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January 14, 2009

<u>HAND DELIVERED</u>

Ms. Ann Cole, Director
Office of Commission Clerk
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

Re: Petition for Rate Increase by Tampa Electric Company
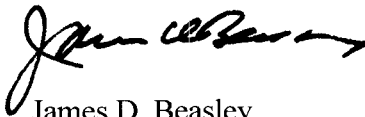   FPSC Docket No. 080317-EI

Dear Ms. Cole:

Enclosed for filing in the above docket are the original and fifteen (15) copies of Tampa Electric Company's Response to Florida Industrial Power Users Group's Motion to Strike Prefiled Testimony and Exhibits of Susan D. Abbott and Gordon L. Gillette and Cross-Motion to Strike.

Please acknowledge receipt and filing of the above by stamping the duplicate copy of this letter and returning same to this writer.

Thank you for your assistance in connection with this matter.

Sincerely,

James D. Beasley

JDB/pp
Enclosure

cc: All Parties of Record (w/enc.)

DOCUMENT NUMBER-DATE

00360 JAN 14 8

FPSC-COMMISSION CLERK

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Petition for Rate Increase   )   DOCKET NO. 080317-EI
by Tampa Electric Company.   )
)   FILED: January 14, 2009
_____   )

RESPONSE TO FLORIDA INDUSTRIAL POWER USERS GROUP'S MOTION TO STRIKE PREFILED TESTIMONY AND EXHIBITS OF SUSAN D. ABBOTT AND GORDON L. GILLETTE AND CROSS-MOTION TO STRIKE

Tampa Electric Company ("Tampa Electric") hereby responds to the Motion to Strike Prefiled Testimony and Exhibits of Susan D. Abbott and Gordon L. Gillette filed by Florida Industrial Power Users Group (FIPUG). For the reasons set forth herein, FIPUG's Motion to Strike should be denied. In the event, however, that FIPUG's Motion to Strike is not denied, moves to strike certain portions of the testimony and exhibits of other witnesses similar to that which FIPUG has moved to strike.

Introduction

1.   On January 7, 2009, FIPUG filed its Motion to Strike certain portions of prefiled testimony and exhibits of Susan D. Abbott and Gordon L. Gillette on the grounds that the testimony and exhibits in question constitute inadmissible hearsay.

2.   Contrary to FIPUG's assertions, much of the testimony in question is not inadmissible hearsay. Further, to the extent that any of the testimony or exhibits contain hearsay, this does not, as FIPUG contends, preclude these witnesses from properly relying on that information.

3.   In addition, the type of information which FIPUG claims to be inadmissible hearsay also appears in the testimony and exhibits of other witnesses in this case.

DOCUMENT NUMBER-DATE

00360 JAN 14 8

COMMISSION CLERK

4.   As explained in more detail below, FIPUG's Motion to Strike should be denied. If, however, FIPUG's Motion to Strike is granted, the ruling to strike such evidence should apply with respect other witnesses offering similar testimony or exhibits.

Memorandum

The testimony and exhibits which FIPUG seeks to have stricken concern financial market rating agencies such as Standard & Poor's ("S&P") and Moody's as they relate to utility companies, and in particular Tampa Electric. The testimony and exhibits come from Susan D. Abbott ("Ms. Abbott") and Gordon L. Gillette ("Mr. Gillette").

Ms. Abbott has worked in the financial services industry for 30 years, 20 of which were with Moody's. For many years with Moody's and ongoing since, Ms. Abbott has had experience with electric and power company rating. She presently provides consulting services relating to credit and rating issues. (Abbott Direct pp. 1-2) Mr. Gillette is Senior Vice President and Chief Financial Officer of Tampa Electric, and Executive Vice President and Chief Financial Officer of TECO Energy, Inc. Among his responsibilities are financial planning, financial strategy, and contact with the financial community, including investors and rating agencies. He has been with Tampa Electric for 18 years. (Gillette Direct pp. 1-3)

Both of these witnesses are highly qualified to testify regarding rating agencies as they relate to utilities, and in particular Tampa Electric, and to render expert opinions on the subject. Notably, FIPUG's Motion to Strike does not question the qualifications, experience and expertise of Ms. Abbott or Mr. Gillette in this area. Nonetheless, FIPUG argues that testimony and exhibits of Ms.. Abbott and Mr. Gillette that include rating agency information and data constitute inadmissible hearsay.

2

1.   The testimony is based upon personal knowledge and is not hearsay.

Much of the evidence FIPUG seeks to have stricken is not hearsay at all, but rather information known to the witnesses based upon their significant educational and professional training and experience.   In short, the witnesses are testifying based upon their personal knowledge. For example, FIPUG has moved to strike page 17, lines 9-20 of Ms. Abbott's direct testimony in which she explains certain financial metrics used in the rating process, and discusses the significance of cash flow metrics.   There is no indication that this testimony is based upon anything other than Ms. Abbott's own experience in and knowledge of the financial rating process, and no suggestion by FIPUG that she lacks sufficient knowledge or experience thereof.

Likewise, FIPUG moves to strike similar testimony from pages 18, 19, 20 and several other places where Ms. Abbott describes qualitative issues that affect a company's credit rating, including regulations, and how the rating process generally works, with a focus on electric utilities. The same is true with regard to Mr. Gillette's testimony. For example, FIPUG moves to strike page 17, lines 4-6 of Mr. Gillette's direct testimony wherein he explains that the process used by rating agencies is complex; and page 21, lines 1-6 wherein he discusses certain factors considered by rating agencies with regard to power companies. As with Ms. Abbott, there is no indication that this testimony is based upon anything other than Mr. Gillette's experience with and knowledge of the financial rating process, especially as it relates to an electric utility, and no suggestion by FIPUG that he lacks sufficient knowledge or experience thereof.

With regard to both Ms. Abbott and Ms. Gillette, FIPUG simply argues that there is "no basis" for their testimony and that it must have come "from an out of court declarant or source." Contrary to the bald assertion that their testimony lacks any basis and must be from hearsay,

these witnesses' extensive experience with and knowledge of rating agencies and the rating of electric utilities provides ample basis for their testimony, which comes from personal knowledge, not hearsay. The fact that the witnesses testify concerning rating criteria and matrices, or other matters which may be published by rating agencies does not change the fact that they possess personal knowledge of the material, and does not make their testimony hearsay. See, e.g., State v. Coleman, 911 So.2d 259, 261 n. 1 (Fla. 5th DCA 2005) (witness' testimony based upon personal knowledge and recollection not simply derived from the documents was not objectionable on hearsay or best evidence grounds).

There are numerous instances where the evidence which FIPUG seeks to have stricken simply is not hearsay. The above are merely examples. Such evidence based upon the personal knowledge and experience of the witnesses is admissible. The fact that some of the same information may be set forth in documents does not make it hearsay where the witnesses is testifying based upon personal knowledge. FIPUG's Motion to Strike should be denied.

2.   The evidence is admissible in any event.

A.   Section 90.704, Florida Statutes

Even to the extent that any of the testimony or exhibits of Ms. Abbott or Mr. Gillette do contain hearsay, the testimony and exhibits are not objectionable on such grounds. Experts such as Ms. Abbott and Mr. Gillette are permitted to base their opinions on evidence which may not itself be admissible.   Section 90.704, Florida Statutes, a provision Florida's Evidence Code, provides the following:

> The facts or data upon which an expert bases an opinion or inference may be those perceived by, or made known to, the expert at or before the trial. If the facts or data are of a type reasonably relied upon by experts in the subject to support the opinion expressed, the facts or data need not be admissible in evidence. (Emphasis supplied.)

As noted above, FIPUG does not question the qualifications, knowledge and expertise of Ms. Abbott or Mr. Gillette in the areas of financial ratings as they relate to utility companies, and the facts and data relied upon are certainly of a type that experts in such areas would reasonably rely upon to form opinions and conclusions about ratings as they relate to Tampa Electric currently and in the future.

While Florida courts have held that an expert may not be used as simply a conduit for inadmissible hearsay, there is no argument that either Ms. Abbott or Mr. Gillette is being used as a mere vehicle for inadmissible hearsay. Indeed, a review of their testimony makes clear that this is not the case. To the extent that facts or data relied upon by either witness can be considered hearsay, it is the type of information which experts in the financial world reasonably rely upon in formulating the type of opinion in question, and their testimony is intended to aid in understanding the subject-matter of their opinions, not as a conduit for inadmissible hearsay. See Houghton v. Bond, 680 So.2d 514, 521-22 (Fla. 1st DCA 1996) (use of data from government-conducted tests in formulating opinions was proper, and testimony about such data as basis for opinions was intended to aid in understanding opinions, not to make expert a conduit for inadmissible hearsay). Indeed, the underlying information about the rating process is largely foundational to the application of that information to Tampa Electric and this case, and the analysis and opinions of Ms. Abbott and Mr. Gillette. See Kloster Cruise, Ltd. v. Rentz, 733 So.2d 1102, 1103 (Fla. 3d DCA 1999) (even if data from National Climatic Data Center was not independently admissible, its use as "beginning point for analysis" was permissible as "some further analysis was required by the expert in order to apply the data" to the case).

The same is true here, where information and data about the rating process generally and rating matrices do not constitute opinions in themselves. Rather, it is the application and

analysis of the rating process in this case, in particular as it relates to Tampa Electtric, that is the ultimate purpose of the testimony of Ms. Abbott and Mr. Gillette. As <u>Houghton</u>, <u>Rentz</u>, and many other cases make clear, they are entitled to rely on such information in forming their opinions and testifying about them.

Courts have also held that expert witnesses are allowed much more leeway as to opinion and hearsay than are ordinary witnesses, merely because they are being questioned abut their opinions and must necessarily include all factors which contribute to their opinions. See, e.g., <u>Gwathmey v. U. S.</u>, 215 F2d 148 (5th Cir. 1959) (affirming denial of a motion to strike). See, also, <u>Barber v. State</u>, 576 So.2s 825 (Fla. 1st DCA 1991) (expert properly relied on affidavit of former inmate in formulating opinion, even though affidavit was hearsay and inadmissible.)

B. Section 120.57(1)(c), Florida Statutes

Furthermore, in an administrative proceeding such as this, hearsay may be used for the purpose of supplementing or explaining other evidence, but is not sufficient in itself to support a finding unless it would be admissible over objection in a civil action. <u>See</u> § 120.57(1)(c), Fla. Stat. Rule 28-106.213(3) of the Florida Administrative Code similarly provides for the use of hearsay "to supplement or explain other evidence" and to support findings of fact if it "falls within an exception to the hearsay rule as found in Chapter 90, F.S." As explained above with regard to Section 90.704, Florida Statutes, "[t]hat section provides an exception to the hearsay rule which allows expert witnesses to testify about 'facts or data upon which an expert bases an opinion' so long as those 'facts or data are of a type reasonably relied upon by experts in the subject to support the opinion expressed....'" <u>Masters v. State</u>, 958 So.2d 973, 975 (Fla. 5th DCA 2007). The evidence which FIPUG moves to strike is admissible under Section 90.704,

Florida Statutes, and is thus not only admissible, but can form the basis of findings of fact under Section 120.57(1)(c), Florida Statutes, and Rule 28-106.213(3), Fla. Admin. Code.

