Index was close to Empire's beta of .65,

21  then it could be considered a close proxy, but as can be seen from Schedule 4, attached to this

22  testimony, the average beta for the S&P Utility index is .90, a full 38 percent higher than

23  Empire's beta.

1    Q.    Isn't it true that the beta of the S&P utility index may have been different

2  during historical periods?

3    A.    Yes, but it is this very possibility that makes it tenuous to rely on the return on

4  this index from 1936 to the present to estimate Empire's cost of common equity today.

5  Using the DCF model on Empire is the purest way to determine the cost of common equity

6  for Empire and consequently, an appropriate recommendation in this case.  This is especially

7  true because of the claim by Company witnesses that Empire is more risky because of the

8  lack of fuel adjustment clauses, low depreciation allowances, relatively low allowed return

9  on equity (ROE) and a lack of recovery for construction work in progress.  Instead of trying

10  to make arbitrary adjustments to the cost of capital estimates from a proxy group to take

11  these perceived differences in risk into consideration, it is preferable to utilize the DCF

12  model on Empire because the stock price of Empire reflects investors' perceptions of

13  Empire's business and financial risks.

14    Q.    Hasn't this Commission historically relied upon witnesses' company-specific

15  DCF analysis to determine an appropriate cost of common equity to determine a reasonable

16  allowed rate of return for Missouri utilities?

17    A.    Yes.  The Commission has adopted this methodology in many cases in the

18  past.  The use of the company-specific DCF, including the use of non-diversified parent

19  companies for subsidiaries, is the same methodology that Staff had used in the previous two

20  Empire rate cases (Case Nos. ER-2002-424 and ER-2001-299), the AmerenUE Case (Case

21  No. EC-2002-1), the Laclede Case (Case No. GR-2002-356), and the St. Louis County Water

22  Company Case (Case No. WR-2000-844).  I believe Staff has been using this methodology,

23  when possible, for several years and the Commission has found it to be reasonable.

1         For example, in its Report and Order in Case No. ER-2001-299, the

2  Commission stated the following:

> Historically, the Commission has relied upon the Discounted Cash
> Flow ("DCF") Method of determining the appropriate return on equity
> ("ROE") for a regulated utility company. The objective of the DCF
> Method is to determine the discount rate that equates anticipated future
> cash flows from a company's common stock to the current price of the
> common stock. The Company, the Staff and the OPC all recommend
> that the Commission rely upon the DCF Method to establish the
> appropriate return on equity in this case.

11      Again, in its Report and Order for Case No. WR-2000-844, the Commission quoted the

12  following excerpt from the Missouri Cities Water Company Case (<u>In the Matter of the Joint

13  Application of Missouri Cities Water Company</u>, 26 Mo.P.S.C. (N.S.) 1, 26-27 (1983).):

> The Commission has consistently found the Discounted Cash Flow
> (DCF) analysis to be appropriate for determining a rate of return on
> equity. …This is because it is relatively simple to apply and measures
> investor expectations for a specific company. …[T]he DCF analysis is
> consistently systematic and allows the Commission to treat all utilities
> it regulates in a consistent manner.[7]
>
> [7] <u>In the Matter of the Joint Application of Missouri Cities Water
> Company</u>, 26 Mo. P.S.C. (N.S.) 1, 26-27 (1983).

22      Later, in the Report And Order in Case No. WR-2000-844 the Commission further

23  states:

> The Commission concludes that the evidence in this case shows the
> DCF model to be the best approach. The Commission also concludes
> that, of the applications of the DCF model in this case, Staff's DCF
> analysis of AWK is the most pertinent to the determination of the
> Company's cost of capital. Staff's approach is the best because it is
> the purest application of the DCF model in the sense that it relies
> primarily on publicly reported data with little adjustment by the
> analyst. It is also the most appropriate because it uses the best proxy
> for the Company, the Company's parent. The analysis performed by
> Public Counsel witness Burdette and Company witness Walker do not
> as accurately reflect the cost of equity for the Company because their
> proxy groups do not as closely approximate the Company as does
> AWK. In addition, they both made significant adjustments to the

1  results of their DCF analysis. Mr. Walker's use of electric utilities to
2  determine the Company's ROE is a significant flaw.

3  An interesting comment from the Commission in this case was that the Commission

4  felt that use of electric utilities to determine Missouri-American's ROE was a "significant

5  flaw." While I am not completely opposed to the idea of using natural gas utilities to test the

6  reasonableness of a recommended cost of common equity for Empire, I still believe that one

7  of the most important criteria to use when performing a proxy group cost-of-common-equity

8  analysis that will be used to directly estimate the cost of common equity for the subject

9  company is for the proxy companies to be in the same industry as the subject company. This

10  is why a comparable company cost of common equity analysis is commonly referred to as a

11  "pure play" analysis.

12  Q.  On page 45, lines 11 through 20 of his direct testimony, Dr. Vander Weide

13  explains the importance of examining the yields on debt investments in order to determine

14  the investors' required rate of return on common equity. Do you agree with his general

15  proposition that investors will require a certain risk premium to invest in common equity

16  instead of the debt instruments of a company?

17  A.  Yes.

18  Q.  Would the required return on common equity decrease if the required return

19  on debt instruments (the yield on the bond) decreases?

20  A.  Generally this is the case.

21  Q.  Was Empire able to take advantage of the lower cost of capital environment

22  by redeeming and refinancing debt during the 2003 calendar year?

1        A.     Yes.  In fact, Empire highlighted its ability to take advantage of the lower cost

2   of capital environment in its 2003 Annual Report.  Empire indicated the following in its 2003

3   Annual Report:

4           **Lowering costs.**  When drops in interest rates during 2003 offered
5           unique prospects for cost-cutting, we took advantage by redeeming
6           and refinancing long-term debt, effectively reducing interest costs on
7           this portion of our debt about 12%.

8        This comment applies specifically to Empire's debt capital.  However, because

9   investors have a broad range of investment opportunities, which includes investments in both

10  debt and equity, it is only natural that as the cost of one type of capital decreases that the

11  other will decrease, because they are all competing against each other to attract capital.  If the

12  required return on debt instruments declines, then investors will be attracted to common

13  equity investments, driving the share price up and the cost of common equity down.  Staff's

14  and OPC's DCF results, and even a proper application of Dr. Murry's DCF results on

15  Empire, confirm that this is the case.

16       Q.     What cost of common equity did Dr. Murry recommend in Empire's last rate

17  case?

18       A.     Dr. Murry recommended a 12 percent cost of common equity in Empire's last

19  rate case, Case No. ER-2002-424, which was filed in February 2002.

20       Q.     What cost of common equity did Dr. Murry recommend in this case?

21       A.     12 percent.

22       Q.     What has happened to the level of interest rates since the last rate case?

23       A.     They have declined to an even lower level than they were at in the last rate

24  case.  In fact, Empire indicated in its 2003 Annual Report that it took advantage of lower

25  interest rates during 2003.

1    Q.    Is Empire passing along the interest savings of this cheaper cost of debt to its

2    customers?

3    A.    Yes.  Empire has included this cheaper cost of capital in its embedded-cost-of-

4    debt recommendation.

5    Q.    What was the embedded cost of debt in Dr. Murry's recommendation in

6    Empire's last rate case?

7    A.    It was 7.91 percent.

8    Q.    What was the embedded cost of debt in Dr. Murry's recommendation in this

9    case?

10    A.    It was 7.25 percent.

11    Q.    Is Dr. Murry also recommending that Empire's cheaper cost of common

12    equity be passed on to Empire's customers?

13    A.    No.

14    Q.    On page 49, lines 6 through 15 of his direct testimony, Dr. Vander Weide

15    indicates that the cost of common equity for his proxy group depends on the percentages of

16    debt and equity in his proxy group's capital structure.  He claims that in order for his proxy

17    group's cost of common equity to be comparable to Empire's cost of common equity that

18    Empire's capital structure ratios need to be similar.  Do you agree that this should be the

19    primary focus when determining if the proxy group cost of common equity is applicable to

20    the subject company?

21    A.    No.  Typically when I am using a proxy group that is in the same industry as

22    the subject company to derive a recommended cost of common equity for that subject

23    company, I compare the average credit rating of the proxy group to that of the subject

1  company, and make adjustments based on notching differentials in the credit rating. This

2  type of methodology takes into consideration the entire risk differential, both financial and

3  business risk, between the subject company and the proxy group. When evaluating the

4  creditworthiness of a company, credit rating agencies perform a comprehensive evaluation of

5  all of the risks to the company, which includes financial risk and business risk. The financial

6  risk is the component of risk that is a function of the capital structure of the company.

7  Consequently, it is inappropriate to just focus on one element of total risk.

8  Q. Regardless of Dr. Vander Weide's inappropriate focus on just the financial

9  risk, i.e. capital structure, of his proxy group as it compares to Empire, did you discover

10  anything in his comparison that makes his analysis misleading?

11  A. Yes. I reviewed Dr. Vander Weide's workpapers, where he calculated the

12  common equity ratios of his comparable companies. Upon review of these workpapers, I

13  discovered that Dr. Vander Weide calculated the common equity ratio of his comparable

14  companies based on the average market value of these companies for November 2003

15  through January 2004. Dr. Vander Weide then compared this market value common equity

16  ratio to Empire's book value common equity ratio to support his claim that Empire is more

17  highly leveraged than his proxy group of electric utility companies. This is an apples-to-

18  oranges comparison, and should not be given any weight, even if one were to focus only on

19  the financial risk of the proxy group as compared to Empire. I used Value Line financial data

20  to calculate the average book value common equity ratios for Dr. Vander Weide's electric

21  utility proxy group. According to the Value Line information, the average book value

22  common equity ratios was 45.20 percent, which is below Empire's book value common

23  equity ratio of 48.00 percent indicated in Value Line. I also calculated Empire's market

1    value common equity ratio, based on Dr. Vander Weide's methodology, and determined that

2    this ratio was 57.26 percent. Once again, the market value common equity ratio of

3    Dr. Vander Weide's electric utility proxy group of 55.87 percent is less than that of Empire's

4    (see attached Schedule 5).

5          Q.      Based on your discovery of the above, if Dr. Vander Weide were to be

6    consistent with his focus on only the financial risk of his comparable companies versus that

7    of Empire, then what direction would he adjust his proxy group cost of common equity?

8          A.      Dr. Vander Weide would have to adjust his proxy group cost of common

9    equity downward to reflect the lower amount of Empire's financial risk as it relates to the

10    proxy group.

11          Q.      Notwithstanding the inappropriate comparison of market equity ratios and

12    book equity ratios that Dr. Vander Weide makes, what is your opinion about the way in

13    which he adjusts Empire's cost of common equity to achieve the same overall cost of capital

14    as his proxy companies?

15          A.      While the objective of any cost-of-capital study using a proxy group is to

16    attempt to find companies that have approximately the same risk as the subject company, the

17    proposition that the subject company should have the same overall cost of capital as the

18    proxy group is illogical. When recommending a rate of return for a regulated utility, many

19    jurisdictions use the embedded cost of debt for the recommended cost of debt for the utility.

20    This embedded cost of debt is then multiplied by the percentage of debt in the capital

21    structure to determine the portion of the rate of return that allows the utility to recover its

22    debt costs. The debt issuances that comprise the embedded cost of debt would have been

23    issued at various times in the past at various different costs for any given company. This

1 could cause the embedded debt costs of one company to differ from those of another

2 company.

3     Q.    Did Dr. Vander Weide use his proxy group's embedded cost of debt to

4 determine the cost of capital for his proxy group?

5     A.    No. Dr. Vander Weide used a recent yield on Moody's A-rated utility bonds.

6 Therefore, Dr. Vander Weide is comparing a current market-derived cost of debt to Empire's

7 embedded cost of debt. This is clearly a mismatch, just as the comparison of market value

8 common equity ratios to book value common equity ratios is a mismatch. Making such

9 inconsistent comparisons makes Dr. Vander Weide's cost of common equity analysis highly

10 susceptible to measurement errors.

11     Q.    Based on Dr. Vander Weide's proposition that Empire should have the same

12 cost of capital as his proxy companies, would there be any reason to go through the process

13 of estimating the cost of common equity before determining the overall rate of return/cost of

14 capital for Empire?

15     A.    No. Dr. Vander Weide's approach assumes that you should start with his

16 proxy group's cost of capital as Empire's cost of capital, determine Empire's capital structure

17 ratios, apply the cost of debt and preferred stock to their corresponding ratios, and then

18 determine what cost of common equity is needed to achieve the overall cost of capital for the

19 proxy group. This is extremely surprising considering the fact that Dr. Vander Weide feels

20 that Empire faces more risk than his comparable companies. If this were the case, then the

21 overall cost of capital for Empire would be higher than his comparable group.

1      Q.      If Dr. Vander Weide feels that Empire faces more risk than his comparable

2    group, then what would be the best way for him to capture Empire's higher risk exposure in

3    his recommended rate of return?

4      A.      Although I have already indicated this several times, the best way to capture

5    the risks that investors perceive to be associated with Empire is to perform a company-

6    specific DCF analysis on Empire.  When done appropriately, this will give a reliable

7    indication of Empire's true cost of capital.  In fact, this Commission has relied on this

8    methodology in the past because it feels that this is the best proxy of a utility company's cost

9    of capital.

10      Q.      What would Dr. Vander Weide's Empire DCF results have been if he had

11    applied his methodology to Empire?

12      A.      Using Dr. Vander Weide's DCF methodology shown on Schedule JVW-1, I

13    determined that Dr. Vander Weide would have calculated a cost of common equity for

14    Empire of 7.7 percent.  This is based on Empire's stock prices from November 2003 through

15    January 2004 and I/B/E/S's current average growth rate in January 2004 of 1.50 percent.

16      Q.      What would Empire's DCF results be if you used more current financial

17    information using Dr. Vander Weide's DCF methodology?

18      A.      If I used Empire's most recent three months of stock prices, September 2004,

19    August 2004 and July 2004, and the I/B/E/S current average growth rate of 2.50 percent for

20    Empire, the DCF results using Dr. Vander Weide's methodology would be 9.20 percent.

21      Q.      Do you believe that Dr. Vander Weide's methodology of using an average

22    projected growth rate to determine the growth component of the DCF is more appropriate

1   than Dr. Murry's methodology of using the highest growth rate from his sources to determine

2   the growth component of the DCF?

3       A.    If I were to exclusively rely on projected growth rates, which in most cases I

4   would not do, I believe Dr. Vander Weide's use of an average projected growth rate is more

5   appropriate because this proxy is a better approximation of investors' consensus estimate on

6   possible future growth than just using the highest estimated growth rate.  I also believe that

7   use of Value Line's projections can be useful, after adjustments are made, if a company is

8   experiencing volatile results.  The rate-of-return witness's objective is to estimate the

9   investors' expectations of growth as a whole, because this will most accurately measure the

10  company's average cost of common equity.

11  **Dr. Murry's Recommended Cost of Common Equity for Empire**

12      Q.    Please summarize Dr. Murry's recommended cost of common equity for

13  Empire's electric utility operations.

14      A.    Dr. Murry utilized both the Discounted Cash Flow (DCF) model and the

15  Capital Asset Pricing Model (CAPM) to estimate the cost of common equity for Empire.

16  Dr. Murry applied these models to Empire and a group of "comparable" companies in order

17  to compare these results to Empire's results.  Dr. Murry used both models to make several

18  calculations of Empire's cost of common equity and the comparable companies' cost of

19  common equity on Schedules DAM-13 through DAM-21.  These calculations resulted in a

20  wide range of results.  On pages 8, lines 4 through 23 of his direct testimony, Dr. Murry

21  discussed the importance of considering current market conditions and the financial

22  circumstances of Empire when recommending the appropriate cost of common equity.  On

23  page 11, line 15, through page 14, line 9 of his direct testimony, Dr. Murry discussed his

1  concerns with Empire's high dividend payout ratio and what could be done to help improve

2  this ratio.  On page 14, line 10 through page 18, line 2, Dr. Murry discussed his concerns

3  about the regulatory environment in Missouri by quoting from a few sources.  Apparently the

4  purpose of this discussion was to try and support the upward adjustments he made to arrive at

5  his recommended return on common equity of 12.0 percent.

6      Q.  Does it appear that Dr. Murry gave a lot of weight to his Empire DCF results

7  on Schedules DAM-17 and DAM-18?

8      Q.  Yes.  On page 22, lines 5 through 7 of his direct testimony, Dr. Murry cites

9  the high end of his results for Empire.  On the same page of his testimony, Dr. Murry

10  indicates that he focused on the "high end of the current cost of capital using the forecasts of

11  common stock earnings."  Obviously he concentrated primarily on the high end of his DCF

12  results for Empire because the average high cost of common equity for his comparables on

13  Schedule DAM-17 was 10.09 percent and the average high cost of common equity for his

14  comparables on Schedule DAM-18 was 8.78 percent.

15      Q.  Do you believe it is appropriate for Dr. Murry to give much weight to the

16  results he obtained on his Schedule DAM-17?