At the very least, hearsay evidence can be used for the purpose of supplementing or explaining other evidence. Thus, the testimony of Ms. Abbott and Mr. Gillette concerning the rating process and its relation to electric utilities based upon their personal knowledge and experience can be supplemented and explained with information, data, and documents about the rating process. Even if such documents could not themselves alone form the basis of findings of fact, they can be used to supplement and explain the witnesses' testimony, which most certainly can be the basis for findings of fact. In sum, there is no basis to strike or otherwise exclude the evidence which is the subject of FIPUG's Motion to Strike.

Conclusion and Cross-Motion

For the reasons set forth above, FIPUG's Motion to Strike should be denied. If, however, FIPUG's Motion is granted in whole or in part, the ruling to strike certain types of hearsay evidence should apply equally to similarly testimony and exhibits of other witnesses.

The testimony and exhibits of Dr. J. Randall Woolridge and Kevin W. O'Donnell are filled with examples of evidence similar to that which FIPUG has moved to strike. Attached hereto as Composite Exhibit "A" is a listing of the various provisions of the testimony and exhibit of Dr. Woolridge and Mr. O'Donnell that are subject to the same criticisms as those that form the basis for FIPUG's motion to strike. The list includes brief parenthetical explanations of the hearsay nature of the items listed. Composite Exhibit "A" also contains copies of the testimonies and exhibits of Dr. Woolridge and Mr. O'Donnell with the hearsay components underscored.
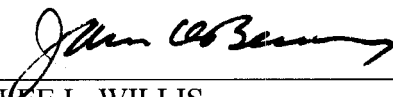
Tampa Electric did not move to strike hearsay portions of the testimony and exhibits of witnesses Woolridge or O'Donnell prior to the 11th hour filing of FIPUG's motion to strike because of the leeway granted expert witnesses as discussed in the foregoing authorities. However, if, despite these authorities, any portion of the testimony or exhibits of Ms. Abbott or Mr. Gillette is stricken on the ground that it relies in part upon hearsay evidence, then the underscored portions of the testimony and exhibits of witnesses Woolridge and O'Donnell contained in Composite Exhibit "A" must, likewise, be stricken for the sake of fairness and consistent treatment. Accordingly, Tampa Electric moves to strike all underscored portions of the testimony and exhibits of witnesses Woolridge and O'Donnell in Composite Exhibit "A" that rely upon hearsay evidence.

As these witnesses' testimony and exhibits contain numerous examples of evidence similar to that which FIPUG has moved to strike from the testimony of Ms. Abbott and Mr. Gillette, Tampa Electric submits that any ruling that would make such evidence inadmissible should apply equally to these witnesses. Evidence determined to be inadmissible hearsay should not be inadmissible from certain witnesses but admissible from others.

WHEREFORE, Tampa Electric submits the foregoing response to FIPUG's motion to strike portions of the testimony and exhibits of Ms. Abbott and Mr. Gillette, and cross-moves the Commission to strike similar provisions of the testimony and exhibits of witnesses Woolridge and O'Donnell as reflected in Composite Exhibit "A" to this filing.

DATED this 14th day of January 2009.

Respectfully submitted,

LEE L. WILLIS
JAMES D. BEASLEY
KENNETH R. HART
J. JEFFRY WAHLEN
Ausley & McMullen
Post Office Box 391
Tallahassee, Florida 32302
(850) 224-9115

ATTORNEYS FOR TAMPA ELECTRIC COMPANY

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct copy of the foregoing Response to FIPUG's

Motion to Strike Prefiled Testimony and Exhibits of Susan D. Abbott and Gordon L. Gillette and

Cross-Motion to Strike, filed on behalf of Tampa Electric Company, has been served by hand

delivery (*), electronic and U. S. Mail (**) on this _14th_ day of January, 2009 to the following:

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Jennifer Brubaker/Jean Hartman
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Tallahassee, FL 32399-0850

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Office of the Attorney General
The Capitol – PL 01
Tallahassee, FL 32399-1050

ATTORNEY

**PROVISIONS OF THE TESTIMONY AND EXHIBITS
OF DR. WOOLRIDGE AND MR. O'DONNELL
THAT ARE THE SUBJECT OF TAMPA ELECTRIC'S
CROSS-MOTION TO STRIKE**

<u>Woolridge:</u>

- Page 5, lines 9-12 (referencing academic studies, investment banks and consulting firms, and surveys as support for testimony)

- Page 5, lines 18-20 (referencing conclusion of a study by third party)

- Page 6, line 16; and Exhibit JRW-2 (information taken from website)

- Page 7, lines 9-26 (referencing studies and quoting an author)

- Page 8, lines 1-34 (quoting assessment of another from a speech)

- Page 9, lines 21-23; Page 10, lines 1-10; and Exhibit JRW-5 (using information from S&P 500 and Bear Stearns Bond Price Index)

- Page 10, lines 21-22; Page 11, lines 1-9 (referencing various reports, surveys, and rating information, including from Moody's and S&P)[1]

- Exhibit JRW-3 (information taken from article in publication)

- Page 12, lines 3-7; and Exhibit JRW-4 (listing capital structure information from third party used as a benchmark for opinion testimony)

- Page 16, lines 14-26; and Page 17, lines 1-20 (quoting commentary from non-testifying consultant and using as basis for following testimony)

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[1] It would be ironic, if not entirely inequitable, for information from sources such as S&P and Moody's to be considered reputable, reliable, and of a type reasonable for certain experts to rely upon in this case, but nothing more than unreliable, inadmissible hearsay from others like Ms. Abbott and Mr. Gillette to rely upon for opinions on similar subject matter.

Composite Exhibit "A"

- Page 17, lines 24-28; Page 18, lines 1-17; and Exhibit JRW-6 (quoting from author of publication about a case study presenting results in exhibit)

- Page 18, lines 20-23; Page 19, lines 1-19; Exhibit JRW-7 (referring to information from Dow Jones)

- Page 20, lines 20-22; Page 21, lines 1-6; Exhibit JRW-8 (referring to information compiled by third party from a survey by another third party)

- Page 23, lines 22-24; Page 24, lines 1-23; Page 25, lines 1-2; and Exhibit JRW-9 (graph taken from a textbook; discussion of information in graph)

- Page 27, lines 1-6; Exhibit JRW-10 (information from other companies in a "proxy group")

- Page 27, lines 11-15 (citing professor as source of info in testimony)

- Page 28, lines 21-22; Page 29, lines 1-6 and lines 10-12 (referring to info from a publication, as well as "forecasts of Wall Street analysts as provided by Bloomberg and Zacks" – hearsay within hearsay)

- Page 31, lines 7-12; Page 31, 16-20; Page 32, lines 1-6; Page 32, lines 9-13; Page 32, lines 17-19; Page 33, lines 1-13; Exhibit JRW-10 (referring to info taken from survey, and Zacks and Bloomberg publication of Wall Street analysts' forecasts – hearsay within hearsay)

- Page 35, lines 6-7; Page 35, lines 15-22; Page 36, lines 1-2; Page 36, lines 8-15; Exhibit JRW-11 (referring to information from various websites and third party sources)

- Page 37, lines 13-20 (referring to "online investment information services, such as Yahoo! and Reuters" as well as survey by third party for info)

- Page 38, lines 13-21; Exhibit JRW-11 (referring to information from a journal publication and a professor)

- Page 39, lines 8-16 (referring to published studies by third parties)

- Page 39, lines 19-20; Page 40, lines 1-22; Page 41, lines 1-20 (summarizing findings of published studies by third parties)

- Page 42, lines 3-20 (summarizing research and studies by third parties)

- Page 43, lines 5-20; Page 44, lines 1-3 (referring to information published by third parties in journals)

- Page 44, lines 7-19; Page 45, lines 1-22; Page 46, lines 1-19; Page 47, lines 1-9 (referring to various surveys, studies, and publications of others)

- Page 48, lines 12-14; Exhibit JRW-7 (citing information from a survey as supporting testimony)

- Page 48, lines 19-20; Page 49, lines 1-2 (citing information from a website containing a survey published by professors as supporting testimony)

- Page 49, lines 16-20; Page 50, lines 1-3 (summarizing information from aforementioned surveys and other third party sources)

- Page 50, lines 7-20; Page 51, lines 1-2; Page 51, lines 6-8; Page 51, lines 13-17 (citing Wall Street strategists, investment firms, and other third parties as supporting testimony)

- Page 52, lines 4-18 (citing non-testifying consulting firm as supporting testimony and directly quoting authors of study by firm)

- Page 52, lines 22-25; Page 53, lines 3-4 (results of study from third party "proxy group" information)

- Page 54, lines 5; Page 54, lines 10-16 (information from other companies in "proxy group")

- Page 57, lines 6-16 (quoting rating methodology from Moody's)

- Page 62, lines 15-23; Page 63, lines 1-23; Page 64, lines 1-3; Page 64, lines 11-22; Exhibit JRK-13 (referring analysts' forecast information collected by Bloomberg, Zacks and others – hearsay within hearsay)

- Page 65, lines 16-24; Page 66, lines 1-5 (quoting article which in turn quotes an individual – hearsay within hearsay)

- Page 66, lines 9-10; Exhibit JRW-13 (using article to support testimony)

- Page 66, lines 14-24 (discussing information from third party companies)

- Page 67, lines 4-11; Page 67, lines 14-19 (repeatedly referring to information "reported by" a third party source relating to other companies)

- Page 72, lines 18-23; Page 73, lines 1-15 (discussing information obtained from a document review and citing findings of a professor from a journal)

- Page 75, lines 18-19 (referring to an assumption of studies by others)

- Page 76, lines 10-13 (quoting from a study published in a journal)

- Page 79, lines 1-2 (citing journal article in support of testimony)

- Page 79, lines 8-12 (citing estimates of third party from journal article)

- Page 82, lines 4-16; Page 83, lines 1-6 and 10-12; Exhibit JRW-15 (using information obtained from a third party sources)

- Page 83, lines 19-22; Page 84, lines 1-2 (statement by professor in journal)

- Page 84, lines 18-23; Page 85, lines 1-6; Exhibit JRW-16 (referring to the "opinions" of CFO's and information from publications)

- Page 87, lines 7-11 (quoting S&P rating criteria)

- Page 87, lines 20-21 (referencing agency rating decisions)

O'Donnell:

- Page 12, lines 7-15; Exhibit KWO-1 (using information as reported in a survey and a report by a third party)

- Page 13, lines 19-26; Exhibit KWO-3 (using info reported in a survey)

- Page 14, lines 15-28; Exhibit KWO-1 (using info reported in a survey)

- Page 15, lines 1-8 and 23-25; Exhibits KWO-1 and 2 (forecasts supplied by industry analysis to Charles Schwab & Co. – hearsay within hearsay)

- Page 16, lines 1-2 (information from third party sources)

- Page 17, lines 15-19 and 25-28 (information from third party sources)

- Page 18, lines 7-26 (information from survey and third party sources)

- Page 19, lines 24-29; Page 20, lines 1-2; Exhibit KWO-4 (using information from third party sources)

- Page 20, lines 4-8; Page 21, lines 1-11; Table 1 on Page 21 (information about several companies in published report – hearsay within hearsay)

- Page 23, lines 6-9 (information fro third party sources)

- Page 37, lines 5-34; Page 38, lines 1-3 (states opinion as to what financial analysis expect, and as proof quotes a study and article by other authors)

- Page 38, lines 17-24 (quoting document from docket of other commission)

- Page 39, lines 12-16 (referencing information from a publication)

- Page 40, lines 6-10 (using information represented in Table 1 on Page 21 about several companies from a published report – hearsay within hearsay)

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Petition for rate increase
by Tampa Electric Company

DOCKET NO. 080317-EI

FILED: November 26, 2008

_____/

DIRECT TESTIMONY

OF

DR. J. RANDALL WOOLRIDGE

On Behalf of the Citizens of the State of Florida

J.R. Kelly
Public Counsel

Office of Public Counsel
c/o The Florida Legislature
111 West Madison Street
Room 812
Tallahassee, FL 32399-1400

Attorney for the Citizens
Of the State of Florida

TABLE OF CONTENTS

APPENDIX A - Qualifications of Dr. J. Randall Woolridge

LIST OF EXHIBITS

Exhibit	Title
JRW-1	Recommended Rate of Return
JRW-2	Interest Rates
JRW-3	Summary Financial and Risk Statistics for Proxy Group
JRW-4	Capital Structure Ratios and Debt Cost Rate
JRW-5	The Relative Risk of Stocks and Bonds
JRW-6	The Relationship Between Estimated ROE and Market-to-Book Ratios
JRW-7	Public Utility Capital Cost Indicators
JRW-8	Industry Average Betas
JRW-9	Three-Stage DCF Model
JRW-10	DCF Study
JRW-11	CAPM Study
JRW-12	Summary of Tampa's Equity Cost Rate Approaches and Results
JRW-13	Analysis of Analysts' EPS Growth Rate Forecasts
JRW-14	Analysis of *Value* Line's EPS Growth Rate Forecasts
JRW-15	Historic Equity Risk Premium Evaluation
JRW-16	CFO's Equity Risk Premium

1		DIRECT TESTIMONY
2		OF
3		**DR. J. RANDALL WOOLRIDGE**
4		On Behalf of the Office of Public Counsel
5		Before the
6		Florida Public Service Commission
7		Docket No. 080317-EI
8		

9   Q.   **PLEASE STATE YOUR FULL NAME, ADDRESS, AND OCCUPATION**

10   A.   My name is J. Randall Woolridge, and my business address is 120 Haymaker

11   Circle, State College, PA 16801. I am a Professor of Finance and the Goldman,

12   Sachs & Co. and Frank P. Smeal Endowed University Fellow in Business

13   Administration at the University Park Campus of the Pennsylvania State

14   University. I am also the Director of the Smeal College Trading Room and

15   President of the Nittany Lion Fund, LLC. A summary of my educational

16   background, research, and related business experience is provided in Appendix A.

17

18
19   I.   **SUBJECT OF TESTIMONY AND SUMMARY OF RECOMMENDATIONS**
20

21   Q.   **WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS**

22   **PROCEEDING?**

23   A.   I have been asked by the Florida Office of People's Counsel ("OPC") to provide an

24   opinion as to the overall fair rate of return or cost of capital for the Tampa Electric

1

1		Company ("Tampa" or "Company") and to evaluate Tampa's rate of return
2		testimony in this proceeding.
3		
4	Q.	**HOW IS YOUR TESTIMONY ORGANIZED?**
5	A.	First I will review my cost of capital recommendation for Tampa, and review the
6		primary areas of contention between Tampa's rate of return position and OPC.
7		Second, I provide an assessment of capital costs in today's capital markets. Third, I
8		discuss my proxy group of electric utility companies for estimating the cost of
9		capital for Tampa. Fourth, I present my recommendations for the Company's capital
10		structure and debt cost rate. Fifth, I discuss the concept of the cost of equity capital,
11		and then estimate the equity cost rate for Tampa. Finally, I critique Tampa's rate of
12		return analysis and testimony. I have a table of contents just after the title page for a
13		more detailed outline.

14	Q.	**PLEASE REVIEW YOUR RECOMMENDATIONS REGARDING THE**
15		**APPROPRIATE RATE OF RETURN FOR TAMPA.**
16	A.	I am developed a capital structure and debt cost rate for Tampa that reflects its
17		past and present capitalization. I have applied the Discounted Cash Flow Model
18		("DCF") and the Capital Asset Pricing Model ("CAPM") to a proxy group of
19		publicly-held electric utility companies ("Electric Proxy Group"). My analysis
20		indicates an equity cost rate in the range of 8.2%-9.8% for Tampa. I have used an
21		equity cost rate at the upper end of the range, 9.75%, in recognition of the current
22		volatile capital market conditions. However, I reserve the right to update my

1		equity cost rate recommendations prior to hearings. This is because, in my
2		opinion, the current market conditions are in disequilibrium as investors attempt
3		to sort out the economic consequences of the collapse of the financial sector and
4		the unprecedented bail out by the U. S. government. In addition, certain financial
5		data have not been updated to reflect the current economic situation. Using my
6		capital structure and debt and equity cost rates, I am recommending an overall
7		rate of return of 7.33% for Tampa. These findings are summarized in Exhibit
8		JRW-1.
9	Q.	**PLEASE SUMMARIZE THE PRIMARY ISSUES REGARGING RATE OF**
10		**RETURN IN THIS PROCEEDING.**
11	A.	Mr. Gordon L. Gillette provides the Company's proposed capital structure and
12		debt cost rates and Dr. Donald A. Murry provides Tampa's proposed common
13		equity cost rate. My analysis suggests that the Company's recommended capital
14		structure with a common equity ratio of 55.3% is equity-rich when compared to
15		the actual capitalization of the Company as well as the capitalization of electric
16		utility companies. I have identified improper adjustments made by the Company
17		that serve to inflate the projected equity in the capital structure. I have adjusted
18		the Company's proposed debt cost rate to reflect market interest rates.
19		
20		As for the equity cost rate, Dr. Murry's estimate is 12.0%, whereas my analysis
21		indicates an equity cost rate of 9.75% is appropriate for Tampa. We have both
22		used DCF and CAPM approaches to estimating an equity cost rate for the

1   Company. Dr. Murry has applied these approaches to a proxy group of electric

2   utility companies as well as to TECO Energy.

3

4   In terms of the DCF approaches, the two major areas of disagreement are (1) the

5   relevance of DCF equity cost rate results and (2) the estimation of the expected

6   growth rate. With respect to (1), Dr Murry has ignored the vast majority of his

7   own DCF results for the proxy group and TECO Energy in estimating a DCF

8   equity cost rate range of 11.12% to 13.27%. In this regard, he argues that he uses

9   the high end of his DCF range to account for flotation costs and market pressure.

10   I demonstrate that this represents an erroneous adjustment since these costs are

11   undocumented and unnecessary. With respect to (2), Dr. Murry has relied

12   exclusively on the forecasted earnings per share growth rates of Wall Street

13   analysts and *Value Line* in estimating a DCF equity cost rate. I have used both

14   historic and projected growth rate measures, and have evaluated growth in

15   dividends, book value, and earnings per share. A very significant factor that I

16   consider and highlight is the upwardly-biased expected earnings growth rates of

17   Wall Street analysts and *Value Line*.

18

19   The CAPM approach requires an estimate of the risk-free interest rate, beta, and

20   the equity risk premium. Whereas there is general agreement on the beta and

21   risk-free interest rate, we have significantly different views on the alternative

22   approaches to measuring the equity risk premium as well as the magnitude of

23   equity risk premium. As I highlight in my testimony, there are three procedures

1   for estimating an equity risk premium – historic returns, surveys, and expected

2   return models. Dr. Murry relies solely on historic measures of the equity risk

3   premium and has used equity risk premiums of 7.10% and 8.50% in his two

4   versions of the CAPM. I provide evidence that risk premiums based on historic

5   returns series are subject to a myriad of empirical flaws and, as a result, are

6   upwardly biased measures of expected risk premiums. I have used an equity risk

7   premium of 4.56% which (1) uses all three approaches to estimating an equity

8   premium and (2) employs the results of many studies of the equity risk premium.

9   As I note, my equity risk premium is consistent with the equity risk premiums (1)

10   discovered in recent academic studies by leading finance scholars, (2) employed

11   by leading investment banks and management consulting firms, and (3) found in

12   surveys of financial forecasters and corporate CFOs.

13

14   Dr. Murry and I also disagree on the need for a size premium adjustment to the

15   CAPM. The size premium is based on historical stock returns and, as discussed in

16   my testimony, there are a number of errors in using historical market returns to

17   compute risk premiums. In addition, I argue that any equity cost rate adjustment

18   based on the relative size of a public utility is inappropriate. One study noted in

19   my testimony tested for a size premium in utilities and concluded that, unlike

20   industrial stocks, utility stocks do not exhibit a significant size premium. The

21   primary reason that a size premium is not required for utilities is that utilities are

22   regulated closely by state and federal agencies and commissions, and hence, their

1   financial performance is monitored on an on-going basis by agencies of both the

2   state and federal governments.

3

4   In the end, the most significant areas of disagreement between Dr. Murry and me

5   with respect to the cost of equity are (1) the relevance of the DCF model and its

6   results in determining an equity cost rate for the Company, and (2) the

7   measurement and magnitude of the equity risk premium.

8

9   II.   **CAPITAL COSTS IN TODAY'S MARKETS**

10   Q.   **PLEASE DISCUSS CAPITAL COSTS IN TODAY'S MARKETS.**

11   A.   Long-term capital cost rates for U.S. corporations are currently at their lowest

12   levels in more than four decades. Corporate capital cost rates are determined by

13   the level of interest rates and the risk premium demanded by investors to buy the

14   debt and equity capital of corporate issuers. The base level of long-term interest

15   rates in the U.S. economy is indicated by the rates on ten-year U.S. Treasury

16   bonds. The rates are provided in Exhibit JRW-2 from 1953 to the present. As

17   indicated, prior to the decline in rates that began in the year 2000, the 10-year

18   Treasury yield had not consistently been in the 4-5 percent range over an

19   extended period of time since the 1960s.