17      A.  No.  The range of DCF results in this schedule is based on the 52-week

18  high/low stock price of Dr. Murry's comparable companies and of Empire.  Some of these

19  low stock prices, such as Empire's of $17.00, date back to late March, early April 2003.  This

20  is almost a year and a half ago.  The high share price is more reflective of Empire's stock

21  price as recently as the spring of 2004.  Clearly, a stock price near the $20 level is more

22  reflective of Empire's stock price in the recent past.

1    After reviewing historical stock prices for Dr. Murry's comparable companies, I

2 found that all of the low share prices for these companies date back to approximately the

3 same time period. Clearly these stock prices should not be relied upon in estimating the cost

4 of capital for Empire because they are not reflective of recent stock prices. The objective in

5 estimating the cost of capital for a utility is to estimate the current cost of capital as indicated

6 by the current capital and economic environment, not the environment from over a year and

7 half ago.

8    Q.    Regardless, coupled with your observations about the period of the low stock

9 prices for Dr. Murry's comparable companies and Empire and the DCF results obtained by

10 Dr. Vander Weide in his analysis, what do you conclude?

11    A.    It is clear that the increase in stock prices has caused the cost of common

12 equity to come down. If the increase in the stock prices would have been accompanied by

13 expected increases in dividends and/or earnings, then it would appear that the stock prices

14 had increased because of greater dividend and/or earnings growth expectations. However, it

15 appears that the stock prices of the utilities have increased because of macroeconomic issues,

16 such as the persistent low level of interest rates. The DCF model results of all witnesses are

17 reflecting this situation.

18    Q.    Do you believe that it is appropriate to focus primarily on Empire's DCF

19 results rather than the comparable companies' DCF results?

20    A.    Yes. However, Dr. Murry's exclusive reliance on the high estimates for his

21 recommendation is not appropriate. Investors don't pick the highest growth rate and apply

22 this to the highest dividend yield to determine what their required rate of return is. An

23 investor will look at the dividend yield of a company and determine a reasonable estimate of

1   the growth in the price of the stock to determine if he believes that by buying the stock at its

2   current price, he will be able to earn his required return.  If an investor only focused on the

3   higher growth estimates, then that investor would be doomed to making poor investment

4   decisions.

5       Q.      What was the source of the high projected growth rate that Dr. Murry used to

6   come up with his high estimated cost of common equity for Empire?

7       A.      Value Line.

8       Q.      Did you explain your concerns about blindly accepting Value Line's high

9   projected growth rate in your direct testimony?

10      A.      Yes.  I explained Value Line's methodology for calculating historical and

11  projected growth rates on page 29, line 18, through page 30, line 5 of my direct testimony.

12  Because Value Line uses a three-year average for its base period to calculate the projected

13  growth rate based on Value Line's estimated growth rate, this will cause Value Line's

14  estimated growth rate to be on the high side if one of these years was a "down" year for the

15  company.  Likewise, the estimated growth rate would be on the low side if one of these years

16  was an "up" year for the company.  These are all things that a rate of return witness should

17  consider, especially when performing a company-specific DCF analysis.

18      Q.      Do you have any concerns about Dr. Murry's comparable companies?

19      A.      Yes.  Dr. Murry chose to use two companies, Central Vermont Public Service

20  and MGE Energy, that do not have earnings projections available from both Value Line and

21  S&P.  I believe that it is important to select companies that have estimates available from at

22  least two sources, because it is better to have a consensus estimate of earnings growth from at

23  least a couple of analysts.  This is especially a problem for Central Vermont Public Service.

1   After reviewing Value Line's financial information on Central Vermont Public Service, I

2   found that this Company also had a "down" year in one of the three years that was used as an

3   average for the base period to determine projected earnings growth.  As I have previously

4   explained, this causes the projected earnings growth rate to be on the high side and not

5   sustainable.  This is the only growth rate that Dr. Murry was able to use as a proxy for this

6   Company.  Although the weakness of Dr. Murry's analysis of using companies that have

7   only` one source for projected growth is minimized by the fact that they are part of a proxy

8   group estimate, I still feel that these companies should have been eliminated from his

9   comparable group.

10          Q.      What would the average DCF results of Dr. Murry's Schedule DAM-18 be if

11  you eliminated these two companies from his comparable group  and averaged the high and

12  low dividend yield along with the average projected earnings-per-share (EPS) growth rate?

13          A.      I decided to show an average DCF result for Dr. Murry's comparable

14  companies after I eliminated Central Vermont Public Service and MGE Energy.  Dr. Murry's

15  preferred methodology was to show a high and low range of cost of common equity.  These

16  highs and lows are still shown on my attached Schedule 6, along with the overall averages.

17          The average current cost of common equity result for the four remaining comparable

18  companies is 7.14 percent.  If I were to eliminate the low cost of common equity result for

19  CH Energy Group from the average, then the average current cost of common equity result is

20  7.72 percent.  These results are below the lower end of my recommended cost of common

21  equity for Empire.

22          Q.      Why is it important for the Commission to be aware of these lower DCF cost-

23  of-common-equity results?

1    A.    Because, as Dr. Murry indicated on page 7 of his direct testimony, he used the

2 CAPM primarily as a verification of the DCF calculations.  Therefore, Dr. Murry is putting

3 more weight on his DCF analysis.  My review of this analysis validates the lower DCF

4 results that I observed when I reported on my cost of common equity study in my direct

5 testimony.

6    Q.    Why do you believe Dr. Murry's comparable group DCF costs of common

7 equity are validating the lower cost of common equity results for Empire?

8    A.    Because capital costs have declined considerably in the past few years, on

9 average, for all companies.  It is interesting that the DCF results from both of Empire's

10 witnesses' cost-of-capital studies indicated a lower cost of common equity than has been

11 experienced for some time.  This is not a phenomenon that is driven by rate-of-return

12 witnesses, it is a phenomenon that is driven by today's low cost of capital environment.

13 Dr. Murry freely and openly recognizes the importance of the level of interest rates to the

14 cost of capital of a utility on page 4, lines 20 through 21, and on page 8, lines 8 through 11 of

15 his direct testimony.  This is a correlation that just about every rate-of-return witness,

16 regardless of the party he is representing, recognizes.  However, just because witnesses agree

17 that the level of interest rates affects a utility company's cost of capital, whether it is debt

18 capital or equity capital, it is the degree of the reduction in the cost of common equity capital

19 that is the subject of much debate.  However, after I eliminated incomparable companies,

20 even with the use of only analysts' EPS estimates for the growth component of the DCF,

21 which tend to be on the overly optimistic side, the DCF-indicated-cost-of-common equity for

22 Empire's witnesses' remaining companies is in the range of 7 to 9 percent.  These are not

23 results that are driven by the witnesses' affiliation with Empire, they are results that are

1 driven by the capital markets. If the Commission continues to rely on a reasonable

2 application of the DCF model, as it did in cases prior to the recent MGE rate case (Case

3 No. GR-2004-0209) to authorize an allowed return on common equity, then the Commission

4 can have comfort that the return on common equity that it authorizes reflects the current cost

5 of capital environment. Authorizing an allowed return on common equity above a reasonable

6 DCF-indicated cost of common equity may result in companies earning more than their

7 actual cost of capital.

8       Q.      What was Dr. Murry's recommended cost of common equity in Empire's last

9 rate case, Case No. ER-2002-424?

10       A.      12 percent.

11       Q.      What is Dr. Murry's recommended cost of common equity in this case, Case

12 No. ER-2004-0570?

13       A.      12 percent.

14       Q.      What has happened to the level of interest rates since Empire's last rate case,

15 Case No. ER-2002-424?

16       A.      A review of Schedule 5-3 attached to my Direct Testimony indicates that the

17 yields (interest rates) on utility bonds have dropped by approximately 100 basis points since

18 Empire's last rate case. While utility bond yields have continued to drop, the yields on 30-

19 year U.S. Treasury bonds have flattened out a bit since Empire's last rate case.

20       Q.      What was your recommended cost of common equity for Empire in its last

21 rate case?

22       A.      It was 9.16 percent to 10.16 percent.

23       Q.      What is your recommended cost of common equity in this case?

1    A.    It is 8.29 percent to 9.29 percent.

2    Q.    What is the primary reason that your cost of common equity recommendation

3    is lower in this case than it was in Empire's last rate case?

4    A.    The primary reason my recommendation is lower in this case is because

5    Empire's growth expectations are lower now than they were at the time of Empire's last rate

6    case.  However, even with these lower growth expectations, investors are paying a higher

7    price for Empire's stock than they were at the time of Empire's last rate case.  As a result, the

8    dividend yield that I calculated in this case is lower than the dividend yield that I calculated

9    in Empire's last rate case.  This means that, because of the current capital and economic

10   environment, investors are willing to pay a higher price for Empire's stock, which has lower

11   growth expectations than it did a couple of years ago.  In essence, the price-to-projected-

12   earnings-growth ratio has increased, which translates into a lower cost of common equity for

13   Empire.  In fact, according to a September 7, 2004, Stifel, Nicolaus & Company, Inc. (Stifel

14   Nicolaus) report, entitled "Investor Owned Utility Scorecard," which Empire provided in

15   response to Staff Data Request No. 0459, the price-to-2004- projected-earnings ratio for

16   Empire was 20.69 times.  This compares to an average price- to-2004-projected-earnings

17   ratio of 16.32 times for the electric utility companies followed by Sifel Nicolaus.  My

18   recommendation reflects this lower cost of common equity.  Dr. Murry, on the other hand,

19   chose not to reflect this lower cost of common equity by adjusting his 12 percent cost-of-

20   common-equity recommendation from the last rate case downward.

21        As Dr. Murry indicated on page 5, lines 21 through 23, of his direct testimony, when

22   recommending a rate of return, the principle objective is to set an "allowed return that is

23   sufficient, but not larger than necessary, to allow a utility to recover the costs of providing

34

1   service...”  Recommending the cost of common equity is consistent with this principle, and

2   my recommendation reflects Empire's current cost of common equity.

3       Q.      Starting on page 11, and ending on page 14 of his direct testimony, Dr. Murry

4   extensively discusses the dividend policies of Empire and the comparable companies.  Do

5   you agree with his conclusions?

6       A.      I agree with the factual issues that Dr. Murry addresses, such as the fact that

7   most of his comparable companies have not increased their dividend for a few years, while

8   only two of them have.  I also agree that some of the companies may not be increasing their

9   dividend, in order to retain earnings.  I also agree that Empire has experienced high dividend

10  payout ratios in the recent past with the lowest being 94.81 percent in 2000.  Dr. Murry

11  indicates that not one of the comparable utilities in his proxy group had a dividend payout

12  ratio greater than 100 percent in any year (Dr. Murry Direct, page 12, lines 7 through 8).

13  Dr. Murry goes on to state that the "average dividend payout ratio of the comparable utilities

14  is a healthy, and common, 70.8 percent"  (Id, page 12, lines 8 through 9).

15      I agree with Dr. Murry that his comparable group's average dividend payout ratio is

16  healthy at 70.8 percent, compared to, Empire's five-year average dividend payout ratio of

17  125.2 percent (according to Schedule 8 attached to my direct testimony, Empire's five-year

18  average dividend payout ratio was 126.36 percent).  However, I do not share Dr. Murry's

19  concerns about the effect that a cut in dividends will have on Empire's cost of common

20  equity over the long term.  If anything, Empire's resistance to cutting its dividend in order to

21  achieve a healthier payout ratio causes it to have to issue more costly new common equity, in

22  order to restore the erosion that it caused to its common equity balance by having negative

23  retained earnings, which is a component of the common equity balance on Empire's balance

1   sheet.  This would appear to be a never- ending cycle because as Empire issues more new

2   common stock to repair its balance sheet, it has more shares that will be paid the $1.28

3   dividend, which could result in even greater negative retained earnings, which would then

4   require more new common equity to repair the balance sheet once again. Not only does

5   Empire dilute the EPS to its existing common equity owners by issuing additional common

6   stock, but in addition, each time Empire has to issue new common stock through a public

7   offering, it incurs issuance expenses that are amortized over a certain period and, quite often,

8   this amortized expense is built into rates.

9       Q.      Can you cite textbook references that address the kind of problem that Empire

10  is currently experiencing?

11      A.      The following paragraph is a quotation from *The Analysis and Use of*

12  *Financial Statements,* 1998, by Gerald I. White, Ashwinpaul C. Sondhi and Dov Fried.  The

13  complete section on dividend payout ratio is attached as Schedule 7.

14          Although this example may appear unrealistic, it is a reasonable
15          description of the plight of public utility companies (gas, electric,
16          water) in the United States.  To attract investors, these firms
17          historically paid out most of their earnings as dividends.  To finance
18          growth, they periodically sold additional common shares.  As a result,
19          EPS growth rates were low.  These firms were trapped in a vicious
20          cycle.  If they reduced their dividend rates, their EPS growth rates
21          would rise, and they might be considered growth companies rather
22          than bond substitutes.[32]

23  Footnote 32 associated with this quotation, is important enough to repeat here:

24          In recent years, some utilities have reduced their dividends or
25          restricted dividend growth to increase retained earnings available for
26          new investment.  Other utilities have long been successful in
27          promoting themselves as growth companies by paying low dividends
28          and/or stock dividends and retaining their earnings for growth.

29      It is important to note that the text is discussing examples that address companies that

30  pay out most of their earnings in dividends, but not more than their earnings in dividends, as

1  Empire has.  Therefore, the vicious cycle that Empire is in is even more profound than that of

2  a company that only pays out most of its earnings in dividends.

3      Q.      Dr. Murry studied five utilities that cut their dividends and indicates that these

4  companies have experienced an increased cost of capital as a result.  What are your

5  observations about these utilities?

6      A.      First, I would point out that I reviewed one of these utilities, Puget Energy

7  Inc., during Empire's last rate case.  Although I didn't comment on Puget in my testimony in

8  that case, I did comment on another company, DQE, Inc. (DQE) which was also

9  contemplating cutting its dividend during the time I was writing testimony for Empire's last

10  rate case.  I commented on DQE because Value Line commented in a June 7, 2002 report

11  that:  "the board of directors has indicated that a common dividend cut is in the offing.  It is

12  considering a reduction in the quarterly distribution to $0.25 a share, starting in the upcoming

13  December period.  **This would save cash and lend DQE flexibility to improve its overall**

14  **finances"** (emphasis added).

15      In Value Line's May 17, 2002 report on Puget Energy, Inc., Paul Debbas, CFA,

16  indicated that "Puget Energy's board of directors had little choice but to cut the dividend.

17  Even if the WUTC grants the utility its full request, its earnings power won't be enough to

18  maintain a $1.84-a-share annual disbursement.  The company's earnings targets are $1.10-

19  $1.20 a share this year."  Although the dividend of $1.84 per share would have represented a

20  160 percent dividend payout ratio (higher than Empire's five-year average dividend payout

21  ratio) at an EPS of $1.15, it is still interesting to note that Value Line believes that Puget

22  Energy's earnings power wouldn't be enough to maintain its then current dividend.

1    I would also point out the following comment made by Paul Debbas in Value Line's

2    February 15, 2002 report on Puget: "The commission's staff and attorney general have made

3    an issue of the dividend, and they are proposing much smaller rate hikes than PSE [Puget

4    Sound Energy] is seeking. If little rate relief is forthcoming, then the board of directors

5    might have no choice but to cut the disbursement." Consequently, it appears that Puget's

6    board of directors responded to its financial situation and cut its dividend in order to achieve

7    a more reasonable dividend payout ratio. It is also interesting to note that the Washington

8    Utilities and Transportation Commission Staff and the Washington Attorney General made

9    an issue of Puget's dividend even though Puget paid out more than it earned in only three of

10   the previous eleven years before 2002. By comparison, Empire has paid out more than it

11   earned in five of the previous eleven years before 2002 and Empire also paid out 100 percent

12   of its earnings one time over this same time period. This is a persistent problem that needs to

13   be addressed.

14   Although Value Line hadn't commented on Empire's ability to maintain its dividend

15   until recently, I believe that Empire hasn't had the consistent earnings power needed to

16   maintain its $1.28 dividend for some time. Empire might argue that the revenue requirement

17   it requested in this case would allow it to maintain its $1.28 DPS, but I do not believe the

18   revenue requirement should be adjusted with this goal in mind. It is Staff's responsibility to

19   recommend what it believes Empire's reasonable cost of service to be, and if the

20   Commission should adopt Staff's recommendation and Staff's recommendation allows

21   Empire to maintain its DPS, then Empire will not have to make the tough decision of cutting

22   its dividend in order to improve its dividend payout ratio. However, if the Commission's

23   possible adoption of Staff's recommendation does not allow for this to occur, then Empire

1   needs to reevaluate its dividend policy.  Even if the Commission adopts a higher revenue

2   requirement than Staff, I believe Empire needs to reevaluate its dividend policy with the

3   long-term financial health of Empire in mind.

4       Q.      Do you think it is important to consider anything else about the companies

5   that Dr. Murry analyzed to try and support his position that a cut in the dividend will cause

6   an increase in Empire's cost of common equity?