20

1	The second base component of the corporate capital cost rates is the risk
2	premium. The risk premium is the return premium required by investors to
3	purchase riskier securities. The equity risk premium is the return premium
4	required to purchase stocks as opposed to bonds. Since the equity risk premium is
5	not readily observable in the markets (as are bond risk premiums), and there are
6	alternative approaches to estimating the equity premium, it is the subject of much
7	debate. One way to estimate the equity risk premium is to compare the mean
8	returns on bonds and stocks over long historical periods. Measured in this
9	manner, the equity risk premium has been in the 5-7 percent range. But recent
10	studies by leading academics indicate the forward-looking equity risk premium is
11	in the 3-4 percent range. These authors indicate that historical equity risk
12	premiums are upwardly biased measures of expected equity risk premiums.
13	Jeremy Siegel, a Wharton finance professor and author of the book *Stocks for the*
14	*Long Term*, published a study entitled "The Shrinking Equity Risk Premium."[1]
15	He concludes:

> The degree of the equity risk premium calculated
> from data estimated from 1926 is unlikely to persist
> in the future. The real return on fixed-income assets
> is likely to be significantly higher than estimated on
> earlier data. This is confirmed by the yields
> available on Treasury index-linked securities, which
> currently exceed 4%. Furthermore, despite the
> acceleration in earnings growth, the return on
> equities is likely to fall from its historical level due
> to the very high level of equity prices relative to
> fundamentals.

---

[1] Jeremy J. Siegel, "The Shrinking Equity Risk Premium," *The Journal of Portfolio Management* (Fall, 1999), p. 15.

Alan Greenspan, the former Chairman of the Federal Reserve Board, indicated in an October 14, 1999, speech on financial risk that the fact that equity risk premiums declined during 1990s is "not in dispute." His assessment focused on the relationship between information availability and equity risk premiums.

> There can be little doubt that the dramatic improvements in information technology in recent years have altered our approach to risk. Some analysts perceive that information technology has permanently lowered equity premiums and, hence, permanently raised the prices of the collateral that underlies all financial assets.
>
> The reason, of course, is that information is critical to the evaluation of risk. The less that is known about the current state of a market or a venture, the less the ability to project future outcomes and, hence, the more those potential outcomes will be discounted.
>
> The rise in the availability of real-time information has reduced the uncertainties and thereby lowered the variances that we employ to guide portfolio decisions. At least part of the observed fall in equity premiums in our economy and others over the past five years does not appear to be the result of ephemeral changes in perceptions. It is presumably the result of a permanent technology-driven increase in information availability, which by definition reduces uncertainty and therefore risk premiums. This decline is most evident in equity risk premiums. It is less clear in the corporate bond market, where relative supplies of corporate and Treasury bonds and other factors we cannot easily identify have outweighed the effects of more readily available information about borrowers.[2]

[2] Alan Greenspan, "Measuring Financial Risk in the Twenty-First Century," Office of the Comptroller of the Currency Conference, October 14, 1999.

1		In sum, the relatively low interest rates in today's markets as well as the lower
2		risk premiums required by investors indicate that capital costs for U.S. companies
3		are the lowest in decades.
4		
5	Q.	**FINALLY, PLEASE DISCUSS THE IMPACT OF RECENT CAPITAL**
6		**MARKET VOLATILITY CONDITIONS ON THE EQUITY RISK**
7		**PREMIUM AND THE EQUITY COST RATE.**
8	A.	The mortgage, subprime, and credit crises on Wall Street have led to increased
9		market volatility and the unprecedented actions by the U.S. government to resolve
10		the financial crisis. To assess the impact of recent capital market volatility on the
11		equity risk premium and the equity cost rate, one must look at the volatility of
12		stocks relative to bonds. I have performed such an analysis below. To compare
13		the volatility of stocks and bonds, one must standardize the volatility measure.
14		This is normally done by dividing the volatility measure, the standard deviation,
15		by the mean. This standardized volatility measure is known as the Coefficient of
16		Variation ("CV").
17		
18	Q.	**GIVEN THESE OBSERVATIONS, PLEASE PROVIDE YOUR**
19		**ASSESSMENT OF THE IMPACT OF RECENT CAPITAL MARKET**
20		**CONDITIONS ON THE EQUITY COST RATE.**
21	A.	I have performed an analysis of the volatility of stocks relative to bonds since
22		1997. I have used the S&P 500 and the Bear Sterns Bond Price Index ("BSBPI")
23		and computed the CV using a 200-day mean and standard deviation. In Exhibit

1	JRW-5, I have graphed the ratio of the CV(Stock CV)/CV(Bond CV). Hence, this
2	graph shows the standardized volatility of stocks relative to bonds. Higher levels
3	of this ratio represent time periods when stock volatility is high relative to bond
4	volatility, and low levels of this ratio occur during time periods when stock
5	volatility is low relative to bonds. During the last two quarters of 2007, the
6	volatility of bonds increased relative to stocks due to the subprime mortgage
7	crisis. Through October of this year, stocks have increased in volatility relative to
8	bonds. On the relative CV measure, stocks reached a five-year high in terms of
9	relative volatility. As such, current market conditions suggest that stock volatility
10	is high relative to bond volatility.
11	
12	**III.** **PROXY GROUP SELECTION**
13	
14	**Q.** **PLEASE DESCRIBE YOUR APPROACH TO DEVELOPING A FAIR**
15	**RATE OF RETURN RECOMMENDATION FOR TAMPA.**
16	A. To develop a fair rate of return recommendation for Tampa, I have evaluated the
17	return requirements of investors on the common stock of a proxy group of
18	publicly-held electric utility companies.
19	**Q.** **PLEASE DESCRIBE YOUR PROXY GROUP OF ELECRIC UTILITY**
20	**COMPANIES.**
21	A. My Electric Proxy Group consists of thirteen electric utility companies. These
22	companies met the following selection criteria: (1) listed as a Electric Utility in *AUS*

1		*Utility Reports*; (2) listed as a Electric Utility in the Standard Edition of the *Value*
2		*Line Investment Survey*; (3) at least 75% regulated electric revenues; (4) operating
3		revenues of less than $10B; and (5) an investment grade bond rating by Moody's
4		and Standard & Poor's. Summary financial statistics for the Electric Proxy Group
5		are listed in Exhibit JRW-3. The average operating revenues and net plant for the
6		group are $2,908.2M and $5,173.3M, respectively. On average, the group receives
7		91% of revenues from regulated electric operations, has a 'Baa1' Moody's bond
8		rating, a current common equity ratio of 45%, and an earned return on common
9		equity of 8.9%.
10		
11		**IV. CAPITAL STRUCTURE RATIOS AND DEBT COST RATES**
12	Q.	**WHAT IS THE RECOMMENDED CAPITAL STRUCTURE OF THE**
13		**COMPANY?**
14	A.	The Company's recommended capital structure is shown in Panel A of page 1 of
15		Exhibit JRW-4. The Company is requesting a capital structure consisting of
16		0.24% short-term debt, 42.11% long-term debt, and a 55.32% common equity.
17		This is a 2009 test-year capital structure average and includes a number of
18		adjustments as well as several equity infusions from TECO Energy.
19	Q.	**IS THE COMPANY'S RECOMMENDED CAPITAL STRUCTURE**
20		**APPROPRIATE FOR TAMPA?**
21	A.	No. This capital structure is not appropriate for Tampa for several reasons. First,
22		the proposed capital structure ratios do not reflect the actual capitalization of

11

		Tampa Electric. Panel B of Exhibit JRW-4 shows the average capital structure
1		
2		ratios for the Company over the past three years. The average common equity
3		ratio over this time period is 49.02%. Second, the proposed capital structure
4		ratios do not reflect the capitalization of electric utility companies. Panel C of
5		Exhibit JRW-4 shows the average capital structure ratios for the Electric Proxy
6		Group in 2008. The average common equity for the first eleven months of 2008
7		for the group is 45.7%. Third, the proposed capital structure includes a number of
8		adjustments as well as proposed infusions which serve to increase the equity in
9		the capital structure. The Company's proposed adjustments are discussed in the
10		rebuttal section of my testimony.

11   Q.   **WHAT CAPITAL STRUCTURE ARE YOU EMPLOYING FOR TAMPA?**
12

13   A.   Page 4 of Exhibit JRW-4 provides the Company's capitalization for the years

14   2007, 2008, and 2009. As discussed, the 2009 pro forma capital structure

15   includes a number of adjustments as well as proposed equity infusions. Some of

16   these adjustments are improper, as will be discussed in my rebuttal testimony. The

17   2007 and 2008 capital structures are provided in Panel D of Exhibit JRW-4.

18   These capital structures reflect the actual capitalizations of the company as it has

19   been financed. As such, I am using the average of the 2007 and 2008 capital

20   structures as my proposed capital structure ratios for Tampa. These figures are

21   shown in Panel E of Exhibit JRW-4.

1   Q.   **WHY DO YOU BELIEVE THAT YOUR RECOMMENDED CAPITAL**

2   **STRUCTURE IS MORE APPROPRIATE THAN THE CAPITAL**

3   **STRUCTURE PROPOSED BY THE COMPANY?**

4   A.   My capital structure is more appropriate for four reasons. My capital structure,

5   with a common equity ratio of 48.89%: (1) much more accurately reflects how the

6   Company has been financed in the past. The Company's average common equity

7   ratio over the past three years has been 49.02%; (2) much more closely reflects

8   the capitalizations of electric utility companies. The average capital structure

9   ratio for the Electric Proxy Group in 2008 is 45.7%; (3) does not include a

10   number of questionable and uncertain adjustments and equity injections; and (4)

11   much more accurately reflects the Company's capital structure as viewed by

12   investors.

13

14   Q.   **WHAT SHORT-TERM DEBT COST RATES ARE YOU USING IN THE**

15   **COST OF CAPITAL FOR TAMPA?**

16   A.   The Company's short-term debt cost rate is based on a short-term debt rate

17   assumption of 4.5%. This rate, in turn, is based on the historic London Interbank

18   Offered Rate ("LIBOR") between 1991-2008 (see Tampa response to OPC 3-60,

19   part 1) of 4.37% plus a program financing fee. This has very little to do with

20   current LIBOR rates. Page 5 of Exhibit JRW-4 shows LIBOR rates over the past

21   five years. During 2008, LIBOR rates declined to the 2.75% range early in the

22   summer in response to Federal Reserve actions to lower interest rates. These rates

23   increased dramatically to the 4.75% range in September in response to the

1   spreading credit crisis. However, the intervention of the Federal Reserve, the

2   Treasury Department, and U.S. government has resulted in a significant decline in

3   the LIBOR rate. As of November 13, 2008, the three-month LIBOR rate was

4   2.15%. Including the financing program fee of 18 basis points, I will use a short-

5   term debt cost rate of 2.33% (2.15% + 0.18% = 2.33%).

6

7   Q.   **WHAT LONG-TERM DEBT COST RATE ARE YOU USING IN THE**

8   **COST OF CAPITAL FOR TAMPA?**

9   A.   The Company's long-term debt cost rate for rate year 2009 is 6.80%. Details of

10   the development of this debt cost rate were provided in Tampa's response to OPC

11   3-60, part 2. This is shown on page 6 of Exhibit JRW-4. This debt cost rate

12   includes a 2009 bond issue with a 6.90% coupon rate. I will adopt the Company's

13   long-term debt cost rate of 6.80%.

14

15   V.   <u>**THE COST OF COMMON EQUITY CAPITAL**</u>

16   A.   Overview

17   Q.   **WHY MUST AN OVERALL COST OF CAPITAL OR FAIR RATE OF**

18   **RETURN BE ESTABLISHED FOR A PUBLIC UTILITY?**

19   A.   In a competitive industry, the return on a firm's common equity capital is

20   determined through the competitive market for its goods and services. Due to the

21   capital requirements needed to provide utility services, however, and to the

22   economic benefit to society from avoiding duplication of these services, some

23   public utilities are monopolies. It is not appropriate to permit monopoly utilities to

14

1   set their own prices because of the lack of competition and the essential nature of

2   the services. Thus, regulation seeks to establish prices that are fair to consumers

3   and at the same time are sufficient to meet the operating and capital costs of the

4   utility (i.e., provide an adequate return on capital to attract investors).

5   Q.   **PLEASE PROVIDE AN OVERVIEW OF THE COST OF CAPITAL IN**

6   **THE CONTEXT OF THE THEORY OF THE FIRM.**

7   A.   The total cost of operating a business includes the cost of capital. The cost of

8   common equity capital is the expected return on a firm's common stock that the

9   marginal investor would deem sufficient to compensate for risk and the time value

10   of money.   In equilibrium, the expected and required rates of return on a

11   company's common stock are equal.

12

13   Normative economic models of the firm, developed under very restrictive

14   assumptions, provide insight into the relationship between firm performance or

15   profitability, capital costs, and the value of the firm. Under the economist's ideal

16   model of perfect competition where entry and exit is costless, products are

17   undifferentiated, and there are increasing marginal costs of production, firms

18   produce up to the point where price equals marginal cost. Over time, a long-run

19   equilibrium is established where price equals average cost, including the firm's

20   capital costs. In equilibrium, total revenues equal total costs, and because capital

21   costs represent investors' required return on the firm's capital, actual returns equal

1	required returns and the market value and the book value of the firm's securities
2	must be equal.
3	
4	In the real world, firms can achieve competitive advantage due to product market
5	imperfections. Most notably, companies can gain competitive advantage through
6	product differentiation (adding real or perceived value to products) and by
7	achieving economies of scale (decreasing marginal costs of production).
8	Competitive advantage allows firms to price products above average cost and
9	thereby earn accounting profits greater than those required to cover capital costs.
10	When these profits are in excess of that required by investors, or when a firm earns
11	a return on equity in excess of its cost of equity, investors respond by valuing the
12	firm's equity in excess of its book value.
13	
14	James M. McTaggart, founder of the international management consulting firm
15	Marakon Associates, has described this essential relationship between the return on
16	equity, the cost of equity, and the market-to-book ratio in the following manner:[3]

> Fundamentally, the value of a company is
> determined by the cash flow it generates over time
> for its owners, and the minimum acceptable rate of
> return required by capital investors. This "cost of
> equity capital" is used to discount the expected
> equity cash flow, converting it to a present value.
> The cash flow is, in turn, produced by the
> interaction of a company's return on equity and the
> annual rate of equity growth. High return on equity
> (ROE) companies in low-growth markets, such as

---

[3] James M. McTaggart, "The Ultimate Poison Pill: Closing the Value Gap," *Commentary* (Spring 1988), p. 2.

1 Kellogg, are prodigious generators of cash flow,
2 while low ROE companies in high-growth markets,
3 such as Texas Instruments, barely generate enough
4 cash flow to finance growth.

5 A company's ROE over time, relative to its cost of
6 equity, also determines whether it is worth more or
7 less than its book value. If its ROE is consistently
8 greater than the cost of equity capital (the investor's
9 minimum acceptable return), the business is
10 economically profitable and its market value will
11 exceed book value. If, however, the business earns
12 an ROE consistently less than its cost of equity, it is
13 economically unprofitable and its market value will
14 be less than book value.

15
16 As such, the relationship between a firm's return on equity, cost of equity, and

17 market-to-book ratio is relatively straightforward. A firm that earns a return on

18 equity above its cost of equity will see its common stock sell at a price above its

19 book value. Conversely, a firm that earns a return on equity below its cost of

20 equity will see its common stock sell at a price below its book value.

21 Q. **PLEASE PROVIDE ADDITIONAL INSIGHTS INTO THE**

22 **RELATIONSHIP BETWEEN RETURN ON EQUITY AND MARKET-TO-**

23 **BOOK RATIOS.**

24 A. This relationship is discussed in a classic Harvard Business School case study

25 entitled "A Note on Value Drivers." On page 2 of that case study, the author

26 describes the relationship very succinctly:[4]

27 For a given industry, more profitable firms – those able to
28 generate higher returns per dollar of equity – should have

---

[4] Benjamin Esty, "A Note on Value Drivers," Harvard Business School, Case No. 9-297-082, April 7, 1997.

1	higher market-to-book ratios. Conversely, firms which are
2	unable to generate returns in excess of their cost of equity
3	should sell for less than book value.

4	*Profitability*	*Value*
5	*If ROE > K*	*then Market/Book > 1*
6	*If ROE = K*	*then Market/Book = 1*
7	*If ROE < K*	*then Market/Book < 1*

8   To assess the relationship by industry, as suggested above, I have performed a

9   regression study between estimated return on equity and market-to-book ratios

10   using natural gas distribution, electric utility and water utility companies. I used

11   all companies in these three industries which are covered by *Value Line* and who

12   have estimated return on equity and market-to-book ratio data. The results are

13   presented in Panels A-C of Exhibit JRW-6. The average R-squares for the

14   electric, gas, and water companies are 0.65, 0.60, and 0.92.[5] This demonstrates the

15   strong positive relationship between ROEs and market-to-book ratios for public

16   utilities. This means that utilities with higher expected ROEs sell at higher

17   market-to-book ratios.

18   Q.   **WHAT ECONOMIC FACTORS HAVE AFFECTED THE COST OF**

19   **EQUITY CAPITAL FOR PUBLIC UTILITIES?**

20   A.   Exhibit JRW-7 provides indicators of public utility equity cost rates over the past

21   decade. Page 1 shows the yields on 10-year 'A' rated public utility bonds. These

22   yields peaked in the 1990s at 8.5%, then declined and again hit the 8.0 percent

23   range in the year 2000. They subsequently declined, hovering in the 4.5 to 5.0

---

[5] R-square measures the percent of variation in one variable (e.g., market-to-book ratios) explained by another variable (e.g., expected return on equity). R-squares vary between zero and 1.0, with values closer to 1.0 indicating a higher relationship between two variables.

1 percent range between 2003 and 2005. They increased to 6.0% in June 2006,

2 declined and then once again increased to over 6.0% in the summer of 2007.

3 They retreated to the 5.50% range by the end of 2007. Page 2 provides the

4 dividend yields for the fifteen utilities in the Dow Jones Utilities Average over the

5 past decade. These yields peaked in 1994 at 7.2% and have gradually declined

6 over the past decade. As of 2007, these yields were 3.35%.

7

8 Average earned returns on common equity and market-to-book ratios are given on

9 page 3 of Exhibit JRW-7. Over the past decade, earned returns on common

10 equity have consistently been in the 11.0%-13.0% range. The average ROE

11 peaked at 13.45% in 2001 and subsequently declined through the year 2006

12 before recovering in 2007. Over the past decade, market-to-book ratios for this

13 group have increased gradually but with several ups and downs. The market-to-

14 book average was 1.83 as of 2001, declined to 1.50 in 2003 and increased to 2.2

15 as of 2007.

16

17 The indicators in Exhibit JRW-7, coupled with the overall decrease in interest

18 rates, suggest that capital costs for the Dow Jones Utilities have decreased over

19 the past decade.

20 Q. WHAT FACTORS DETERMINE INVESTORS' EXPECTED OR

21 REQUIRED RATE OF RETURN ON EQUITY?

1   A.   The expected or required rate of return on common stock is a function of

2   market-wide, as well as company-specific, factors. The most important market

3   factor is the time value of money as indicated by the level of interest rates in the

4   economy. Common stock investor requirements generally increase and decrease

5   with like changes in interest rates. The perceived risk of a firm is the predominant

6   factor that influences investor return requirements on a company-specific basis.

7   A firm's investment risk is often separated into business and financial risk.

8   Business risk encompasses all factors that affect a firm's operating revenues and

9   expenses. Financial risk results from incurring fixed obligations in the form of

10   debt in financing its assets.

11   Q.   **HOW DOES THE INVESTMENT RISK OF PUBLIC UTILITY**

12   **COMPANIES COMPARE WITH THAT OF OTHER INDUSTRIES?**

13   A.   Due to the essential nature of their service as well as their regulated status, public

14   utilities are exposed to a lesser degree of business risk than other, non-regulated

15   businesses. The relatively low level of business risk allows public utilities to

16   meet much of their capital requirements through borrowing in the financial

17   markets, thereby incurring greater than average financial risk. Nonetheless, the

18   overall investment risk of public utilities is below most other industries.

19

20   Exhibit JRW-8 provides an assessment of investment risk for 100 industries as

21   measured by beta, which according to modern capital market theory is the only

22   relevant measure of investment risk. These betas come from the *Value Line*

1		*Investment Survey* and are compiled by Aswath Damodoran of New York
2		University.[6] The study shows that the investment risk of public utilities is
3		relatively low. The average beta for electric utility industry is 0.88. This figure
4		put electric utility companies in the bottom twenty percent of all industries and
5		well below the *Value Line* average of 1.24. As such, the cost of equity for the
6		electric utility industry is relatively low compared to other industries in the U.S.
7	Q.	**HOW CAN THE EXPECTED OR REQUIRED RATE OF RETURN ON**
8		**COMMON EQUITY CAPITAL BE DETERMINED?**
9	A.	The costs of debt and preferred stock are normally based on historical or book
10		values and can be determined with a great degree of accuracy. The cost of
11		common equity capital, however, cannot be determined precisely and must
12		instead be estimated from market data and informed judgment. This return to the
13		stockholder should be commensurate with returns on investments in other
14		enterprises having comparable risks.
15		
16		According to valuation principles, the present value of an asset equals the
17		discounted value of its expected future cash flows. Investors discount these
18		expected cash flows at their required rate of return that, as noted above, reflect the
19		time value of money and the perceived riskiness of the expected future cash
20		flows. As such, the cost of common equity is the rate at which investors discount
21		expected cash flows associated with common stock ownership.

---

[6] They may be found on the Internet at http:// www.stern.nyu.edu/~adamodar.

1

2   Models have been developed to ascertain the cost of common equity capital for a

3   firm. Each model, however, has been developed using restrictive economic

4   assumptions. Consequently, judgment is required in selecting appropriate

5   financial valuation models to estimate a firm's cost of common equity capital, in

6   determining the data inputs for these models, and in interpreting the models'

7   results. All of these decisions must take into consideration the firm involved as

8   well as current conditions in the economy and the financial markets.

9 **Q.**   **HOW DO YOU PLAN TO ESTIMATE THE COST OF EQUITY CAPITAL**

10   **FOR THE COMPANY?**

11 **A.**   I rely primarily on the DCF model to estimate the cost of equity capital. Given

12   the investment valuation process and the relative stability of the utility business, I

13   believe that the DCF model provides the best measure of equity cost rates for

14   public utilities. It is my experience that this Commission has traditionally relied

15   on the DCF method. I have also performed a CAPM study, but I give these

16   results less weight because I believe that risk premium studies, of which the

17   CAPM is one form, provide a less reliable indication of equity cost rates for

18   public utilities.