7       A.      Yes.  The dividends of those companies had to be cut because the companies'

8   earnings were not supporting the dividend.  While it is true that investors reacted to the

9   dividend cuts by driving the price of the shares down shortly thereafter, it is clear that the

10  dividend cut wasn't the only reason that these companies' stock prices have suffered.  In fact,

11  I do not believe it is appropriate for Dr. Murry to use companies such as Westar Energy

12  (Westar), TXU Corporation (TXU) and American Electric Power Company (AEP) as support

13  for his position that a dividend cut would result in a higher cost of common equity, because

14  these companies are not comparable to Empire.  For example, Westar's volatile financial

15  results, including a couple years in which they actually suffered losses, are not even close to

16  being typical for a traditional regulated electric utility.  These losses made a comparison of

17  Westar's dividend payout ratios to the rest of the companies' payout ratios in the group

18  useless.  This is why I excluded Westar from the graph on the attached Schedule 8 that

19  compares all of the companies' payout ratios.  Westar has suffered not only from losses due

20  to its security company investment, but it has also faced several criminal investigations.  It is

21  clear that the explanation for Westar's increase in its cost of common equity involves much

22  more than just a cut in its dividend.  Similarly, Aquila's increase in its cost of common equity

23  is much more involved than a cut in its dividend.

1        The reason why the dividend had to be cut is the main issue that investors need to

2   consider.  Many of the companies that Dr. Murry selected to prove his hypothesis were

3   encountering financial difficulties that resulted in a significant decline in EPS as well.  I have

4   attached Schedules 9-1 through 9-6 to illustrate this fact.  I have graphed the EPS and DPS

5   for the most recent ten years for the five companies that Dr. Murry selected as support for his

6   position and also the EPS and DPS for Empire for the most recent ten years.

7        Q.      What were the ten-year average dividend payout ratios for the companies that

8   Dr. Murry cited in support of his position, and what was Empire's ten-year average dividend

9   payout ratio?

10       A.      The ten-year average dividend payout ratios were as follows:   Alliant –

11  94.96 percent, AEP – 85.54 percent, Puget – 103.87 percent, TXU – 77.06 percent, Westar –

12  124.78 percent, and Empire – 105.79 percent.  Please see attached Schedule 10.

13       Q.      What do you conclude from the above information?

14       A.      I conclude that, even though I have some reservations about a few of the

15  companies that Dr. Murry used to attempt to support his position, these companies'

16  management understood the importance of reacting to their companies' financial situation.

17  They realized that the dividends that they were paying were not sustainable.  Therefore, they

18  made the difficult decision of cutting their dividend in order to retain earnings to help fund

19  some of their capital needs.  This would appear to be a decision to position the company for

20  long-term financial success, which will ultimately drive the cost of capital downward.  It is

21  interesting to note that, with the exception of Westar, all of the companies that cut their

22  dividends had a ten-year average dividend payout ratio that was less than Empire's.

1    Q.    Regardless of your reservations about what truly caused Dr. Murry's sample

2    companies' stock prices to decline, did you analyze any of these companies to determine

3    what their cost of common equity is now versus, what it was before they cut their dividend?

4    A.    Yes.  I decided to analyze the current cost of common equity for Puget

5    because I used this company as one of my proxy companies in Aquila's rate case a couple of

6    years ago in Case No. ER-2001-672.  I had not analyzed any of the other companies' cost of

7    common equity in the past, because I did not consider them comparable to any of Missouri's

8    electric utilities at the time.

9    Q.    How did you go about analyzing Puget's cost of common equity?

10    A.    I performed a DCF cost-of-common-equity analysis of Puget, because this

11    model is one of the most widely used in the analysis of the cost of common equity.

12    However, I decided to use only projected growth rates to determine Puget's cost of common

13    equity, because I suspect this should minimize criticism from Dr. Murry about the process I

14    used to evaluate Puget's cost of common equity before and after Puget cut its dividend.

15    Q.    Based on your analysis of Puget in Case No. ER-2001-672, what was  Puget's

16    cost of common equity before it cut its dividend?

17    A.    I have attached Schedule 11, which shows my analysis of the cost of common

18    equity for Puget in Case No. ER-2001-672.  Using the average of the projected growth rates

19    from three sources (I/B/E/S, Value Line and S&P Earnings Guide), this analysis shows that

20    Puget's cost of common equity was 12.70 percent around the fall of 2001.  This was shortly

21    before Puget cut its dividend, which was announced sometime in March 2002 and actually

22    occurred on April 3, 2002.  Puget indicated the following in a press release on March 20,

23    2002, when it announced it was reducing the dividend:

1        To strengthen the company's balance sheet, enhance credit quality and
2        improve the company's financial flexibility, Puget Energy's board of
3        directors has decided to reduce the company's annual common stock
4        dividend from $1.84 to $1 per share. The dividend reduction will
5        become effective with the common stock dividend payable on May 15,
6        2002, to shareholders of record on April 19, 2002.

7        "The board's decision, while very difficult, is an investment in the
8        future health and vitality of the company," said Reynolds. "The new
9        dividend level moves the company to a dividend payout ratio, based
10       upon utility earnings, that is commensurate with other similar utility
11       companies. We are focused on following a strategy of growing our
12       company by strengthening connections with customers, investors,
13       regulators, employees and our communities, which is key to growing
14       our business efficiently. This agreement, combined with our recent
15       management realignment, continued technology and cost-saving
16       innovations, and the company's growth potential in both the regulated
17       and non-regulated arenas puts all the pieces in place for Puget to enjoy
18       a very bright future."

19    Consequently, although this was a tough decision, Puget's board realized that

20 reducing the dividend would enhance credit quality, strengthen the balance sheet and

21 improve the company's financial flexibility. All of these reasons appear to be focused on the

22 long-term financial health of the company.

23    Q.    What did you learn when you did a DCF analysis of Puget's current cost of

24 common equity?

25    A.    As can be seen from Schedules 12-1 through 12-3, Puget's current cost of

26 common equity, using the average projected growth rates from the same three sources, is

27 10.90 percent, almost 200 basis points less than it was at the end of 2001. This information

28 does not confirm Dr. Murry's position that a reduction in the dividend will result in a higher

29 cost of common equity. While I acknowledge that a reduction in the dividend may cause a

30 short-term increase in the cost of capital, if a company shows that it is committed to making

31 decisions that will improve the long-term financial health of the company, it is likely that

32 investors will digest this information and be attracted back to the stock.

1       Regardless, even though Empire hasn't cut its dividend yet, investors are already

2   pricing this possibility into the value of Empire's stock.  According to the aforementioned

3   September 7, 2004 Stifel, Nicolaus report, provided by Empire in response to Staff Data

4   Request No. 0459, Empire currently has the highest dividend yield (6.26 percent) out of the

5   114 utility companies that Stifel, Nicolaus follows.  This dividend yield compares to the

6   average for the electric utility sector of 4.27 percent indicated in the Stifel, Nicolaus report.

7   According to this same report, Empire had the second highest payout ratio, 121.9 percent, out

8   of the same 114 utility companies based on the last twelve months of earnings per share.

9   This compares to an average of 71.4 percent for the electric utility sector indicated in the

10  Stifel, Nicolaus report.  Empire has the highest payout ratio (129.6 percent) based on

11  earnings per share for 2004.  This compares to an average of 71.7 percent for the electric

12  utility sector indicated in the Stifel, Nicolaus report.

13      Q.      When discussing regulatory risk on page 16, lines 15 through 19 of his direct

14  testimony, Dr. Murry makes reference to S&P's characterization of Empire's regulatory

15  environment as having inadequate returns on common stock.  Is this an accurate summary of

16  S&P's comments about Missouri's regulatory environment?

17      A.      No.  This illustrates one of the common misunderstandings about the objective

18  of recommending a rate of return in a rate case proceeding.  In this case, along with other

19  cases in which I have made rate-of-return recommendations, I am recommending that the

20  Company's revenue requirement be based on the Company's cost of capital.  Whether the

21  Company is able to earn its cost of capital is based on factors that are not related to the

22  recommended rate of return.

43

1       As stated on page 29, lines 4 through 8, Dr. Murry believes that the DCF method does

2   not account for "unforeseen influences that may inhibit the ability of a utility to earn its

3   allowed return." Therefore, he concludes, the rate-of-return recommendation should be

4   increased in order to make up for this possibility. However, on page 5, lines 21 through 23

5   of his direct testimony, Dr. Murry acknowledges that the allowed return should be set at a

6   level that is "sufficient, but not larger than necessary, to allow a utility to recover the costs of

7   providing service..." Consequently, the proposition that a rate-of-return witness should

8   recommend a rate of return that is higher than the cost of capital contradicts this principle.

9       Q.      Do you have any concerns about Dr. Murry's application of the CAPM on

10   Schedule DAM-20?

11       A.      Yes. Dr. Murry chose to use the yield on corporate bonds as the risk-free rate

12   in his application of the CAPM. The generally recognized CAPM equation is as follows:

13   $[k = R_f + \beta ( R_m - R_f )]$, where k = the cost of common equity, $R_f$ = the risk-free

14   rate, $\beta$ = beta coefficient and $R_m - R_f$ = the market-risk premium. Therefore, it is clear that

15   the model generally contemplates the use of a risk-free rate.

16       Q.      What is the definition of a risk-free rate?

17       A.      According to Eugene F. Brigham and Joel F. Houston's textbook,

18   Fundamentals of Financial Management, 1998, page 128, the definition of the nominal risk-

19   free rate, which contemplates inflation, is: "The rate of interest on a security that is free of

20   all risk; $k_{RF}$ is proxied by the T-bill rate or the T-bond rate. $k_{RF}$ includes an inflation

21   premium." Therefore, it is quite clear that the interest rate on corporate bonds, which

22   includes the risk of default, is not a risk-free rate.

1      Q.      Does Dr. Murry perform a different calculation of the CAPM on

2   Schedule DAM-21?

3      A.      Yes.  On Schedule DAM-21, Dr. Murry performs a calculation of the CAPM

4   where he eventually uses the U.S. Treasury yield as the risk-free rate.  However, in this

5   version of his CAPM he made a size premium adjustment which is questionable for utilities.

6   If Dr. Murry had not made the size risk premium adjustment, then his CAPM results would

7   have been lower using the U.S. Treasury Yield for the first variable in the CAPM rather than

8   the yield on long-term corporate bonds.  As shown on the attached Schedule 13, the CAPM

9   result for Empire is 9.60 percent with the use of the U.S. Treasury Yield, versus

10  10.97 percent if the yield on long-term corporate bonds is used.  As shown on the same

11  schedule, the average CAPM result for the comparable companies is 9.54 percent with the

12  use of the U.S. Treasury Yield, versus 10.90 percent if the yield on long-term corporate

13  bonds is used.

14     Q.      You indicated that Dr. Murry's size premium adjustment for utilities is

15  questionable.  What is your basis for this position?

16     A.      The adjustment for size premium that Dr. Murry advocates is based on a study

17  of all of the stocks in the New York Stock Exchange, the American Stock Exchange and the

18  Nasdaq National Market.  The study did not apply specifically to regulated utilities.

19  Annie Wong, associate professor at Western Connecticut State University, performed a study

20  that refutes the need for an adjustment based upon the smaller size of public utilities.  She

21  stated:

22              First, given firm size, utility stocks are consistently less risky than
23              industrial stocks.  Second, industrial betas tend to decrease with firm
24              size but utility betas do not.  These findings may be attributed to the
25              fact that all public utilities operate in an environment with regional

1        monopolistic power and regulated financial structure.  As a result, the
2        business and financial risks are very similar among the utilities
3        regardless of their size.  Therefore, utility betas would not necessarily
4        be expected to be related to firm size.

5    Because smaller utilities operate in a regulated environment, just as large utilities do,

6    making an adjustment for firm size appears to be questionable.

7    Q.    On pages 27 and 28 of his direct testimony, Dr. Murry cites various comments

8    from both Moody's and S&P.  Most of these comments provided by Dr. Murry appear to be

9    an attempt to persuade the Commission to lean towards the Company's position in this case.

10    Are you aware of any other comments made by Moody's that the Commission should take

11    into account to have more balanced information at its disposal when making its decision in

12    this case?

13    A.    Yes, in a report issued on April 15, 2004, Moody's stated the following:

14        Recent operating results have been positively affected by favorable
15        weather, higher off-system sales made possible by the startup of its
16        State Line Combined Cycle plant, and the impact of rate increases in
17        Missouri and Kansas.  Cash flow from operating activities for the
18        period ending 12/31/03 was $67 million, which was down slightly
19        from 2002 when CFO [cash flow from operations] was approximately
20        $77 MM.  Cash outflow for 2003 includes approximately $20 million
21        in IEC refunds to customers, which occurred during the first quarter.
22        **Substantial dividend payments ($29 million payout in 2003) are**
23        **also a drain on cash flow.** (emphasis added)

24    Another Moody's report issued on September 15, 2003 indicated the following:

25        EDE has responded to these developments by scaling back its planned
26        capital expenditures for the next several years.  Capital expenditures
27        are projected to be about $50.2 million for 2003, $31.2 million for
28        2004 and $32.6 million for 2005, down significantly from the $73.7
29        million incurred in 2002.  **Taking on additional debt to finance this**
30        **capex and dividends could further pressure EDE's coverage**
31        **ratios.** (emphasis added)

32    Consequently, Moody's is recognizing that there may actually be times when Empire

33    is using debt to finance both its capital expenditures and its dividends.  Although credit rating

1   agencies may not give a lot of weight to dividend payout ratios when evaluating the

2   creditworthiness of a company that is not in a liquidity crisis, there is no doubt that if Empire

3   is incurring debt in order to pay its dividend, then this will indirectly result in the

4   deterioration of its debt-to-capital ratio, which is a ratio that credit rating agencies do

5   consider more heavily when evaluating the creditworthiness of a company.   Moody's

6   indicates that if Empire takes on additional debt to fund both capital expenditures and

7   dividends, then this would also pressure Empire's coverage ratios, which are ratios that credit

8   rating agencies weigh heavily in their analysis.   Consequently, even though credit rating

9   agencies may not give Empire's dividend payout ratio primary consideration in assessing

10  Empire's creditworthiness, the lack of internally funded cash that is needed to support

11  dividends and capital expenditures results in a deterioration in certain credit metrics.   If

12  Empire is sincere about its concerns about its credit quality, then one would believe that

13  Empire would reevaluate its current dividend payment policy.

14          Q.      On page 31, lines 1 through 4 of his direct testimony, Dr. Murry indicates that

15  because Empire faces more business risk because of the lack of a fuel adjustment clause, his

16  recommended cost of common equity should be higher than the allowed returns on common

17  equity for the other companies that he cited on page 30 of his direct testimony.   Are all of the

18  risks that are faced by Empire reflected in your recommendation of 8.29 to 9.29 percent?

19          A.      Yes.  One of the benefits of being able to perform a DCF analysis directly on

20  Empire is that the price investors are willing to pay for Empire's stock reflects all of the risks

21  inherent in that stock.  If investors determined that Empire was more exposed to fuel price

22  changes because it didn't have a fuel adjustment clause, then investors would not pay as

23  much for the stock and this would result in an increase in the dividend yield.  As long as the

1   expected growth in the capital appreciation of the stock was the same as before, then the cost

2   of common equity to Empire would be higher, assuming the rest of the business and financial

3   risks were held the same.

4          Consequently, because the witnesses are able to directly analyze Empire's stock in

5   this case, a proper application of the DCF model on Empire will be the most accurate

6   indicator of Empire's cost of common equity.  This is why I relied primarily on my DCF

7   analysis of Empire for my recommended cost of common equity in this case.

8         Q.     Regardless of your position about the DCF model cost-of-common-equity

9   determination capturing all of the risks that Empire faces, hasn't an Interim Energy

10  Charge (IEC) been proposed in this case, which is an approach to minimize Empire's

11  exposure to the volatility in fuel costs?

12        A.     Yes.  Although S&P has stated a preference for fuel adjustment clauses, they

13  do recognize that an IEC enhances Empire's financial profile.  Even though S&P has

14  indicated that the IEC helps mitigate the potential volatility in energy prices, S&P chose not

15  to recognize this risk mitigation.  Instead, because of other issues that S&P has with the rate

16  case, S&P has actually chosen to put Empire on a negative Credit Watch, with a decision on

17  a downgrade being dependent upon the outcome of Empire's pending rate case.

18        Q.     On page 30, lines 8 through 15, of his direct testimony, Dr. Murry cites three

19  cases, and the allowed returns in those cases, to support his higher recommendation in this

20  case.  Does it appear that Dr. Murry believes that these commissions are authorizing these

21  higher returns because they believe that this is the cost of common equity for these

22  companies?

1    A.    No.  Staff sent Dr. Murry Staff Data Request No. 0477, in which the following

2    question was asked:

3            On page 15, lines 10 through 15 of his direct testimony, Dr. Murry
4            cites information from Regulatory Research Associates (RRA).  Please
5            provide a copy of the source document relied upon for this
6            information.  Additionally, has Dr. Murry done any research to
7            determine if the utility industry average allowed returns are reflective
8            of the cost of equity capital to these utilities?  If so, please provide this
9            research.

10    In response to this data request, Dr. Murry provided the source document and also

11    provided an article, "Utility Allowed Returns and Market Extremes," which he co-authored

12    in the March 1, 1993 *Public Utilities Fortnightly* periodical (attached as Schedule 14).  In

13    this article the authors explained that there is basically a range of interest rate levels in which

14    the commissions' allowed returns for utilities will be correlated with the changes of interest

15    rates.  Basically, this study found that when 10-year U.S. Treasury Bond yields fell below

16    9.35 percent, the allowed returns for utilities did not continue to fall.  The conclusion by the

17    authors was as follows:

18            The above observation is not surprising, however, in light of the
19            obligations of regulators.  Regulators set rates normally for an
20            indefinite future period, but normally expect that period can be
21            measured in years.  In that context, regulators look beyond temporary
22            market conditions and rates.  Allowed returns based on short-lived
23            interest rates will lead to short-lived utility rate levels.  At low levels,
24            if interest rates increase, that only triggers new filings; the observed
25            pattern of allowed returns and rates is consistent with a practice of
26            regulators setting allowed returns with a longer perspective.

27    Based on the above observations and conclusions, it appears that regulators believed

28    that if 10-year Treasury Bond yields fell below 9.35 percent, this was a period of short-lived

29    lower interest rates.  Therefore, the allowed returns should be kept at a higher level in

30    anticipation that interest rates would return back to the higher levels experienced in the

31    1980s.  However, as we are now fully aware, this did not happen (see Schedule 15, which

1    shows the trend in 10-Year U.S. Treasury yields since 1980). Although economists attempt

2    to predict the future level of interest rates, this practice has proven to be a fool's game. It

3    appears that commissions back in the early 1990s weren't comfortable with seeing interest

4    rates lower than 9.35 percent for 10-year Treasury Bonds. One can only imagine how

5    uncomfortable commissions are now, with interest rates as low as 3.97 percent for 10-year

6    Treasury Bonds (October 26, 2004 *Wall Street Journal*, p. C14). The article, co-authored by

7    Dr. Murry, indicated that the central tendency of allowed returns was 12.84 percent when the

8    10-year Treasury Bond yield fell below 9.35 percent. The current yield on the 10-year

9    treasury is more than 5 percent less than the 9.35 percent level that commissions apparently

10   considered the floor of a "normal" interest rate level. If one were to deduct 5 percent from

11   the central tendency of allowed returns in the later 1980s and early 1990s of 12.84 percent,

12   when interest rates were for the most part below 9.35 percent, and if the allowed returns were

13   permitted to fall with the interest rates, then the central tendency of allowed returns could be

14   as low as 8 percent in this current, even lower, cost of capital environment than in the early

15   1990s.

16   **Mr. Allen's Embedded Cost of Long-Term Debt and Capital Structure**

17       Q.      Do you agree with Mr. Allen's recommended embedded cost of long-term

18   debt, which includes the "regulated only" debt issuances of Empire?

19       A.      No. While Empire may be separating these debt issuances on their books for

20   accounting purposes, there isn't a "clean" way to separate them under Empire's current

21   corporate structure for purposes of recommending an appropriate capital structure for rate-of-

22   return purposes. This is because Empire's utility operations are held at the operating

23   company level, whereas the nonregulated operations are held in a subsidiary, EDE Holdings,

1  Inc. The Commission was exposed to this difficulty, and the arguments associated with it, in

2  the most recent MGE rate case, Case No. GR-2004-0209. If the debt associated with the

3  nonregulated operations is going to be removed for purposes of recommending a rate of

4  return, then some equity should also be removed. Actually, because Empire's nonregulated

5  operations are currently incurring losses, the consolidated common equity balance is actually

6  lower than the "regulated only" common equity balance.

7  Consequently, Mr. Allen should have included the costs associated with the "non-

8  regulated debt" in his recommended embedded cost of long-term debt, as well as including it

9  in his recommended capital structure. Mr. Allen is not consistent in recommending a

10  consolidated capital structure in the most recent MGE rate case but not recommending a

11  consolidated capital structure in this case. If Mr. Allen had been consistent and

12  recommended the consolidated capital structure in this case, then he should have also

13  included this debt in his embedded-cost-of-long-term-debt recommendation.

14  **Mr. Allen's Cost of Common Equity**

15  Q.     Do you have any concerns about Mr. Allen's discounted cash flow cost-of-

16  common-equity recommendation?

17  A.     Yes. Mr. Allen used only 6 weeks of stock prices to estimate a dividend yield

18  for Empire. The high end of his dividend yield recommendation (6.41 percent) is based

19  directly on his calculation of Empire's dividend yield for a 6-week period of Empire's stock

20  prices. The dividend yield that I estimated is 6.04 percent, based on 6 months of Empire's

21  stock prices. The difference in our recommendations mainly results from the dividend yield

22  recommendations, because Mr. Allen recommended a growth rate of 3.00 percent, which is

23  within my recommended growth rate range of 2.25 to 3.25 percent.

1    Q.     Is it possible that downward pressure on stock prices may only be temporary

2    when certain events, whether they are firm-specific or they apply to the market as a whole,

3    occur?

4    A.     Yes.

5    Q.     Do you have any evidence to support this possibility?

6    A.     Yes.  If one were to consider the reaction of the stock market after the events

7    of September 11, 2001, one would realize that it is possible that there may be a temporary

8    duration where stock prices are depressed in the overall market.  This period may reflect the

9    nervousness of investors at that specific time about the future prospects for stocks, but it may

10   not be reflective of the long-term prospects for the stock market.  It took approximately a

11   month for the S&P 500 to recover to its pre-September 11, 2001 level.  On September 11,

12   2001, the S&P 500 closed at 1,092.54.  It didn't reach that level again until October 11, 2001,

13   when it recovered its losses to close at 1,097.43.  Therefore, it is obvious that if one were to

14   use a six-week average stock price that included stock prices during the month after

15   September 11, 2001, the dividend yield may not have reflected the long-term prospects of the

16   company.  This may also hold true for company-specific events.  This is exactly why many

17   analysts, such as myself, choose to average the stock prices for a longer period to determine

18   the dividend yield component to be used in the DCF model.

19   Q.     Does the use of a six-month average of stock prices mean that you do not

20   believe the market is efficient?

21   A.     No.  I believe the market is efficient, but there may be short periods where

22   investors are quite skittish about the future.  Events that affect the entire market, such as

23   September11, or specific companies, e.g. stock issuances, mergers, and credit rating changes,

1    may cause temporary fluctuations in stock prices. Therefore, analysts need to use caution

2    when using shorter periods of time to average stock prices.

3    　　　　Q.　　What has been the price of Empire's stock recently?

4    　　　　A.　　Empire's stock price this October has been around $20.50 or a little higher.

5    Empire's closing stock price on the New York Stock Exchange on November 1, 2004 was

6    $21.22. While this does not indicate what Empire's cost of common equity may be over a

7    longer period of time, it does indicate that Empire's stock has rebounded somewhat since

8    Mr. Allen used his 6-week average of stock prices. A dividend yield based on the

9    approximate October average stock price would be approximately 6.25 percent. However, I

10   am not recommending the Commission determine a cost of common equity based on the

11   stock price for the current month, because I believe this is too short of a time frame to

12   estimate Empire's cost of common equity going forward.

13   　　　　Q.　　Isn't the objective of using the DCF model to determine the current cost of

14   common equity based on the most recent stock price available?

15   　　　　A.　　That is a strict, technical interpretation of the requirements of the DCF model.

16   However, it is interesting to note that the original intent of the DCF model (sometimes

17   referred to as the "dividend growth model" in college finance textbooks) was to determine a

18   reasonable price to pay for a stock at a specific point in time. It appears that, based on the

19   original intent of the DCF model, the use of a spot price is appropriate. But when setting

20   rates for a utility, which may be applied over an extended period, it would appear to be more

21   appropriate to determine the cost of common equity based on the company's stock prices

22   over some longer period. This would lend support to my use of six months of stock prices,

23   instead of determining the cost of common equity from six weeks of stock prices, which may

1 reflect a temporary increased or decreased cost of common equity.  Furthermore, statistically

2 speaking, it is better to have a larger sample size when calculating an average.

3   Q. Do you have any concerns about Mr. Allen's use of the Capital Asset Pricing

4 Model (CAPM)?

5   A. Yes.  Mr. Allen chose to subtract a current yield, the average yield from

6 May 3, 2004 to August 27, 2004 of the 3-month U.S. Treasury Bill, from an average stock

7 market return of 12.4 percent based on data from 1926 through 2003, to arrive at a market

8 risk premium, which is shown on his Schedule TA-12.  The fundamental flaw that Mr. Allen

9 made in his calculation of the CAPM cost of common equity is that he used a long-term

10 market return on equities, but a current risk-free rate, to determine what the market risk

11 premium should be.  If Mr. Allen were trying to measure the long-term market risk premium,

12 then he should have subtracted the long-term average annual total return of the treasury

13 securities from the long-term average annual market return on equities.  When determining

14 the market risk premium it is important to use the same time period for the return on the

15 market and the return on the risk-free rate in order to accurately measure the expected risk

16 premium over time.  Anytime one is trying to compare returns for specific securities, it is

17 important to match the time periods used for each security.  Otherwise the analyst is mixing

18 and matching different economic and capital market environments.  The methodology that I

19 used, in which the risk premium is measured using the historical risk premium between

20 stocks and treasury bonds, is consistent with most of the valuations done in the textbook by

21 Aswath Damodaran, <u>INVESTMENT VALUATION:  Tools and Techniques for Determining</u>

22 <u>the Value of *Any* Asset</u>, 1996, which is a textbook used in the curriculum for students seeking

23 the Chartered Financial Analyst (CFA) designation.

1        I have attached Schedule 16, which corrects the error that Mr. Allen made in his

2    application of the CAPM.  As can be seen from the attached Schedule, this correction has a

3    dramatic effect on the results of Mr. Allen's CAPM analysis.  This illustrates how the choice

4    of various inputs in the CAPM, such as the risk-free security, can have dramatic effects on

5    the results achieved from the use of this model.  Because the DCF model results are a matter

6    of determining a reasonable growth rate along with a dividend yield, and because these

7    inputs can be judged conceptually on their reasonableness, it is a methodology that allows for

8    reasonable decisions to be made on the cost of a utility company's cost of common equity.

9    **Summary and Conclusions**

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

11        A.      My conclusions regarding the capital structure, embedded cost of long-term

12    debt and cost of common equity are listed below.

13                1.      Empire's consolidated capital structure is the appropriate capital

14                        structure for ratemaking purposes in this case.  It is the most logical

15                        and identifiable capital structure.  Additionally, use of this capital

16                        structure is consistent with the Staff's position in the recent MGE rate

17                        case and the Commission's decision in that rate case;

18                2.      My embedded cost of long-term debt, which reflects all of Empire's

19                        debt, is the appropriate cost of debt to utilize in the recommended rate

20                        of return, because it reflects all of the funds that Empire has available

21                        to it; and

22                3.      My recommended cost of common equity, which is in the range of

23                        8.29 percent to 9.29 percent, would produce a fair and reasonable rate

1          of return of 7.85 percent to 8.34 percent for Empire's Missouri

2          jurisdictional electric utility rate base.

3    Q.    Does this conclude your rebuttal testimony?

4    A.    Yes, it does.

# CASE PROCEEDING PARTICIPATION

## DAVID MURRAY

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

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

| Date Filed | Issue | Case Number | Exhibit | Case Name |
|---|---|---|---|---|
| 4/15/2004 | Rate of Return Capital Structure | GR20040209 | Direct | Missouri Gas Energy |
| 5/24/2004 | Rate of Return Capital Structure | GR20040209 | Rebuttal | Missouri Gas Energy |
| 6/14/2004 | Rate of Return Capital Structure | GR20040209 | Surrebuttal | Missouri Gas Energy |
| 7/19/2004 | Rate of Return Capital Structure | GR20040209 | True-Up Direct | Missouri Gas Energy |

**Average High / Low Stock Price for April 2004 through July 2004**
**for the Four Comparable Electric Utility Companies**

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
|---|---|---|---|---|---|---|---|---|---|
| | April 2004 | | May 2004 | | June 2004 | | July 2004 | | Average High/Low Stock Price |
| Company Name | High Stock Price | Low Stock Price | High Stock Price | Low Stock Price | High Stock Price | Low Stock Price | High Stock Price | Low Stock Price | (April 2004 - July 2004) |
| DPL Inc. | $19.000 | $17.530 | $20.100 | $16.440 | $19.560 | $18.770 | $20.170 | $18.980 | $18.819 |
| Duquesne Light | $19.950 | $17.970 | $19.600 | $17.640 | $19.790 | $18.770 | $19.740 | $18.390 | $18.981 |
| Hawaiian Electric | $26.175 | $24.295 | $25.300 | $22.965 | $26.280 | $24.230 | $26.740 | $25.200 | $25.148 * |
| NSTAR | $51.300 | $47.280 | $48.980 | $45.300 | $48.600 | $16.600 | $47.970 | $46.010 | $44.005 |

Notes:

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

*Used the average for June and July 2004 because Hawaiian Electric had a 2-1 stock split making April and May stock prices inappropriate to use for a dividend yield calculation.

Sources:   Standard & Poor's Corporation's Security Owner's Stock Guide: August 2004, July 2004, June 2004 and May 2004

**DCF Estimated Costs of Common Equity**
**for the Four Comparable Electric Utility Companies**

| | (1) | (2) | (3) | (4) | (5) |
|---|---|---|---|---|---|
| Company Name | Expected Annual Dividend (2004) | Average High/Low Stock Price | Projected Dividend Yield | Average Projected Growth Rate | Estimated Cost of Common Equity |
| DPL Inc. | $0.970 | $18.819 | 5.15% | 2.83% | 7.99% |
| Duquesne Light | $1.000 | $18.981 | 5.27% | 6.33% | 11.60% |
| Hawaiian Electric | $1.240 | $25.148 | 4.93% | 2.42% | 7.35% |
| NSTAR | $2.270 | $44.005 | 5.16% | 4.00% | 9.16% |
| Average | | | 5.13% | 3.90% | 9.02% |

| | |
|---|---|
| **Proposed Dividend Yield** | **5.13%** |
| **Proposed Range of Growth** | **2.45 - 3.90%** |
| **Estimated Cost of Equity** | **7.58 - 9.03%** |

Notes:    Column 1 = Estimated Dividends Declared per share represents the average projected dividends for 2004 and 2005.

Column 3 = ( Column 1 / Column 2 ).

Column 5 = ( Column 3 + Column 4 ).

Sources:    Column 1 = The Value Line Investment Survey: Ratings & Reports, July 2, 2004, August 13, 2004 and September 3, 2004.

Column 2 = Schedule 23.

Column 4 = Schedule 22.