19

20 **B.**   **Discounted Cash Flow Analysis**

21 **Q.**   **DESCRIBE THE THEORY BEHIND THE TRADITIONAL DCF MODEL.**

22

1   A.   According to the DCF model, the current stock price is equal to the discounted

2   value of all future dividends that investors expect to receive from investment in

3   the firm. As such, stockholders' returns ultimately result from current as well as

4   future dividends. As owners of a corporation, common stockholders are entitled

5   to a pro-rata share of the firm's earnings. The DCF model presumes that earnings

6   that are not paid out in the form of dividends are reinvested in the firm so as to

7   provide for future growth in earnings and dividends. The rate at which investors

8   discount future dividends, which reflects the timing and riskiness of the expected

9   cash flows, is interpreted as the market's expected or required return on the

10   common stock. Therefore, this discount rate represents the cost of common

11   equity. Algebraically, the DCF model can be expressed as:

12
13
14

$$P = \frac{D_1}{(1+k)^1} + \frac{D_2}{(1+k)^2} + \quad \ldots \quad \frac{D_n}{(1+k)^n}$$

15
16   where P is the current stock price, D_n is the dividend in year n, and k is the cost of

17   common equity.

18   Q.   **IS THE DCF MODEL CONSISTENT WITH VALUATION TECHNIQUES**

19   **EMPLOYED BY INVESTMENT FIRMS?**

20   A.   Yes. Virtually all investment firms use some form of the DCF model as a

21   valuation technique. One common application for investment firms is called the

22   three-stage DCF or dividend discount model ("DDM"). The stages in a three-

23   stage DCF model are presented in Exhibit JRW-9. This model presumes that a

24   company's dividend payout progresses initially through a growth stage, then

proceeds through a transition stage, and finally assumes a steady-state stage. The dividend-payment stage of a firm depends on the profitability of its internal investments, which, in turn, is largely a function of the life cycle of the product or service.

1.   Growth stage: Characterized by rapidly expanding sales, high profit margins, and abnormally high growth in earnings per share. Because of highly profitable expected investment opportunities, the payout ratio is low. Competitors are attracted by the unusually high earnings, leading to a decline in the growth rate.

2.   Transition stage: In later years, increased competition reduces profit margins and earnings growth slows. With fewer new investment opportunities, the company begins to pay out a larger percentage of earnings.

3.   Maturity (steady-state) stage: Eventually the company reaches a position where its new investment opportunities offer, on average, only slightly attractive returns on equity. At that time its earnings growth rate, payout ratio, and return on equity stabilize for the remainder of its life. The constant-growth DCF model is appropriate when a firm is in the maturity stage of the life cycle.

In using this model to estimate a firm's cost of equity capital, dividends are projected into the future using the different growth rates in the alternative stages,

1 <u>and then the equity cost rate is the discount rate that equates the present value of</u>

2 <u>the future dividends to the current stock price.</u>

3

4 Q. **HOW DO YOU ESTIMATE STOCKHOLDERS' EXPECTED OR**

5 **REQUIRED RATE OF RETURN USING THE DCF MODEL?**

6 A. Under certain assumptions, including a constant and infinite expected growth rate,

7 and constant dividend/earnings and price/earnings ratios, the DCF model can be

8 simplified to the following:

$$ P = \frac{D_1}{k - g} $$

13 where D_1 represents the expected dividend over the coming year and g is the

14 expected growth rate of dividends. This is known as the constant-growth version

15 of the DCF model. To use the constant-growth DCF model to estimate a firm's

16 cost of equity, one solves for k in the above expression to obtain the following:

$$ k = \frac{D_1}{P} + g $$

20

21 Q. **IN YOUR OPINION, IS THE CONSTANT-GROWTH DCF MODEL**

22 **APPROPRIATE FOR PUBLIC UTILITIES?**

23 A. Yes. The economics of the public utility business indicate that the industry is in

24 the steady-state or constant-growth stage of a three-stage DCF. The economics

25 include the relative stability of the utility business, the maturity of the demand for

1   public utility services, and the regulated status of public utilities (especially the

2   fact that their returns on investment are effectively set through the ratemaking

3   process). The DCF valuation procedure for companies in this stage is the

4   constant-growth DCF. In the constant-growth version of the DCF model, the

5   current dividend payment and stock price are directly observable. However, the

6   primary problem and controversy in applying the DCF model to estimate equity

7   cost rates entails estimating investors' expected dividend growth rate.

8 Q. **WHAT FACTORS SHOULD ONE CONSIDER WHEN APPLYING THE**

9   **DCF METHODOLOGY?**

10 A. One should be sensitive to several factors when using the DCF model to estimate

11   a firm's cost of equity capital. In general, one must recognize the assumptions

12   under which the DCF model was developed in estimating its components (the

13   dividend yield and expected growth rate). The dividend yield can be measured

14   precisely at any point in time, but tends to vary somewhat over time. Estimation

15   of expected growth is considerably more difficult. One must consider recent firm

16   performance, in conjunction with current economic developments and other

17   information available to investors, to accurately estimate investors' expectations.

18 Q. **PLEASE DISCUSS EXHIBIT JRW-10.**

19 A. My DCF analysis is provided in Exhibit JRW-10. The DCF summary is on page

20   1 of this Exhibit, and the supporting data and analysis for the dividend yield and

21   expected growth rate are provided on the following pages of the Exhibit.

22

1   Q.   **WHAT DIVIDEND YIELDS ARE YOU EMPLOYING IN YOUR DCF**

2   **ANALYSIS FOR THE PROXY GROUP?**

3   A.   The dividend yields on the common stock for the companies in the proxy group

4   are provided on page 2 of Exhibit JRW-10 for the six-month period ending

5   November 2008. For the DCF dividend yields for the group, I am using the

6   average of the six month and November 2008 dividend yields, which is 5.2%.

7

8   Q.   **PLEASE DISCUSS THE APPROPRIATE ADJUSTMENT TO THE SPOT**

9   **DIVIDEND YIELD.**

10 A.   According to the traditional DCF model, the dividend yield term relates to the

11   dividend yield over the coming period. As indicated by Professor Myron Gordon,

12   who is commonly associated with the development of the DCF model for popular

13   use, this is obtained by: (1) multiplying the expected dividend over the coming

14   quarter by 4 and (2) dividing this dividend by the current stock price to determine

15   the appropriate dividend yield for a firm, that pays dividends on a quarterly basis.[7]

16   In applying the DCF model, some analysts adjust the current dividend for growth

17   over the coming year as opposed to the coming quarter. This can be complicated

18   because firms tend to announce changes in dividends at different times during the

19   year. As such, the dividend yield computed based on presumed growth over the

20   coming quarter as opposed to the coming year can be quite different.

---

[7] *Petition for Modification of Prescribed Rate of Return*, Federal Communications Commission, Docket No. 79-05, Direct Testimony of Myron J. Gordon and Lawrence I. Gould at 62 (April 1980).

1   Consequently, it is common for analysts to adjust the dividend yield by some

2   fraction of the long-term expected growth rate.

3

4 Q. **GIVEN THIS DISCUSSION, WHAT ADJUSTMENT FACTOR WILL**

5   **YOU USE FOR YOUR DIVIDEND YIELD?**

6 A. I will adjust the dividend yield by one-half (1/2) the expected growth so as to

7   reflect growth over the coming year.

8

9 Q. **PLEASE DISCUSS THE GROWTH RATE COMPONENT OF THE DCF**

10   **MODEL.**

11 A. There is much debate as to the proper methodology to employ in estimating the

12   growth component of the DCF model. By definition, this component is investors'

13   expectation of the long-term dividend growth rate. Presumably, investors use

14   some combination of historical and/or projected growth rates for earnings and

15   dividends per share and for internal or book value growth to assess long-term

16   potential.

17

18 Q. **WHAT GROWTH DATA HAVE YOU REVIEWED FOR THE PROXY**

19   **GROUP?**

20 A. I have analyzed a number of measures of growth for companies in the proxy

21   group. I have reviewed *Value Line's* historical and projected growth rate estimates

22   for earnings per share ("EPS"), dividends per share ("DPS"), and book value per

1   share ("BVPS"). In addition, I have utilized the average EPS growth rate

2   forecasts of Wall Street analysts as provided by Bloomberg, and Zacks. These

3   services solicit five-year earnings growth rate projections from securities analysts,

4   and compile and publish the means and medians of these forecasts. Finally, I

5   have also assessed prospective growth as measured by prospective earnings

6   retention rates and earned returns on common equity.

7

8   Q.   **PLEASE DISCUSS HISTORICAL GROWTH IN EARNINGS AND**

9   **DIVIDENDS AS WELL AS INTERNAL GROWTH.**

10   A.   Historical growth rates for EPS, DPS, and BVPS are readily available to virtually

11   all investors and presumably an important ingredient in forming expectations

12   concerning future growth. However, one must use historical growth numbers as

13   measures of investors' expectations with caution. In some cases, past growth may

14   not reflect future growth potential. Also, employing a single growth rate number

15   (for example, for five or ten years), is unlikely to accurately measure investors'

16   expectations due to the sensitivity of a single growth rate figure to fluctuations in

17   individual firm performance as well as overall economic fluctuations (i.e.,

18   business cycles). However, one must appraise the context in which the growth

19   rate is being employed. According to the conventional DCF model, the expected

20   return on a security is equal to the sum of the dividend yield and the expected

21   long-term growth in dividends. Therefore, to best estimate the cost of common

1　　　equity capital using the conventional DCF model, one must look to long-term

2　　　growth rate expectations.

3

4　　　Internally generated growth is a function of the percentage of earnings retained

5　　　within the firm (the earnings retention rate) and the rate of return earned on those

6　　　earnings (the return on equity). The internal growth rate is computed as the

7　　　retention rate times the return on equity. Internal growth is significant in

8　　　determining long-run earnings and, therefore, dividends. Investors recognize the

9　　　importance of internally generated growth and pay premiums for stocks of

10　　　companies that retain earnings and earn high returns on internal investments.