Table 2
Empire District Electric Co. -- Financial Summary
Industry Sector: Integrated - Electric

| | --Fiscal year ended Dec. 31-- | | | | |
|---|---|---|---|---|---|
| Rating history | BBB/Stable/A-2 | BBB/Stable/A-2 | A-/Negative/A-2 | A-/Watch Neg/A-2 | A-/Watch Neg/A-2 |
| | 2003 | 2002 | 2001 | 2000 | 1999 |
| (Mil. $) | | | | | |
| Sales | 325.5 | 305.9 | 264.3 | 260 | 242.2 |
| Funds from oper. (FFO) | 82.9 | 62.3 | 44.1 | 43.6 | 50.6 |
| Net inc. from cont. oper. | 29.5 | 25.5 | 13.9 | 23.6 | 22.2 |
| Capital expenditures | 65.9 | 76.3 | 75.8 | 128.2 | 70.7 |
| Total debt | 374 | 383.7 | 451.8 | 415.1 | 345.9 |
| Preferred stock | 0 | 0 | 0 | 0 | 0 |
| Common equity | 378.8 | 330.1 | 268.3 | 240.2 | 234.2 |
| Total capital | 752.9 | 713.9 | 720.1 | 655.3 | 580 |
| EBIT interest coverage (x) | 2.4 | 2.6 | 1.5 | 1.9 | 2.4 |
| FFO interest coverage (x) | 3.6 | 3.5 | 2.6 | 2.6 | 3 |
| FFO/avg. total debt (%) | 20.5 | 13.4 | 9.1 | 10.1 | 13.8 |
| Net cash flow/capex (%) | 81.5 | 45.1 | 23.7 | 16.6 | 38.1 |
| Total debt/capital (%) | 49.7 | 56.8 | 65 | 66.1 | 63.1 |
| Return on common equity (%) | 8.2 | 8.3 | 2.7 | 7.5 | 8.2 |
| Common dividend payout (%) | 99 | 109.4 | 332.9 | 125.6 | 116.4 |

Source:  April 26, 2004 S&P Research Report

**SCHEDULE 1**

## Dr. Vander Weide's DCF Indicated Cost of Common Equity for the Electric Utility Proxy Group
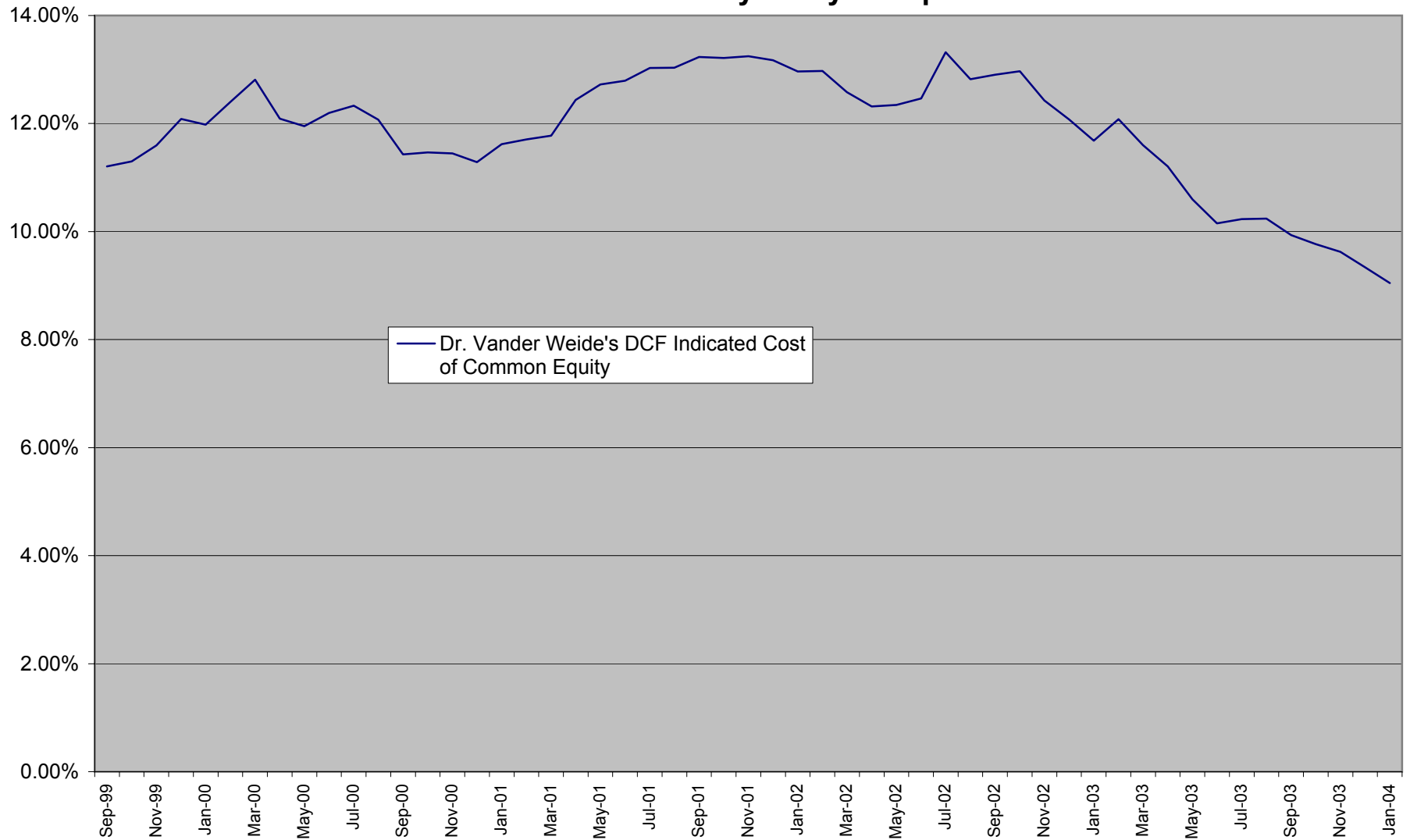


Legend: Dr. Vander Weide's DCF Indicated Cost of Common Equity

## Dr. Vander Weide's DCF Indicated Cost of Common Equity for LDC Proxy Group
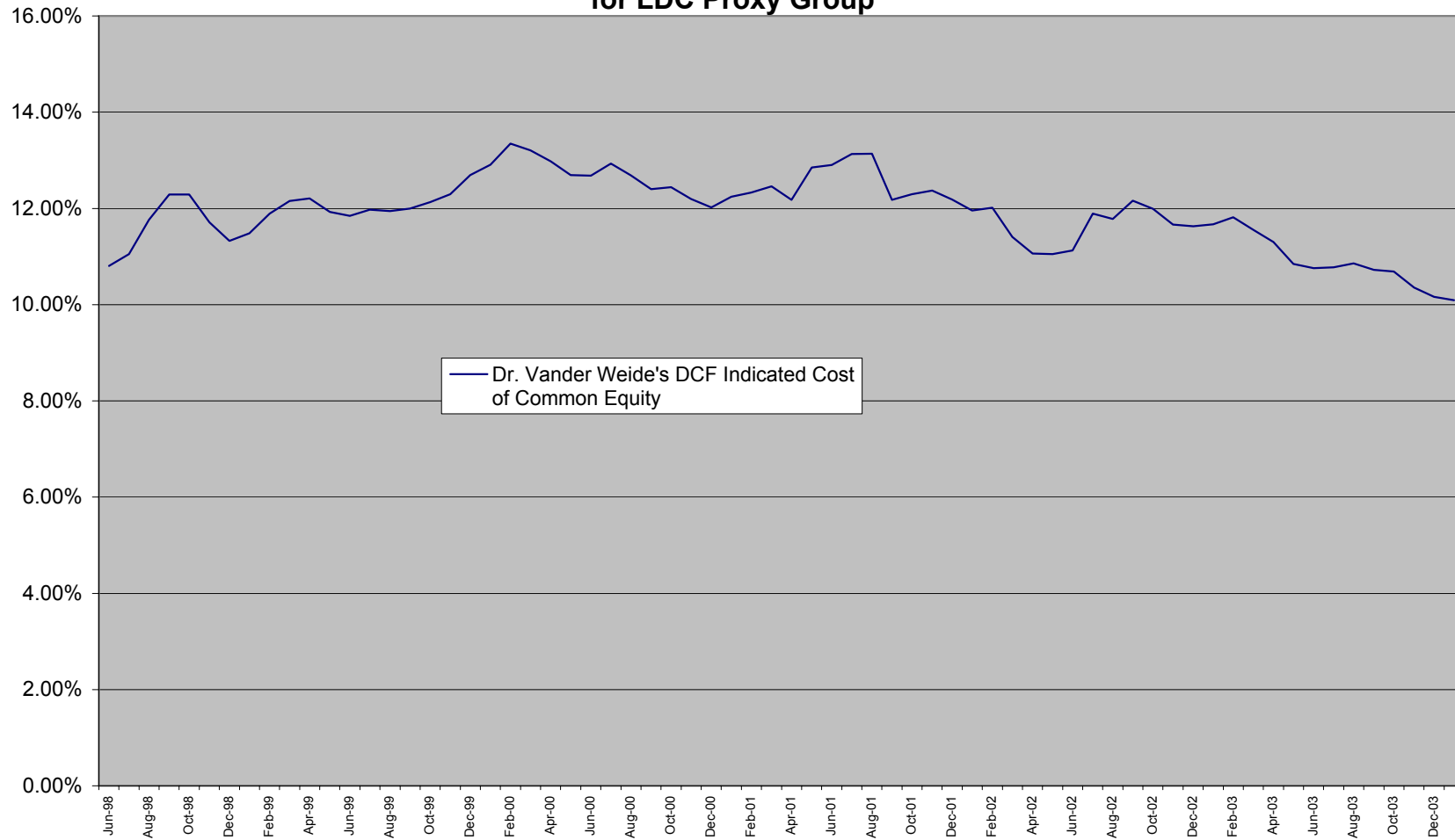


Source:  Dr. Vander Weide's workpapers for Schedule JVW-6 attached to his direct testimony.

**SCHEDULE 3**

# Average Beta for the S&P Utilities Index

| Ticker Symbol | Company | Beta |
|---|---|---|
| AES | AES Corp. | 1.75 |
| AYE | Allegheny Energy | 1.35 |
| AEE | Ameren Corporation | 0.65 |
| AEP | American Electric Power | 0.95 |
| CPN | Calpine Corp. | 1.85 |
| CNP | CenterPoint Energy | NA |
| CIN | CINergy Corp. | 0.70 |
| CMS | CMS Energy | 1.10 |
| ED | Consolidated Edison | 0.55 |
| CEG | Constellation Energy Group | 0.75 |
| D | Dominion Resources | 0.75 |
| DTE | DTE Energy Co. | 0.60 |
| DUK | Duke Energy | 0.95 |
| DYN | Dynegy Inc. (New) Class A | 2.60 |
| EIX | Edison Int'l | 0.90 |
| ETR | Entergy Corp. | 0.65 |
| EXC | Exelon Corp. | 0.70 |
| FE | FirstEnergy Corp. | 0.70 |
| FPL | FPL Group | 0.60 |
| KSE | Keyspan Energy | 0.70 |
| GAS | NICOR Inc. | 0.95 |
| NI | NiSource Inc. | 0.65 |
| PGL | Peoples Energy | 0.75 |
| PCG | PG&E Corp. | 0.90 |
| PNW | Pinnacle West Capital | 0.70 |
| PPL | PPL Corp. | 0.85 |
| PGN | Progress Energy, Inc. | 0.85 |
| PEG | Public Serv. Enterprise Inc. | 0.75 |
| SRE | Sempra Energy | 0.80 |
| SO | Southern Co. | 0.65 |
| TE | TECO Energy | 0.75 |
| TXU | TXU Corp. | 0.85 |
| XEL | Xcel Energy Inc | 0.70 |
| | **Average** | 0.90 |

**SCHEDULE 4**

**THE EMPIRE DISTRICT ELECTRIC COMPANY**
**CASE NO. ER-2004-0570**


**MARKET VALUE EQUITY RATIOS VERSUS BOOK VALUE EQUITY RATIOS FOR**
**DR. VANDER WEIDE'S ELECTRIC UTILITY PROXY GROUP AND EMPIRE**

| Company Name | Nov-03 | Nov-03 | Dec-03 | Dec-03 | Jan-04 | Jan-04 | 3-Mo. Ave. Price | Shares Outstanding | Market Value | Long-Term Debt | Preferred Equity | Market Value | % Long-term Debt | % Preferred | % Equity | Value Line % Equity in Tear Sheets |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALLETE | 30.90 | 29.11 | 30.83 | 29.53 | 33.92 | 30.00 | 30.715 | 86.8 | 2,666 | 736.3 | 0.0 | 2,666.1 | 21.64% | 0.00% | 78.36% | 66.10% |
| Ameren Corp. | 45.09 | 42.55 | 46.17 | 44.05 | 48.34 | 44.91 | 45.185 | 162.3 | 7,334 | 3,433.0 | 193.0 | 7,333.5 | 31.32% | 1.76% | 66.91% | 50.60% |
| Avista Corp. | 17.93 | 16.70 | 18.70 | 17.18 | 18.57 | 17.60 | 17.780 | 48.3 | 859 | 1,002.60 | 33.30 | 858.8 | 52.92% | 1.76% | 45.33% | 41.30% |
| Black Hills | 32.50 | 30.98 | 33.15 | 27.76 | 30.75 | 29.37 | 30.752 | 32.2 | 990 | 618.9 | 5.5 | 990.2 | 38.33% | 0.34% | 61.33% | 44.50% |
| Cinergy Corp. | 36.97 | 35.19 | 38.86 | 36.47 | 39.23 | 37.48 | 37.367 | 177.9 | 6,648 | 4,080.8 | 371.0 | 6,647.5 | 36.77% | 3.34% | 59.89% | 46.90% |
| Consol. Edison | 41.31 | 38.80 | 43.48 | 40.05 | 44.10 | 42.21 | 41.658 | 225.3 | 9,386 | 6,168.4 | 212.6 | 9,385.6 | 39.12% | 1.35% | 59.53% | 48.00% |
| Dominion Resources | 61.74 | 59.27 | 64.45 | 60.18 | 64.70 | 61.20 | 61.923 | 324.0 | 20,063 | 13,457.0 | 257.0 | 20,063.2 | 39.84% | 0.76% | 59.40% | 39.70% |
| DPL Inc. | 19.96 | 18.20 | 21.35 | 19.24 | 20.97 | 19.66 | 19.897 | 126.5 | 2,517 | 2,435.90 | 23.00 | 2,516.9 | 48.95% | 0.46% | 50.58% | 30.50% * |
| DTE Energy | 37.71 | 35.12 | 39.76 | 37.24 | 39.99 | 38.27 | 38.015 | 168.3 | 6,398 | 7,785.0 | 0.0 | 6,397.9 | 54.89% | 0.00% | 45.11% | 40.80% |
| Duke Energy | 18.28 | 17.08 | 20.89 | 17.68 | 22.15 | 19.90 | 19.330 | 907.0 | 17,532 | 21,629.0 | 157.0 | 17,532.3 | 55.01% | 0.40% | 44.59% | 39.80% |
| Energy East Corp. | 23.13 | 21.64 | 23.20 | 22.00 | 23.75 | 22.29 | 22.668 | 146.0 | 3,310 | 3,697.0 | 116.0 | 3,309.6 | 51.91% | 1.63% | 46.47% | 38.50% |
| Entergy Corp. | 55.13 | 51.06 | 57.24 | 52.88 | 58.51 | 56.01 | 55.138 | 228.5 | 12,599 | 7,087.0 | 573.7 | 12,599.1 | 34.98% | 2.83% | 62.19% | 53.20% |
| FirstEnergy Corp. | 34.88 | 32.70 | 35.95 | 34.05 | 37.85 | 35.24 | 35.112 | 329.8 | 11,580 | 11,282.1 | 353.6 | 11,579.8 | 48.60% | 1.52% | 49.88% | 45.00% |
| FPL Group | 65.44 | 62.72 | 65.98 | 63.00 | 66.94 | 63.34 | 64.570 | 183.9 | 11,874 | 5,790.0 | 226.0 | 11,874.4 | 32.36% | 1.26% | 66.37% | 44.40% |
| G't Plains Energy | 32.57 | 31.02 | 32.78 | 31.19 | 33.29 | 31.55 | 32.067 | 69.2 | 2,219 | 1,124.3 | 39.0 | 2,219.0 | 33.24% | 1.15% | 65.61% | 44.40% |
| Hawaiian Elec. | 46.25 | 44.47 | 48.00 | 45.59 | 50.99 | 47.10 | 47.067 | 37.7 | 1,774 | 1,170.3 | 34.4 | 1,774.4 | 39.28% | 1.15% | 59.56% | 49.80% |
| MDU Resources | 23.82 | 22.23 | 24.35 | 23.15 | 24.34 | 23.55 | 23.573 | 113.2 | 2,669 | 819.60 | 16.30 | 2,668.5 | 23.39% | 0.47% | 76.15% | 60.10% |
| NSTAR | 48.57 | 46.36 | 48.96 | 47.00 | 49.98 | 48.00 | 48.145 | 53.0 | 2,552 | 2,091.4 | 43.0 | 2,551.7 | 44.63% | 0.92% | 54.45% | 40.20% |
| OGE Energy | 23.94 | 22.77 | 24.34 | 23.45 | 24.50 | 23.03 | 23.672 | 86.9 | 2,057 | 1,501.9 | 0.0 | 2,057.1 | 42.20% | 0.00% | 57.80% | 45.60% |
| Otter Tail Corp. | 27.52 | 26.00 | 27.65 | 26.40 | 27.49 | 26.36 | 26.903 | 25.7 | 691 | 258.2 | 15.5 | 691.4 | 26.75% | 1.61% | 71.64% | 54.30% |
| Pinnacle West Capital | 39.65 | 36.21 | 40.48 | 38.59 | 40.81 | 38.07 | 38.968 | 91.3 | 3,558 | 2,881.7 | 0.0 | 3,557.8 | 44.75% | 0.00% | 55.25% | 49.40% |
| PPL Corp. | 41.37 | 39.67 | 43.89 | 39.95 | 46.28 | 42.74 | 42.317 | 177.3 | 7,503 | 5,901.0 | 743.0 | 7,502.7 | 41.71% | 5.25% | 53.04% | 28.50% |
| Progress Energy | 43.86 | 41.60 | 45.72 | 43.40 | 46.12 | 43.02 | 43.953 | 244.9 | 10,764 | 9,747.3 | 92.8 | 10,764.2 | 47.31% | 0.45% | 52.24% | 43.40% |
| Public Serv. Enterprise | 41.40 | 39.40 | 44.20 | 40.58 | 45.95 | 42.85 | 42.397 | 226.8 | 9,616 | 10,991.0 | 1,400.0 | 9,615.6 | 49.94% | 6.36% | 43.69% | 29.80% |
| Southern Co. | 30.17 | 28.55 | 30.41 | 29.10 | 30.56 | 29.11 | 29.650 | 731.4 | 21,686 | 8,658.0 | 2,718.0 | 21,686.0 | 26.19% | 8.22% | 65.59% | 43.60% |
| Vectren Corp. | 24.15 | 22.97 | 24.85 | 23.76 | 25.05 | 24.28 | 24.177 | 75.6 | 1,828 | 954.2 | 0.3 | 1,827.8 | 34.30% | 0.01% | 65.69% | 50.00% |
| WPS Resources | 45.31 | 43.19 | 46.80 | 43.87 | 48.12 | 44.99 | 45.380 | 32.6 | 1,479 | 824.4 | 101.1 | 1,479.4 | 34.28% | 4.20% | 61.52% | 52.10% |
| | | | | | | | | | | | | | | | | |
| Market Weighted Average | | | | | | | | | 136,126 | 7,725 | 182,151 | 41.76% | 2.37% | 55.87% | 45.20% |
| | | | | | | | | | | | | | | | | |
| Empire | 22.25 | 21.15 | 22.05 | 21.00 | 22.00 | 21.38 | 21.638 | 25.40 | 550 | 410.30 | 0.00 | 549.6 | 42.74% | 0.00% | 57.26% | 48.00% |