11

12　Q.　**WHY ARE YOU NOT RELYING EXCLUSIVELY ON THE EPS**

13　　　**FORECASTS OF WALL STREET ANALYSTS IN ARRIVING AT A DCF**

14　　　**GROWTH RATE FOR THE PROXY GROUP?**

15　A.　There are several issues with using the EPS growth rate forecasts of Wall Street

16　　　analysts as DCF growth rates. First, the appropriate growth rate in the DCF

17　　　model is the dividend growth rate, not the earnings growth rate. Nonetheless,

18　　　over the very long-term, dividend and earnings will have to grow at a similar

19　　　growth rate. Therefore, in my opinion, consideration must be given to other

20　　　indicators of growth, including prospective dividend growth, internal growth, as

21　　　well as projected earnings growth. Second, and most significantly, it is well-

22　　　known that the EPS growth rate forecasts of Wall Street securities analysts are

23　　　overly optimistic and upwardly biased. Hence, using these growth rates as a DCF

1		growth rate will provide an overstated equity cost rate. This issue is discussed at
2		length in the rebuttal section of this testimony.
3		
4	Q.	**PLEASE DISCUSS THE HISTORICAL GROWTH OF THE COMPANIES**
5		**IN THE GROUP AS PROVIDED IN THE** *VALUE LINE INVESTMENT*
6		*SURVEY.*
7	A.	Historic growth rates for the companies in the group, as published in the *Value*
8		*Line Investment Survey*, are provided on page 3 of Exhibit JRW-10. Due to the
9		presence of outliers among the historic growth rate figures, both the mean and
10		medians are used in the analysis.[8] The historical growth measures in EPS, DPS,
11		and BVPS for the Electric Proxy Group, as measured by the means and medians,
12		range from -2.3% to 3.0%, with an average of 1.0%.
13		
14	Q.	**PLEASE SUMMARIZE** *VALUE LINE'S* **PROJECTED GROWTH RATES**
15		**FOR THE COMPANIES IN THE PROXY GROUP.**
16	A.	*Value Line's* projections of EPS, DPS, and BVPS growth for the companies in the
17		proxy group are shown on page 4 of Exhibit JRW-10. As stated above, due to the
18		presence of outliers, both the mean and medians are used in the analysis. For the
19		Electric Proxy Group, the central tendency measures range from 1.0% to 6.3%,
20		with an average of 3.8%.
21		

---

[8] Outliers are observations that are much larger or smaller than the majority of the observations that are being evaluated.

1		Also provided on page 4 of Exhibit JRW-10 is prospective internal growth for the
2		proxy group as measured by *Value Line*'s average projected retention rate and
3		return on shareholders' equity. As noted above, internal growth is significant in a
4		primary driver of long-run earnings growth. For the Electric Proxy Group, the
5		average prospective internal growth rate is 3.6%.
6		
7	Q.	**PLEASE ASSESS GROWTH FOR THE PROXY GROUP AS MEASURED**
8		**BY ANALYSTS' FORECASTS OF EXPECTED 5-YEAR EPS GROWTH.**
9	A.	Zacks, and Bloomberg collect, summarize, and publish Wall Street analysts' five-
10		year EPS growth rate forecasts for the companies in the proxy group. These
11		forecasts are provided for the companies in the proxy group on page 5 of Exhibit
12		JRW-10. The median of analysts' projected EPS growth rates for the Electric
13		Proxy Group is 6.13%.[9]
14		
15	Q.	**PLEASE SUMMARIZE YOUR ANALYSIS OF THE HISTORICAL AND**
16		**PROSPECTIVE GROWTH OF THE PROXY GROUP.**
17	A.	Page 6 of Exhibit JRW-10 shows the summary DCF growth rate indicators for the
18		proxy group. The average of the historic and projected growth rate indicators for
19		the Electric Proxy Group is 3.63%. The average of the projected growth rate

---

[9] Since there is considerable overlap in analyst coverage between the three services, and not all of the companies have forecasts from the different services, I have averaged the expected five-year EPS growth rates from the three services for each company to arrive at an expected EPS growth rate by company.

1   indicators and internal growth, excluding historical growth, is 4.5%. I will use this

2   figure as the expected DCF growth rate for the Electric Proxy Group.

3

4   Q.   **BASED ON THE ABOVE ANALYSIS, WHAT ARE YOUR INDICATED**

5   **COMMON EQUITY COST RATES FROM THE DCF MODEL FOR THE**

6   **GROUP?**

7   A.   My DCF-derived equity cost rate for the group is summarized on page 1 of Exhibit

8   JRW-10.

9
10
11   DCF Equity Cost Rate (k) $\quad = \quad \dfrac{D}{P} \quad + \quad g$
12

13   DCF Equity Cost Rate (k) $\quad = \quad 5.3\% + 4.5\% = 9.8\%$

14

15   C.   **Capital Asset Pricing Model Results**

16   Q.   **PLEASE DISCUSS THE CAPITAL ASSET PRICING MODEL ("CAPM").**

17   A.   The CAPM is a risk premium approach to gauging a firm's cost of equity capital.

18   According to the risk premium approach, the cost of equity is the sum of the

19   interest rate on a risk-free bond (R_f) and a risk premium (RP), as in the following:

20                $k \quad = \quad R_f \quad + \quad RP$
21

22

1   The yield on long-term Treasury securities is normally used as R_f. Risk premiums

2   are measured in different ways. The CAPM is a theory of the risk and expected

3   returns of common stocks. In the CAPM, two types of risk are associated with a

4   stock: firm-specific risk or unsystematic risk, and market or systematic risk,

5   which is measured by a firm's beta. The only risk that investors receive a return

6   for bearing is systematic risk.

7

8   According to the CAPM, the expected return on a company's stock, which is also

9   the equity cost rate (K), is equal to:

10
$$K = (R_f) + \beta * [E(R_m) - (R_f)]$$

11   Where:

12   • K represents the estimated rate of return on the stock;

13
14   • $E(R_m)$ represents the expected return on the overall stock market. Frequently, the 'market' refers to the S&P 500;

15   • (R_f) represents the risk-free rate of interest;

16
17
18   • $[E(R_m) - (R_f)]$ represents the expected equity or market risk premium—the excess return that an investor expects to receive above the risk-free rate for investing in risky stocks; and

19
20   • $Beta$—(β) is a measure of the systematic risk of an asset.

21   To estimate the required return or cost of equity using the CAPM requires three

22   inputs: the risk-free rate of interest (R_f), the beta (β), and the expected equity or

23   market risk premium $[E(R_m) - (R_f)]$. R_f is the easiest of the inputs to measure – it

24   is the yield on long-term Treasury bonds. β, the measure of systematic risk, is a

25   little more difficult to measure because there are different opinions about what

26   adjustments, if any, should be made to historical betas due to their tendency to

34

1   regress to 1.0 over time. And finally, an even more difficult input to measure is

2   the expected equity or market risk premium ($E(R_m)$ - (R_f)). I will discuss each of

3   these inputs below.

4

5 Q. PLEASE DISCUSS EXHIBIT JRW-11.

6 A. Exhibit JRW-11 provides the summary results for my CAPM study. Page 1 shows

7 the results, and the following pages contain the supporting data.

8 Q. PLEASE DISCUSS THE RISK-FREE INTEREST RATE.

9 A. The yield on long-term U.S. Treasury bonds has usually been viewed as the risk-

10   free rate of interest in the CAPM. The yield on long-term U.S. Treasury bonds, in

11   turn, has been considered to be the yield on U.S. Treasury bonds with 30-year

12   maturities.   However, when the Treasury's issuance of 30-year bonds was

13   interrupted for a period of time in recent years, the yield on 10-year U.S. Treasury

14   bonds replaced the yield on 30-year U.S. Treasury bonds as the benchmark long-

15   term Treasury rate. The 10-year U.S. Treasury yields over the past five years are

16   shown on page 2 of Exhibit JRW-11. These rates hit a 60-year low in the summer

17   of 2003 at 3.33%. They increased with the rebounding economy and fluctuated in

18   the 4.0-4.50 percent range in recent years until advancing to 5.0% in early 2006 in

19   response to a strong economy and increases in energy, commodity, and consumer

20   prices. In late 2006, long-term interest rates retreated to the 4.5 percent area as

21   commodity and energy prices declined and inflationary pressures subsided. These

22   rates rebounded to the 5.0% level in the first half of 2007. However, ten-year

1   Treasury yields have again fallen below 4.0 percent due to the housing and sub-

2   prime mortgage crises and its affect on the economy and financial markets.

3

4   Q.   **WHAT RISK-FREE INTEREST RATE ARE YOU USING IN YOUR**

5   **CAPM?**

6   A.   The U.S. Treasury began to issue the 30-year bond in the early 2000s as the U.S.

7   budget deficit increased. As such, the market has once again focused on its yield

8   as the benchmark for long-term capital costs in the U.S. As noted above, the yields

9   on the 10- and 30- year U.S. Treasuries decreased to below 5.0% in 2007 and have

10   remained at these lower levels. In 2008 Treasury yields have been pushed even lower

11   as a result of the mortgage and sub-prime market credit crisis, the turmoil in the

12   financial sector, the prospect of an economic recession, and the government bailout of

13   financial institutions. As of November 3, 2008, as shown on page 2 of Exhibit JRW-

14   11, the rates on 10- and 30- U.S. Treasury Bonds were 3.93% and 4.35%,

15   respectively. However, these yields have been highly volatile over the past two

16   months. Given this recent range and volatility, along with the prospect of higher

17   rates, I will use 4.5% as the risk-free rate, or R_f, in my CAPM.

18

19   Q.   **WHAT BETAS ARE YOU EMPLOYING IN YOUR CAPM?**

20   A.   Beta (β) is a measure of the systematic risk of a stock. The market, usually taken

21   to be the S&P 500, has a beta of 1.0. The beta of a stock with the same price

36

1   movement as the market also has a beta of 1.0. A stock whose price movement is

2   greater than that of the market, such as a technology stock, is riskier than the

3   market and has a beta greater than 1.0. A stock with below average price

4   movement, such as that of a regulated public utility, is less risky than the market

5   and has a beta less than 1.0. Estimating a stock's beta involves running a linear

6   regression of a stock's return on the market return.

7

8   As shown on page 3 of Exhibit JRW-11, the slope of the regression line is the

9   stock's ß. A steeper line indicates the stock is more sensitive to the return on the

10   overall market. This means that the stock has a higher ß and greater than average

11   market risk. A less steep line indicates a lower ß and less market risk.

12

13   Numerous online investment information services, such as Yahoo! and Reuters,

14   provide estimates of stock betas.   These services routinely report different betas

15   for the same stock. The differences are usually due to: (1) the time period over

16   which the ß is measured and (2) any adjustments that are made to reflect the fact

17   that betas tend to regress to 1.0 over time. In estimating an equity cost rate for the

18   proxy group, I am using the betas for the companies as provided in the *Value Line*

19   *Investment Survey*. As shown on page 3 of Exhibit JRW-11, the average beta for

20   the companies in Electric Proxy Group is 0.82.

21

1   Q.   **PLEASE DISCUSS THE OPPOSING VIEWS REGARDING THE EQUITY**

2   **RISK PREMIUM.**

3   A   The equity or market risk premium - $(E(R_m) - R_f)$ - is equal to the expected return

4   on the stock market (e.g., the expected return on the S&P 500 $(E(R_m))$ minus the

5   risk-free rate of interest (R_f). The equity premium is the difference in the expected

6   total return between investing in equities and investing in "safe" fixed-income

7   assets, such as long-term government bonds. However, while the equity risk

8   premium is easy to define conceptually, it is difficult to measure because it requires

9   an estimate of the expected return on the market.