*Represents an estimated value

Sources:  Dr. Vander Weide's workpaper for Schedule JVW-1
        Value Line

**SCHEDULE 5**

**THE EMPIRE DISTRICT ELECTRIC COMPANY**
**CASE NO. ER-2004-0570**

The Empire District Electric Company

Comparable Electric Companies
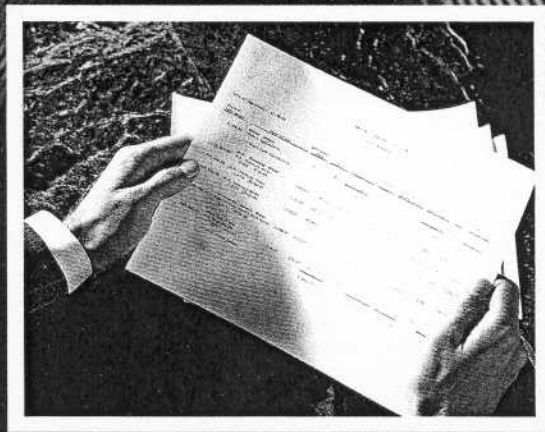(Excluding Central Vermont Public Service and MGE Energy)

Current Cost of Capital

| | Share Prices | | Current | Current Yields | | Average | EPS Estimates | | Average EPS | Cost of Capital | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Low | High | Dividend | Low | High | Yield | Value Line | S&P | Estimate | Low | High | Average |
| Empire District Electric | 21.76 | 22.07 | 1.28 | 5.80% | 5.88% | 5.84% | 6.00% | 2.00% | 4.00% | 7.80% | 11.88% | 9.84% |
| CH Energy Group | 46.19 | 46.77 | 2.16 | 4.62% | 4.68% | 4.65% | 1.50% | 0.00% | 0.75% | 6.12% | 6.18% | 5.40% |
| Hawaiian Electric | 50.40 | 51.01 | 2.48 | 4.86% | 4.92% | 4.89% | 2.50% | 3.00% | 2.75% | 7.36% | 7.42% | 7.64% |
| NSTAR | 48.58 | 49.15 | 2.21 | 4.50% | 4.55% | 4.52% | 3.50% | 4.00% | 3.75% | 8.00% | 8.55% | 8.27% |
| Pinnacle West | 38.11 | 38.78 | 1.83 | 4.72% | 4.80% | 4.76% | 1.00% | 4.00% | 2.50% | 5.72% | 8.80% | 7.26% |
| Comparable Companies' Averages | 45.82 | 46.43 | 2.17 | 4.67% | 4.74% | 4.71% | 2.13% | 2.75% | 2.44% | 6.80% | 7.74% | 7.14% |
| Averages Excluding CH Energy | 45.69 | 46.31 | 2.17 | 4.69% | 4.76% | 4.72% | 2.33% | 3.67% | 3.00% | 7.03% | 8.26% | 7.72% |

Source:
Dr. Murry's Schedule DAM-18

**SCHEDULE 6**

# THE ANALYSIS AND USE OF

# FINANCIAL STATEMENTS

### SECOND EDITION

## GERALD I. WHITE

## ASHWINPAUL C. SONDHI

## DOV FRIED

## To Penny, Rachel, and Our Families and Friends

• Whose definition of what constitutes an asset or liability may not coincide with economic reality.

Thus, the balance sheet may contain goodwill or other intangible assets of uncertain value; the market value of investments and fixed assets may differ markedly from the balance sheet valuation and there may be significant adjustments for off-balance sheet activities.

## Price-to-Earnings and Price-to-Book Value Ratios

The P/E ratio measures the degree to which the market "capitalizes" a firm's earnings. The P/E ratio has been the subject of much scrutiny in the academic as well as the professional world. Its theoretical underpinnings, empirical behavior, and its relationship to the price-to-book value ratio are discussed in greater detail in Chapter 19.

Book value per share and its relationship to price in the form of the price-to-book (P/B) ratio has received recent attention in the finance and accounting literature. The Ohlson (1995) valuation model noted above is one reason. Additionally, Fama and French (1992) found that the P/B ratio (along with size) was the best predictor of future stock returns. Firms with low P/B ratios subsequently had consistently higher returns than firms with high P/B ratios. We discuss this research further in Chapters 5 and 18.

## Dividend Payout Ratio

The dividend payout ratio equals the percentage of earnings paid out as dividends, that is,

$$\text{Dividend Payout} = \frac{\text{Dividends}}{\text{Net Income}}$$

Generally, "growth" firms have low dividend payout ratios as they retain most of their income to finance future expansion. More established "mature" firms tend to have higher payout ratios.

### Effect of Dividend Policy on per Share Growth

The (ir)relevance of a firm's dividend policy has been the subject of much debate in the finance literature. It is important to note, however, that a firm's payout ratio (combined with its financing policy) can lead to differing growth rates in EPS and book value per share. Firms with low dividend payout ratios will show higher growth than those with high payout ratios. As a result, misleading conclusions can arise when firms with different dividend policies are compared.

Firm A, shown in Exhibit 4-11, has a low dividend payout ratio of 10%. The reinvestment of earnings produces steady growth in EPS given a constant ROE of 10% and no issuance of new stock. Firm B pays out all net income as dividends. To obtain capital for growth, it sells new shares at the price indicated (for simplicity, we assume a constant price-earnings ratio of 10). Although both firms show the same (9%) growth rate for net income, Firm B shows no growth in per share earnings and book value. The growth in shares outstanding is as rapid as the growth in earnings

Schedule 7-3

**EXHIBIT 4-11**
**Effect of Dividend Policy on Growth of Earnings and Book Value per Share**

|  | 19X1 | 19X2 | 19X3 | 19X4 | 19X5 |
|---|---|---|---|---|---|
| *Firm A: Low Dividend Payout* | | | | | |
| Net income ($000) | 1,000 | 1,090 | 1,188 | 1,295 | 1,411 |
| Average shares (000) | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
| Earnings per share ($) | 1.00 | 1.09 | 1.19 | 1.30 | 1.41 |
| Dividends paid ($000) | 100 | 109 | 119 | 130 | 141 |
| Book value ($000)* | 10,900 | 11,881 | 12,950 | 14,115 | 15,385 |
| Book value/share ($)* | 10.90 | 11.88 | 12.95 | 14.11 | 15.38 |
| *Firm B: High Dividend Payout* | | | | | |
| Net income ($000) | 1,000 | 1,090 | 1,188 | 1,295 | 1,411 |
| Average shares (000) | 1,000 | 1,090 | 1,188 | 1,295 | 1,411 |
| Earnings per share ($) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Dividends paid ($000) | 1,000 | 1,090 | 1,188 | 1,295 | 1,411 |
| Stock issued ($000) | 900 | 981 | 1,069 | 1,165 | 1,270 |
| Assumed price per share ($) | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 |
| No. of shares issued (000) | 90 | 98 | 107 | 116 | 127 |
| Book value ($000)* | 10,900 | 11,881 | 12,950 | 14,115 | 15,385 |
| Book value/share ($)* | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 |
| *Firm A Compared to Firm B* | | | | | |
| Ratio of earnings per share | 1.00 | 1.09 | 1.19 | 1.30 | 1.41 |
| Ratio of book value per share | 1.09 | 1.19 | 1.30 | 1.41 | 1.54 |

*At year-end.
*Note:* Opening Book Value January 1, 19X1, assumed to be $10,000,000.

and book value. The last part of the exhibit shows the widening differential between the two firms.

Although this example may appear unrealistic, it is a reasonable description of the plight of public utility companies (gas, electric, water) in the United States. To attract investors, these firms historically paid out most of their earnings as dividends. To finance growth, they periodically sold additional common shares. As a result, EPS growth rates were low. These firms were trapped in a vicious cycle. If they reduced their dividend rates, their EPS growth rates would rise, and they might be considered growth companies rather than bond substitutes.[32]

[32]In recent years, some utilities have reduced their dividends or restricted dividend growth to increase retained earnings available for new investment. Other utilities have long been successful in promoting themselves as growth companies by paying low dividends and/or stock dividends and retaining their earnings for growth.

# THE EMPIRE DISTRICT ELECTRIC COMPANY
## CASE NO. ER-2004-0570

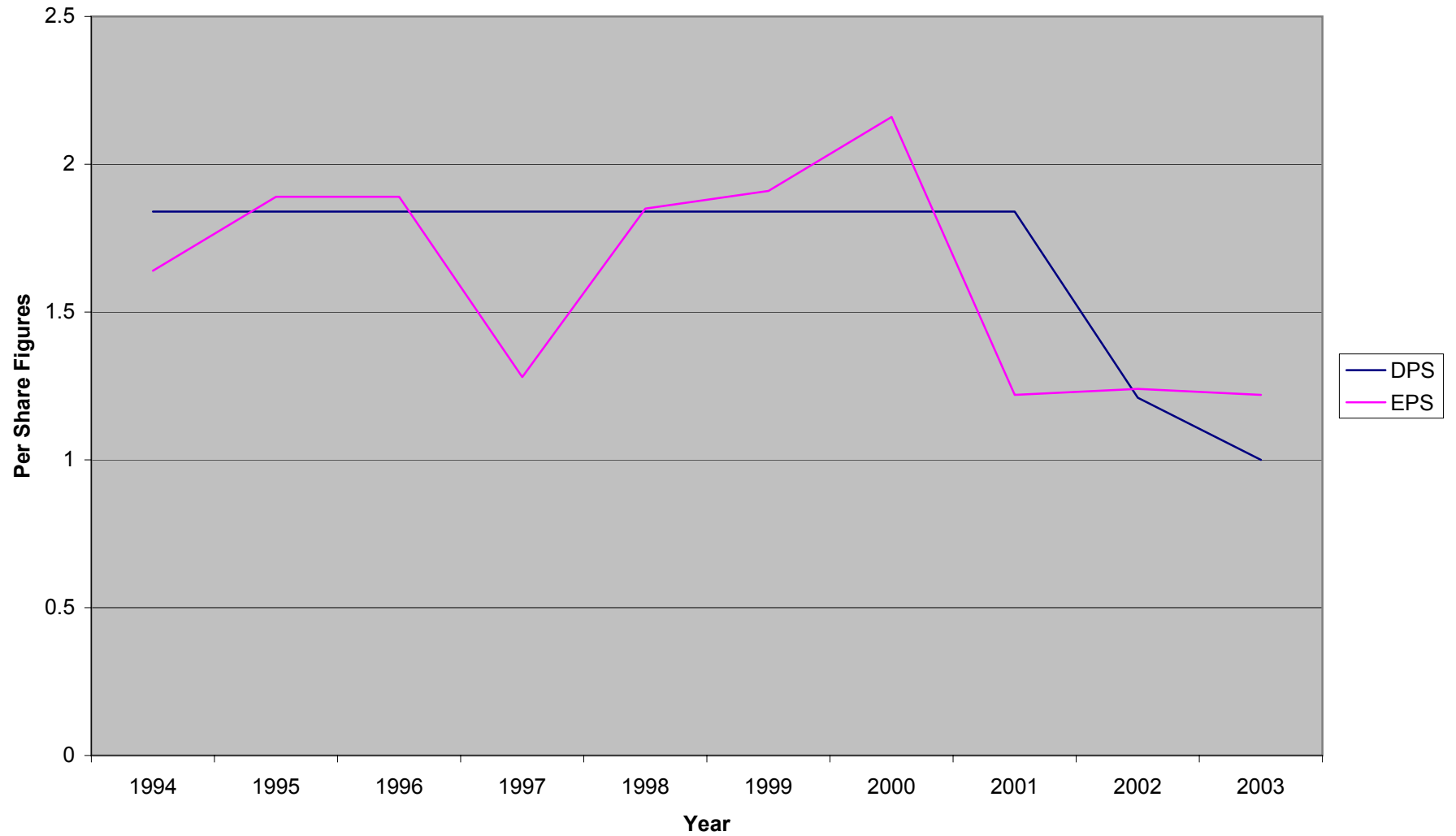## Payout Ratios
## from 1994 - 2003 for all
## Companies Except
## Westar



**SCHEDULE 8**
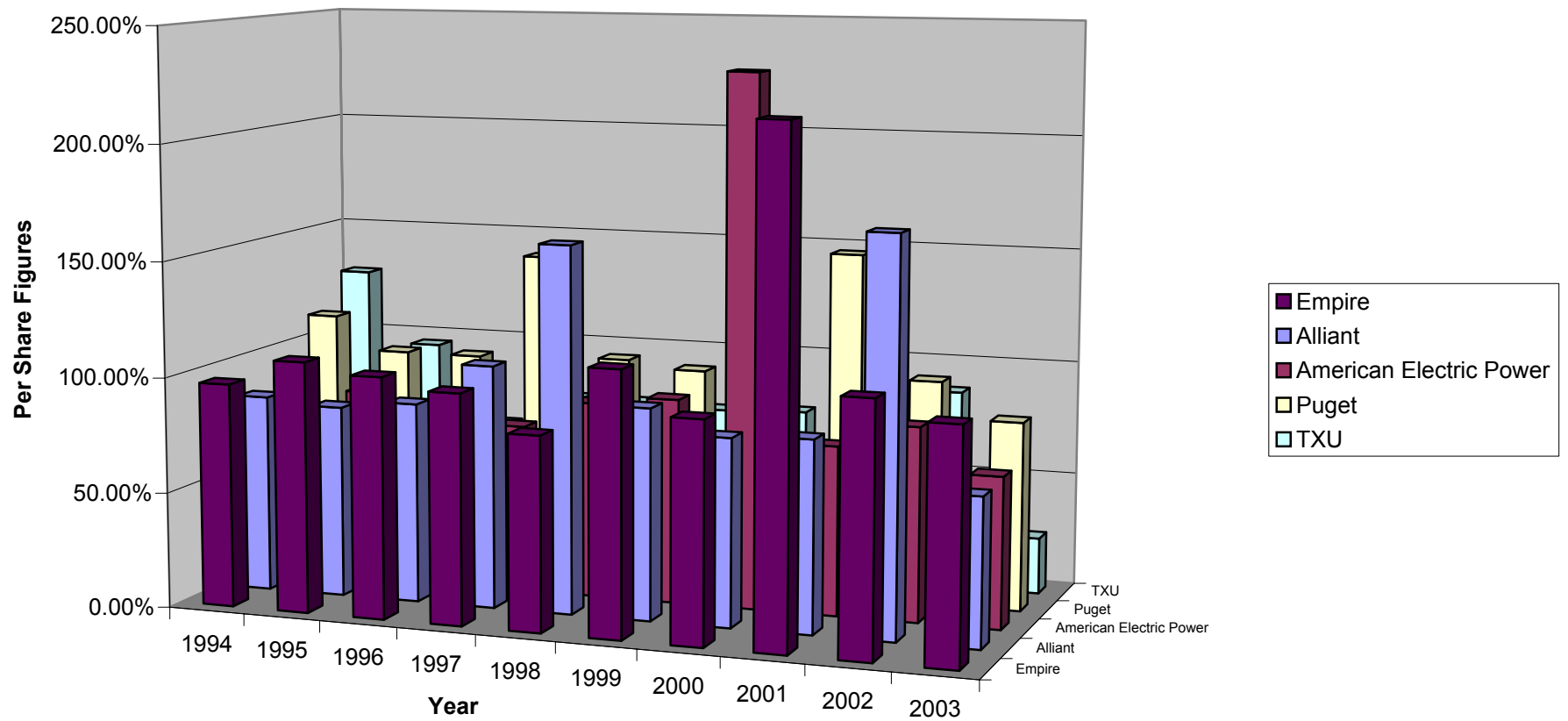
DPS Vs. EPS for Alliant
from 1994 - 2003

**SCHEDULE 9-1**
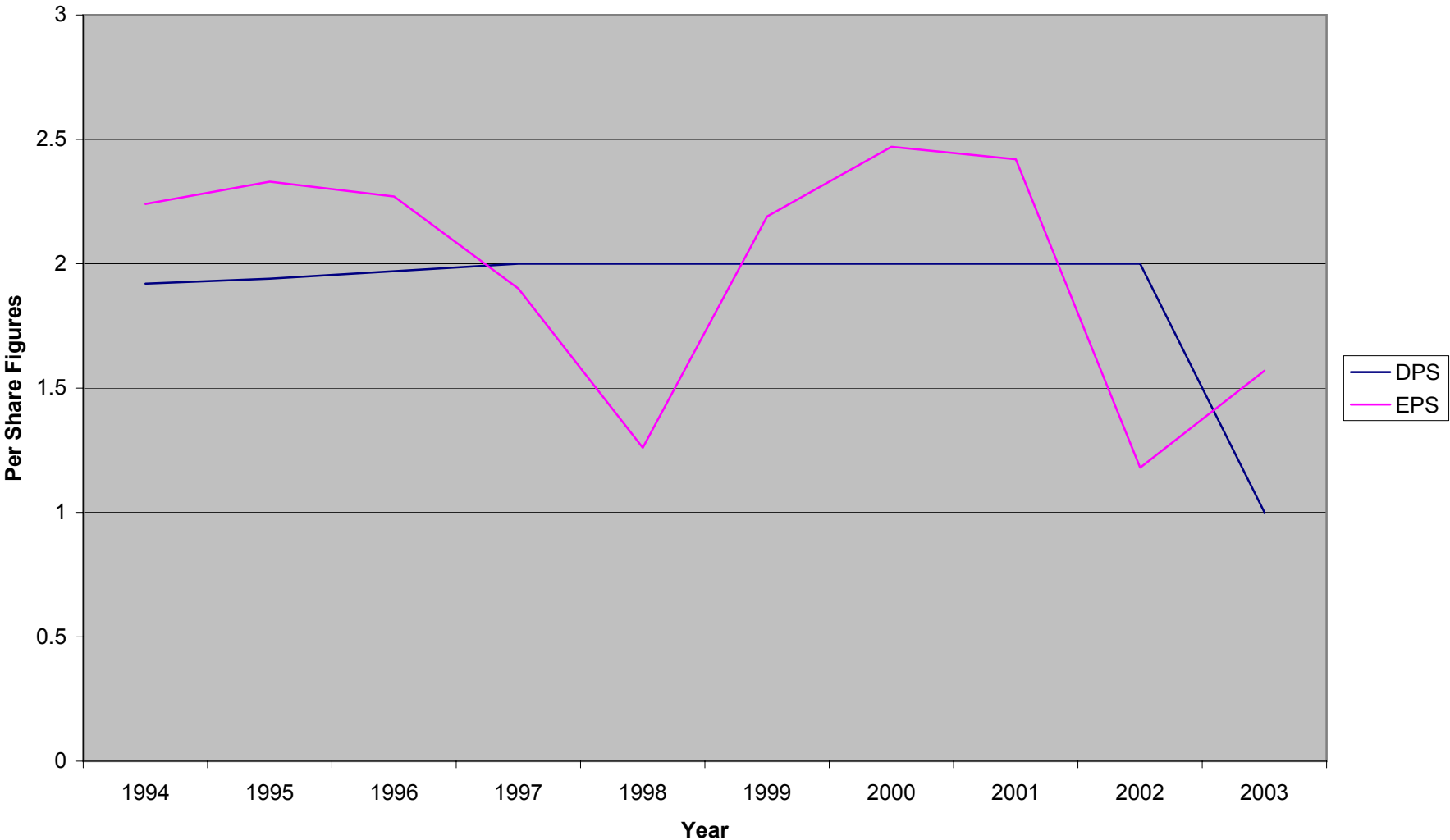
DPS Vs. EPS for American Electric Power
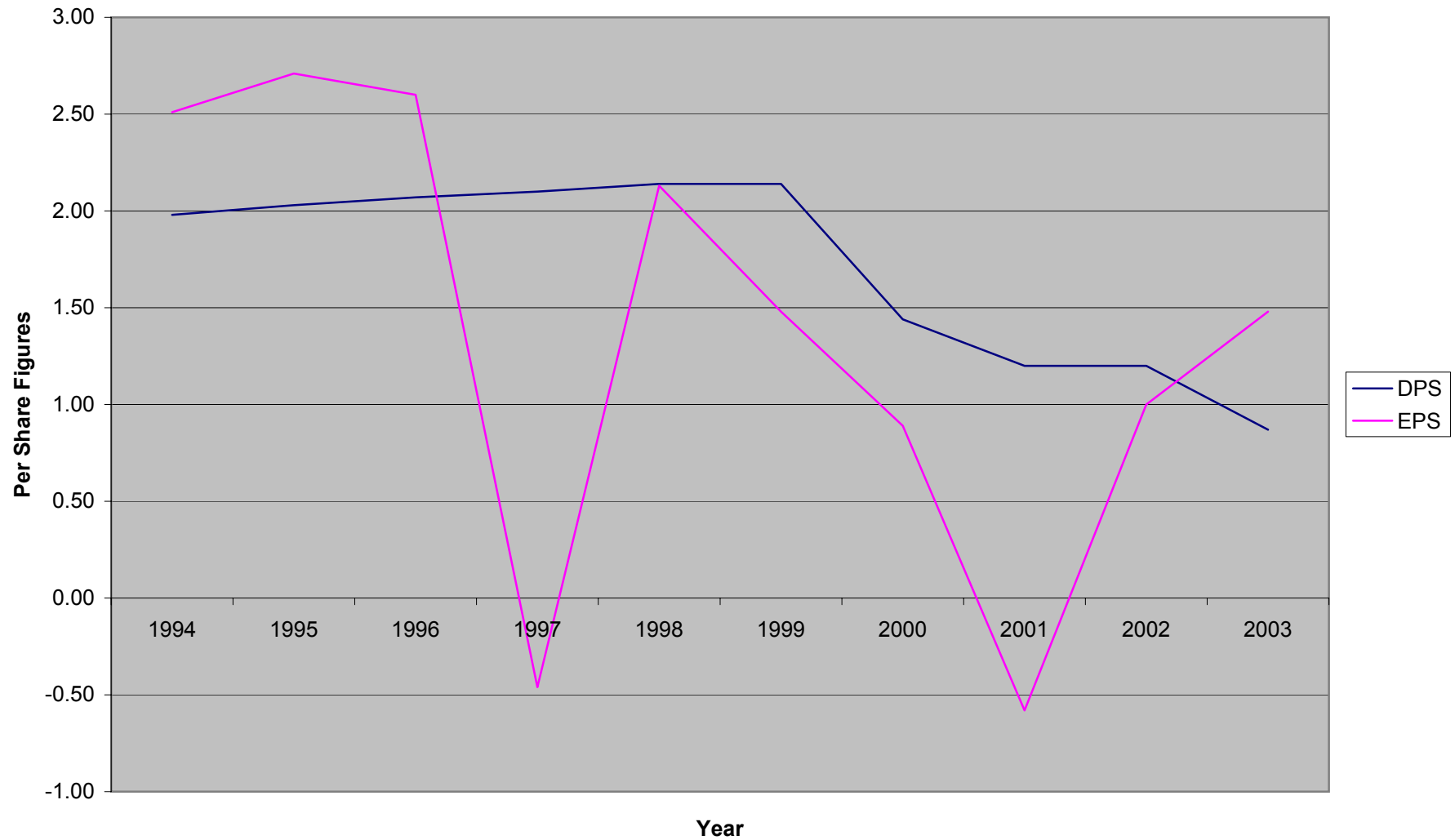from 1994 - 2003

SCHEDULE 9-2

DPS Vs. EPS for Puget Energy
from 1994 - 2003

SCHEDULE 9-3

**DPS Vs. EPS for TXU Corporation from 1994 - 2003**

**DPS Vs. EPS for Westar Energy
from 1994 - 2003**

Per Share Figures

Year

DPS
EPS

**DPS Vs. EPS for Empire
from 1994 - 2003**

*Per Share Figures*

*Year*

Legend: DPS, EPS
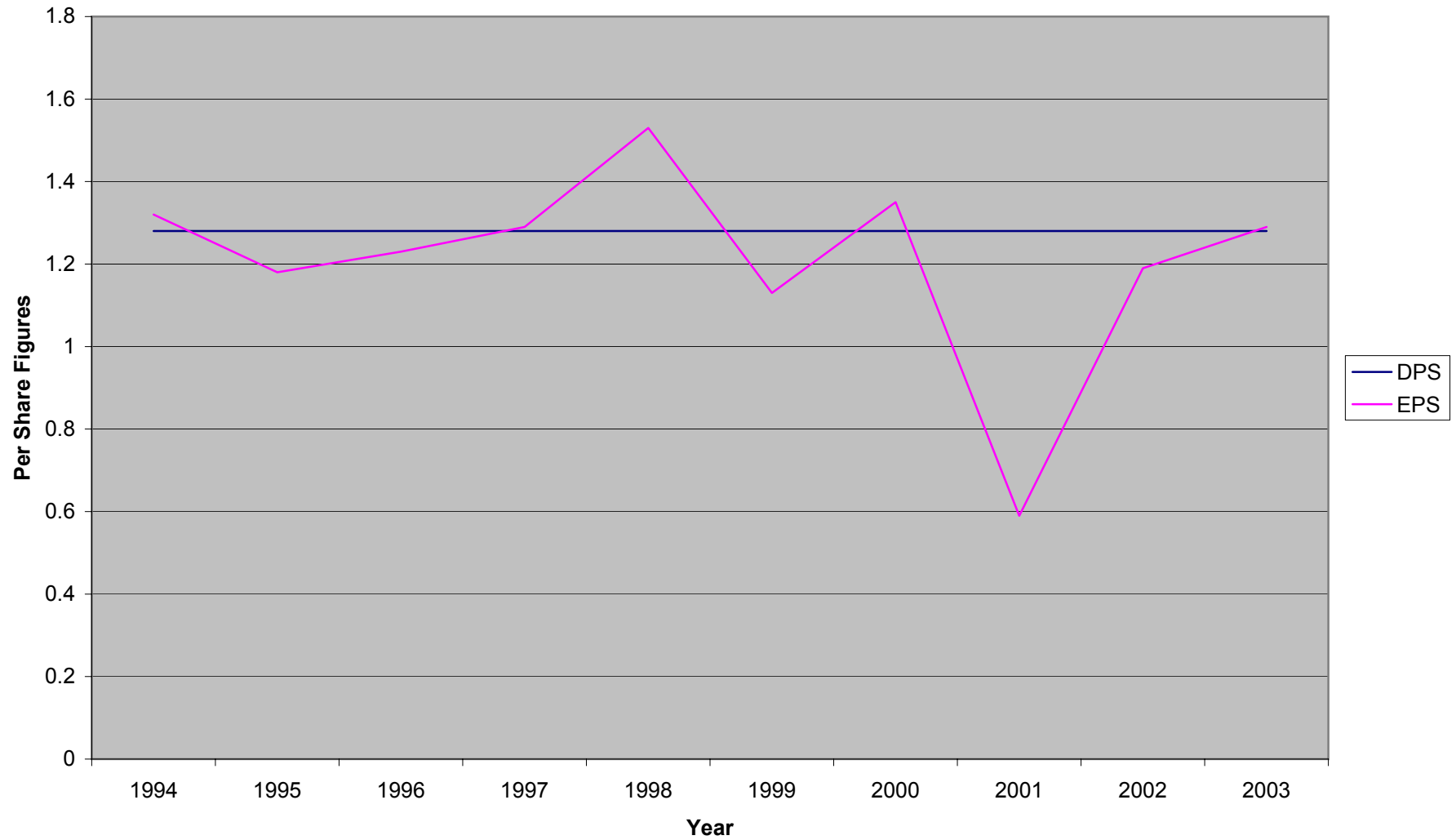
**Dr. Murry's Dividend Reduction Example Companies' DPS and EPS for Last Ten Years**

**ALLIANT**

| | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | Average |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dividends Per Share | 1.92 | 1.94 | 1.97 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1 | 1.88 |
| Earnings Per Share | 2.24 | 2.33 | 2.27 | 1.9 | 1.26 | 2.19 | 2.47 | 2.42 | 1.18 | 1.57 | 1.98 |
| **Payout Ratio** | 85.71% | 83.26% | 86.78% | 105.26% | 158.73% | 91.32% | 80.97% | 82.64% | 169.49% | 63.69% | 94.96% |

**AMERICAN ELECTRIC POWER CO.**

| | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | Average |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dividends Per Share | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 1.65 | 2.33 |
| Earnings Per Share | 2.71 | 2.85 | 3.14 | 3.28 | 2.81 | 2.69 | 1.04 | 3.27 | 2.86 | 2.53 | 2.72 |
| **Payout Ratio** | 88.56% | 84.21% | 76.43% | 73.17% | 85.41% | 89.22% | 230.77% | 73.39% | 83.92% | 65.22% | 85.54% |

**PUGET ENERGY, INC.**

| | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | Average |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dividends Per Share | 1.84 | 1.84 | 1.84 | 1.84 | 1.84 | 1.84 | 1.84 | 1.84 | 1.21 | 1 | 1.69 |
| Earnings Per Share | 1.64 | 1.89 | 1.89 | 1.28 | 1.85 | 1.91 | 2.16 | 1.22 | 1.24 | 1.22 | 1.63 |
| **Payout Ratio** | 112.20% | 97.35% | 97.35% | 143.75% | 99.46% | 96.34% | 85.19% | 150.82% | 97.58% | 81.97% | 103.87% |

**TXU CORP.**

| | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | Average |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dividends Per Share | 3.08 | 2.81 | 2.03 | 2.13 | 2.23 | 2.33 | 2.40 | 2.40 | 1.93 | 0.50 | 2.18 |
| Earnings Per Share | 2.40 | 2.94 | 3.35 | 2.86 | 3.00 | 3.19 | 3.23 | 3.12 | 2.21 | 2.04 | 2.83 |
| **Payout Ratio** | 128.33% | 95.58% | 60.60% | 74.48% | 74.33% | 73.04% | 74.30% | 76.92% | 87.33% | 24.51% | 77.06% |

**WESTAR ENERGY, INC.**

| | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | Average |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dividends Per Share | 1.98 | 2.03 | 2.07 | 2.10 | 2.14 | 2.14 | 1.44 | 1.20 | 1.20 | 0.87 | 1.72 |
| Earnings Per Share | 2.51 | 2.71 | 2.60 | -0.46 | 2.13 | 1.48 | 0.89 | -0.58 | 1.00 | 1.48 | 1.38 |
| **Payout Ratio** | 78.88% | 74.91% | 79.62% NM | | 100.47% | 144.59% | 161.80% NM | | 120.00% | 58.78% | 124.78% |

**EMPIRE DISTRICT ELECTRIC**

| | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | Average |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dividends Per Share | 1.28 | 1.28 | 1.28 | 1.28 | 1.28 | 1.28 | 1.28 | 1.28 | 1.28 | 1.28 | 1.28 |
| Earnings Per Share | 1.32 | 1.18 | 1.23 | 1.29 | 1.53 | 1.13 | 1.35 | 0.59 | 1.19 | 1.29 | 1.21 |
| **Payout Ratio** | 96.97% | 108.47% | 104.07% | 99.22% | 83.66% | 113.27% | 94.81% | 216.95% | 107.56% | 99.22% | 105.79% |

Source: Value Line

SCHEDULE 10

**THE EMPIRE DISTRICT ELECTRIC COMPANY**
**CASE NO. ER-2004-0570**


**2001 Discounted Cash Flow (DCF) Cost of Common Equity Estimates**
**for Puget Energy, Inc.**


| PSD's Cost of Common Equity | = | Dividend Yield | + | Expected Growth |
|---|---|---|---|---|
| 12.70% | = | 7.53% | + | 5.17% |


Discounted Cash Flow (DCF) Model Derivation


Present Price  =  Expected Dividends  +  Present Price ( 1 + g )
Discounted by k              Discounted by k

where:    g = estimated growth rate and k = cost of common equity.

Letting:    P0 = present price and D1 = expected dividends, then

$$P0 = \frac{D1}{(1+k)} + \frac{P0\,(1+g)}{(1+k)} \quad \text{or}$$

$$k = \frac{D1}{P0} + g$$

Thus:

Cost of Common Equity    =    Dividend Yield    +    Expected Growth


Source:  Direct Testimony of David Murray in Case No. ER-2001-672, Schedules 15 and 17.

**THE EMPIRE DISTRICT ELECTRIC COMPANY**
**CASE NO. ER-2004-0570**

**Projected Growth Rates**
**for Puget Energy, Inc.**

Projected Growth Rates from Outside Sources

| | |
|---|---|
| 5-Year EPS Growth Forecast (Median) | 7.00% |
| I/B/E/S Inc.'s Institutional Brokers Estimate System | |
| September 16, 2004 | |
| | |
| 5-Year Projected EPS Growth Rate | |
| Standard & Poor's Corporation's Earnings Guide | 6.00% |
| October 2004 | |
| | |
| 5-year Projected EPS Growth Rate | |
| Value Line Investment Survey | 6.00% |
| August 13, 2004 | |
| | |
| Average of Projected Growth Rates | 6.33% |

**THE EMPIRE DISTRICT ELECTRIC COMPANY**
**CASE NO. ER-2004-0570**

**Monthly High / Low Average Dividend Yields**
**for Puget Energy, Inc.**

| Month / Year | (1)<br>High<br>Stock<br>Price | (2)<br>Low<br>Stock<br>Price | (3)<br>Average<br>High / Low<br>Price | (4)<br>Expected<br>Dividend<br>(2004) | (5)<br>Projected<br>Dividend<br>Yield |
|---|---|---|---|---|---|
| June 2004 | $ 21.990 | $ 20.840 | $21.415 | $1.00 | 4.67% |
| July 2004 | $ 22.460 | $ 21.050 | $21.755 | $1.00 | 4.60% |
| August 2004 | $ 22.930 | $ 21.110 | $22.020 | $1.00 | 4.54% |
| September 2004 | $ 23.000 | $ 21.600 | $22.300 | $1.00 | 4.48% |
| Average | | | | | **4.57%** |

**Proposed Dividend Yield**
**for Puget:**                                                                                        **4.57%**

Notes:     Column 3 = [ ( Column 1 + Column 2 ) / 2 ].

Column 4 = Estimated Dividends Declared per share represents the average projected dividends for 2004/2005.

Column 5 = ( Column 4 / Column 3 ).

Sources:   Standard & Poor's Corporation's Security Owner's Stock Guides:  July 2004, August 2004, September 2004 and October 2004
Value Line Investment Survey, August 13, 2004

**SCHEDULE 12-2**

**Discounted Cash Flow (DCF) Cost of Common Equity Estimates**
**for Puget Energy, Inc.**

| PSD's Cost of Common Equity | = | Dividend Yield | + | Expected Growth |
|---|---|---|---|---|
| 10.90% | = | 4.57% | + | 6.33% |

Discounted Cash Flow (DCF) Model Derivation

Present Price  =  Expected Dividends  +  Present Price ( 1 + g )
                        Discounted by k              Discounted by k

where:   g = estimated growth rate and k = cost of common equity.

Letting:   P0 = present price and D1 = expected dividends, then

$$P0 \quad = \quad \frac{D1}{(1+k)} \quad + \quad \frac{P0\,(1+g)}{(1+k)} \qquad or$$

$$k \quad = \quad \frac{D1}{P0} \quad + \quad g$$

Thus:

Cost of Common Equity  =  Dividend Yield  +  Expected Growth

Sources:  Schedules 12-1 and 12-2.

**THE EMPIRE DISTRICT ELECTRIC COMPANY**
**CASE NO. ER-2004-0570**

The Empire District Electric Company

Comparable Electric Distribution Companies

Cost of Equity : Excluding Size Adjustment Capital Asset Pricing Model

| | Risk Free Return | Beta | Equity Risk Premium | Adjusted Equity Risk Premium | Cost of Equity |
|---|---|---|---|---|---|
| Empire District Electric | 5.05% | 0.65 | 7.00% | 4.55% | 9.60% |
| Central Vermont Public Service | 5.05% | 0.45 | 7.00% | 3.15% | 8.20% |
| CH Energy Group | 5.05% | 0.75 | 7.00% | 5.25% | 10.30% |
| Hawaiian Electric | 5.05% | 0.60 | 7.00% | 4.20% | 9.25% |
| MGE Energy | 5.05% | 0.55 | 7.00% | 3.85% | 8.90% |
| NSTAR | 5.05% | 0.70 | 7.00% | 4.90% | 9.95% |
| Pinnacle West | 5.05% | 0.80 | 7.00% | 5.60% | 10.65% |
| Comparable Companies' Averages | 5.05% | 0.64 | 7.00% | 4.49% | 9.54% |

Sources :
Dr. Murry's Schedule DAM-21

**SCHEDULE 13**

# Utility Allowed Returns and Market Extremes

## By Donald A. Murry, Gehaung D. Nan, Bryan M. Harrington

In recent years interest rates have fluctuated from exceptionally high levels in the early 1980s to their current levels, the lowest in two decades. Observers and analysts generally have assumed that allowed returns by regulatory commissions follow the movement of interest rates; indeed some analysts use a risk premium method to estimate the cost of common equity, assuming a constant and linear relationship between interest rates and the cost of common equity. That suggests we could expect a relatively stable relationship between interest rates and allowed returns, as well. However, a simple comparison of allowed returns and interest rates shows that this is not the case in recent years. The relationship between market interest rates and the returns allowed by commissions varies and is obviously a great deal more complicated.

## Interest rates and allowed returns

As shown in Figure 1, over the past 15 years—a period that includes high rates in the early 1980s and low rates in the mid-years and again currently—the differential between the 10-year Treasury Bond Rate and the allowed returns for electric and combined utilities has varied. However, the underlying causes of this variation are not as apparent. The relative tightness of credit in this period is illustrated by the prime rate, and it shows even greater fluctuation than the bond rates.

Overall, the allowed returns have been more stable than the market rates, even longer-term maturities. Allowed returns on common stock did not move upward as sharply as interest rates in the early 1980s, and they have not moved downward as rapidly as the rate levels since mid-year 1991. Indeed, it appears as though the allowed returns
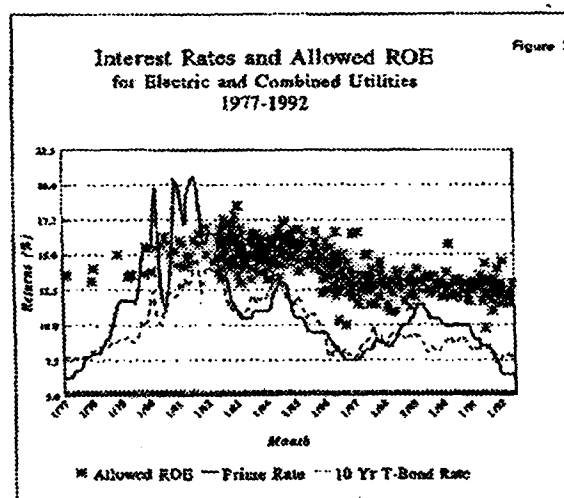
tend to approach a ceiling as rates move higher. Conversely, they approach a floor as rates move lower.

Figure 2, showing the allowed returns and the yields of 10-year bonds, illustrates these seeming upper and lower limits.

At the lower bond yields, there is no correlation between the level of allowed returns and the level of bond yields. That is, at bond yields less than 9.35 percent there is not a positive, statistical relationship between yields and allowed returns. On the other hand, at bond yields above 9.35 percent, a definite positive relationship exists between yields and allowed returns, but it is not a simple, linear relationship.
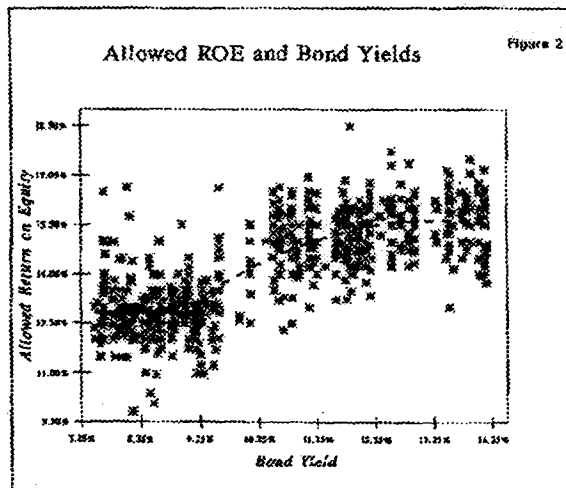
## Lower bond yields and allowed returns

Based on the observations in Figure 2, at bond yields for yields lower than 9.35 percent, there is a strong central tendency of allowed returns about its mean of 12.84 percent. Figure 3 illustrates the distribution of allowed returns. Taken together, Figures 2 and 3 demonstrate that at lower interest rate levels, allowed returns are not a function of bond yields. As interest rates fall, allowed returns



Interest Rates and Allowed ROE
for Electric and Combined Utilities
1977-1992
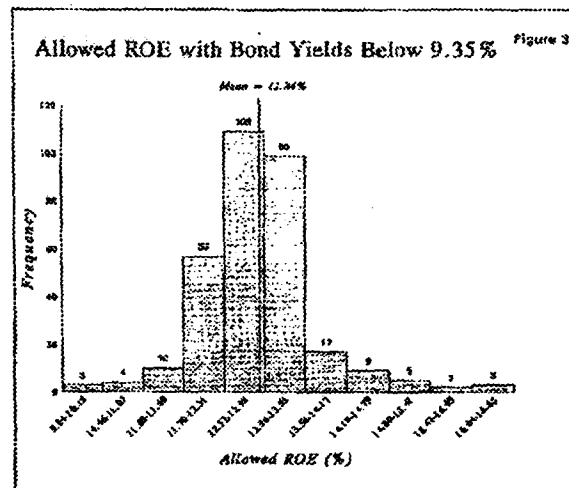
✳ Allowed ROE   — Prime Rate   ···· 10 Yr T-Bond Rate

do not continue to decline after bond yields reach the 9.35 percent level.

The above observation is not surprising, however, in light of the obligations of regulators. Regulators set rates normally for an indefinite future period, but normally expect that period can be measured in years. In that context, regulators look beyond temporary market conditions and rates. Allowed returns based on short-lived interest rates will lead to short-lived utility rate levels. At low levels, if interest rates increase, that only triggers new filings; the observed pattern of allowed returns and rates is consistent with a practice of regulators setting allowed returns with a longer perspective.

Allowed ROE and Bond Yields — Figure 2



Allowed ROE with Bond Yields Below 9.35% — Figure 3

## Higher bond yields and allowed returns

As Figure 2 illustrates, there is a positive relationship between the allowed returns and the level of bond yields at higher levels, but it is not a simple, constant relationship. It varies as bond levels vary. At levels near the lower, 9.35 percent boundary, there is a rapid increase in allowed returns associated with bond yield increases; however, at higher bond interest levels, generally, the allowed returns increase very little as bond rates increase. Statistically, there is a positive, non-linear relationship for bond yields above 9.35 percent.

This non-linearity is particularly important because it characterizes the behavior of regulators when they are faced with exceptionally high rates, such as in the early 1980s. It appears that regulators, taking into account the prospective duration of the utility rates, look beyond current rates when they reach relatively high levels. Although it may not be clear when rates will decline, if they are at unusually high levels, regulators appear to base allowed returns more on historical levels than upon current levels.

## Ratemaking policy

Empirically, there appears to be only a narrow range where market interest rates significantly affect the allowed returns on common stock set by state commissions, at least for electric and combination utilities. If rates are at historically low levels, allowed returns based largely on market rates will hasten subsequent rate filings, and commissions appear to look beyond the low rate levels. Conversely, it appears that regulators do not let historically high market rates determine allowed returns either. At either high or low interest levels, caution seems to be the policy.

Schedule 14-2

## Average Yield on Ten-Year U.S. Treasuries (1980 - Present)
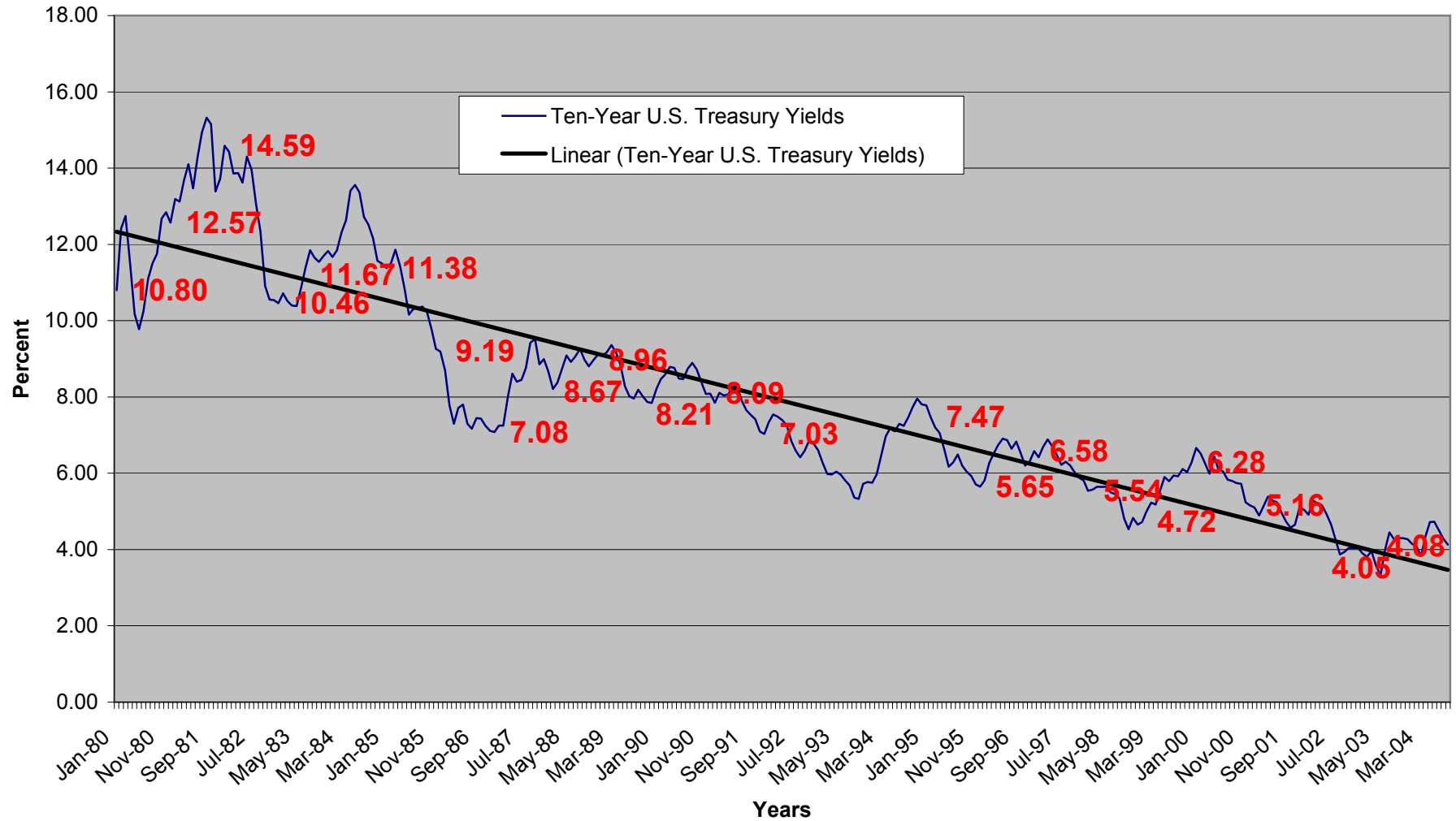
**Capital Asset Pricing Model:**

$$E(R_i) = R_f + [E(R_m) - R_f] \times \beta$$

**E(Ri)**:      Expected Company Return
**Rf:**      Risk-Free Rate of Interest
**E(Rm) - Rf**:  Market Risk Premium
**ß:**      Company Specific Beta (Measure of Risk)

**Risk-Free Rate: (Gathered on 4-9-04)**
**Avg. 3 Mo. T-Bill   1.274% (From 05-03-04 to 08-27-04)**

**Arithmetic Mean Market Return  =  12.4%**
        (calculated from 1926-2003 by Ibbotson Associates)

|  | **Beta** | **Rf** | **E(Ri) Based on Arithmetic Mean** |
|---|---|---|---|
| EDE | 0.65 | 3.800% | **6.86%** |

|  | **Beta** | **Rf** | **E(Ri) Based on Arithmetic Mean** |
|---|---|---|---|
| AEP | 1.10 | 3.800% | **10.73%** |
| CV | 0.50 | 3.800% | **5.57%** |
| CNL | 1.05 | 3.800% | **10.30%** |
| DQE | 0.70 | 3.800% | **7.29%** |
| FE | 0.75 | 3.800% | **7.72%** |
| FPL | 0.70 | 3.800% | **7.29%** |
| GMP | 0.65 | 3.800% | **6.86%** |
| HE | 0.65 | 3.800% | **6.86%** |
| IDA | 0.85 | 3.800% | **8.58%** |
| PNW | 0.80 | 3.800% | **8.15%** |
| PGN | 0.80 | 3.800% | **8.15%** |
| SO | 0.65 | 3.800% | **6.86%** |
| UIL | 0.75 | 3.800% | **7.72%** |
|  |  |  |  |
|  |  | **Average** | **7.86%** |

Source:  Treasury Bill return is Table 2-1, p. 33 of Ibbotson Associates' *Stocks, Bonds, Bills and Inflation 2004 Yearbook.*
      Mr. Allen's Direct Testimony, Case No. ER-2004-0570, Schedule TA-12