10

11   Q.   **PLEASE   DISCUSS   THE   ALTERNATIVE   APPROACHES   TO**

12   **ESTIMATING THE EQUITY RISK PREMIUM.**

13   A.   Page 4 of Exhibit JRW-11 highlights the primary approaches to, and issues in,

14   estimating the expected equity risk premium. The traditional way to measure the

15   equity risk premium was to use the difference between historical average stock

16   and bond returns. In this case, historical stock and bond returns, also called ex

17   post returns, were used as the measures of the market's expected return (known as

18   the ex ante or forward-looking expected return). This type of historical evaluation

19   of stock and bond returns is often called the "Ibbotson approach" after Professor

20   Roger Ibbotson who popularized this method of using historical financial market

21   returns as measures of expected returns. Most historical assessments of the equity

22   risk premium suggest an equity risk premium of 5-7 percent above the rate on

1   long-term U.S. Treasury bonds. However, this can be a problem because: (1) ex

2   post returns are not the same as ex ante expectations, (2) market risk premiums

3   can change over time; increasing when investors become more risk-averse and

4   decreasing when investors become less risk-averse, and (3) market conditions can

5   change such that ex post historical returns are poor estimates of ex ante

6   expectations.

7

8   The use of historical returns as market expectations has been criticized in

9   numerous academic studies.[10] The general theme of these studies is that the large

10   equity risk premium discovered in historical stock and bond returns cannot be

11   justified by the fundamental data. These studies, which fall under the category

12   "Ex Ante Models and Market Data," compute ex ante expected returns using

13   market data to arrive at an expected equity risk premium. These studies have also

14   been called "Puzzle Research" after the famous study by Mehra and Prescott in

15   which the authors first questioned the magnitude of historical equity risk

16   premiums relative to fundamentals.[11]

17 **Q.** **PLEASE SUMMARIZE SOME OF THE ACADEMIC STUDIES THAT**

18   **DEVELOP EX ANTE EQUITY RISK PREMIUMS.**

19 **A.** Two of the most prominent studies of ex ante expected equity risk premiums were

20   by Eugene Fama and Ken French (2002) and James Claus and Jacob Thomas

---

[10] The problems with using ex post historical returns as measures of ex ante expectations will be discussed at length later in my testimony.

[11] R. Mehra and Edward Prescott, "The Equity Premium: A Puzzle," *Journal of Monetary Economics* (1985).

1   (2001). The primary debate in these studies revolves around two related issues:

2   (1) the size of expected equity risk premium, which is the return equity investors

3   require above the yield on bonds and (2) the fact that estimates of the ex ante

4   expected equity risk premium using fundamental firm data (earnings and

5   dividends) are much lower than estimates using historical stock and bond return

6   data.

7

8   Fama and French (2002), two of the most preeminent scholars in finance, use

9   dividend and earnings growth models to estimate expected stock returns and ex

10   ante expected equity risk premiums.[12] They compare these results to actual stock

11   returns over the period 1951-2000. Fama and French estimate that the expected

12   equity risk premium from DCF models using dividend and earnings growth to be

13   between 2.55% and 4.32%. These figures are much lower than the ex post

14   historical equity risk premium produced from the average stock and bond return

15   over the same period, which is 7.40%. Fama and French conclude that the ex ante

16   equity risk premium estimates using DCF models and fundamental data are

17   superior to those using ex post historical stock returns for three reasons: (1) the

18   estimates are more precise (a lower standard error); (2) the Sharpe ratio, which is

19   measured as the [(expected stock return – risk-free rate)/standard deviation], is

20   constant over time for the DCF models but varies considerably over time and

21   more than doubles for the average stock-bond return model; and (3) valuation

22   theory specifies relationships between the market-to-book ratio, return on

---

[12] Eugene F. Fama and Kenneth R. French, "The Equity Premium," *The Journal of Finance*, (April 2002).

1	investment, and cost of equity capital that favor estimates from fundamentals.
2	They also conclude that the high average stock returns over the past 50 years were
3	the result of low expected returns and that the average equity risk premium has
4	been in the 3-4 percent range.
5	
6	The study by Claus and Thomas of Columbia University provides direct support
7	for the findings of Fama and French.[13] These authors compute ex ante expected
8	equity risk premiums over the 1985-1998 period by: (1) computing the discount
9	rate that equates market values with the present value of expected future cash
10	flows and (2) then subtracting the risk-free interest rate. The expected cash flows
11	are developed using analysts' earnings forecasts. The authors conclude that over
12	this period, the ex ante expected equity risk premium is in the range of 3.0%.
13	Claus and Thomas note that, over this period, ex post historical stock returns
14	overstate the ex ante expected equity risk premium because, as the expected
15	equity risk premium has declined, stock prices have risen. In other words, from a
16	valuation perspective, the present value of expected future returns increase when
17	the required rate of return decreases. The higher stock prices have produced stock
18	returns that have exceeded investors' expectations, and therefore, ex post
19	historical equity risk premium estimates are biased upwards as measures of ex
20	ante expected equity risk premiums.
21	

---

[13] James Claus and Jacob Thomas, "Equity Risk Premia as Low as Three Percent? Empirical Evidence from Analysts' Earnings Forecasts for Domestic and International Stock Market," *Journal of Finance*. (October 2001).

1   **Q.**   **PLEASE PROVIDE A SUMMARY OF THE EQUITY RISK PREMIUM**

2   **STUDIES.**

3   **A.**   Derrig and Orr (2003), Fernandez (2007), and Song (2007) have completed the

4   most comprehensive reviews to date of the research on the equity risk premium.[14]

5   Derrig and Orr's study evaluated the various approaches to estimating equity risk

6   premiums as well as the issues with the alternative approaches and summarized

7   the findings of the published research on the equity risk premium. Fernandez

8   examined four alternative measures of the equity risk premium – historical,

9   expected, required, and implied. He also reviewed the major studies of the equity

10   risk premium and presented the summary equity risk premium results. Song

11   provides an annotated bibliography and highlights the alternative approaches to

12   estimating the equity risk summary.

13

14   Page 5 of Exhibit JRW-11 provides a summary of the results of the primary risk

15   premium studies reviewed by Derrig and Orr, Fernandez, and Song. In

16   developing page 5 of Exhibit JRW-11, I have categorized the studies as discussed

17   on page 4 of Exhibit JRW-11. I have also included the results of the "Building

18   Blocks" approach to estimating the equity risk premium, including a study I

19   performed, which is presented below. The Building Blocks approach is a hybrid

20   approach employing elements of both historic and ex ante models.

---

[14] Richard Derrig and Elisha Orr, "Equity Risk Premium: Expectations Great and Small," Working Paper (version 3.0), Automobile Insurers Bureau of Massachusetts, (August 28, 2003), Pablo Fernandez, "Equity Premium: Historical, Expected, Required, and Implied," IESE Business School Working Paper, (2007), and Zhiyi Song, "The Equity Risk Premium: An Annotated Bibliography," CFA Institute, (2007).

1	
2	**Q.** **PLEASE DISCUSS YOUR DEVELOPMENT OF AN EQUITY RISK**
3	**PREMIUM COMPUTED USING THE BUILDING BLOCKS**
4	**METHODOLOGY.**
5	A. Ibbotson and Chen (2003) evaluate the ex post historical mean stock and bond
6	returns in what is called the Building Blocks approach.[15] They use 75 years of
7	data and relate the compounded historical returns to the different fundamental
8	variables employed by different researchers in building ex ante expected equity
9	risk premiums. Among the variables included were inflation, real EPS and DPS
10	growth, ROE and book value growth, and price-earnings ("P/E") ratios. By
11	relating the fundamental factors to the ex post historical returns, the methodology
12	bridges the gap between the ex post and ex ante equity risk premiums. Ilmanen
13	(2003) illustrates this approach using the geometric returns and five fundamental
14	variables – inflation ("CPI"), dividend yield ("D/P"), real earnings growth
15	("RG"), repricing gains ("PEGAIN") and return interaction/reinvestment
16	("INT").[16] This is shown on page 6 of Exhibit JRW-11. The first column breaks
17	the 1926-2000 geometric mean stock return of 10.7% into the different return
18	components demanded by investors: the historical U.S. Treasury bond return
19	(5.2%), the excess equity return (5.2%), and a small interaction term (0.3%). This
20	10.7% annual stock return over the 1926-2000 period can then be broken down

[15] Roger Ibbotson and Peng Chen, "Long Run Returns: Participating in the Real Economy," *Financial Analysts Journal*, (January 2003).

[16] Antti Ilmanen, Expected Returns on Stocks and Bonds," *Journal of Portfolio Management*, (Winter 2003), p. 11.

1 into the following fundamental elements: inflation (3.1%), dividend yield (4.3%),

2 real earnings growth (1.8%), repricing gains (1.3%) associated with higher P/E

3 ratios, and a small interaction term (0.2%).

4

5 Q. **HOW ARE YOU USING THIS METHODOLOGY TO DERIVE AN EX**

6 **ANTE EXPECTED EQUITY RISK PREMIUM?**

7 A. The third column in the graph above shows current inputs to estimate an ex ante

8 expected market return. These inputs include the following:

9

10 CPI – To assess expected inflation, I have employed expectations of the short-

11 term and long-term inflation rate. Page 7 of Exhibit JRW-11 shows the expected

12 annual inflation rate according to consumers, as measured by the CPI, over the

13 coming year. This survey is published monthly by the University of Michigan

14 Survey Research Center. In the most recent report, the expected one-year

15 inflation rate was 3.9%.

16

17 Longer term inflation forecasts are available in the Federal Reserve Bank of

18 Philadelphia's publication entitled *Survey of Professional Forecasters.*[17] This

19 survey of professional economists has been published for almost 50 years. While

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[17]Federal Reserve Bank of Philadelphia, *Survey of Professional Forecasters,* (February 12, 2008). The *Survey of Professional Forecasters* was formerly conducted by the American Statistical Association ("ASA") and the National Bureau of Economic Research ("NBER") and was known as the ASA/NBER survey. The survey, which began in 1968, is conducted each quarter. The Federal Reserve Bank of Philadelphia, in cooperation with the NBER, assumed responsibility for the survey in June 1990.

1   this survey is published quarterly, only the first quarter survey includes long-term

2   forecasts of gross domestic product ("GDP") growth, inflation, and market

3   returns. In the first quarter 2008 survey, published on February 12, 2008, the

4   median long-term (10-year) expected inflation rate as measured by the CPI was

5   2.5% (see page 8 of Exhibit JRW-11).

6

7   Given these results, I will use the average of the surveys of the University of

8   Michigan and Federal Reserve Bank of Philadelphia (3.9% and 2.5%), or 3.2%.

9

10   D/P – As shown on page 9 of Exhibit JRW-11, the dividend yield on the S&P 500

11   has decreased gradually over the past decade. Today, it is far below its average of

12   4.3% over the 1926-2000 time period. Whereas the S&P dividend yield bottomed

13   out at less than 1.4% in 2000, it is currently at 2.85% which I use in the ex ante

14   risk premium analysis.

15   RG – To measure expected real growth in earnings, I use: (1) the historical real

16   earnings growth rate for the S&P 500 and (2) expected real GDP growth. The

17   S&P 500 was created in 1960. It includes 500 companies which come from ten

18   different sectors of the economy. Over the 1960-2007 period, nominal growth in

19   EPS for the S&P 500 was 7.36%. On page 10 of Exhibit JRW-11, real EPS

20   growth is computed using the CPI as a measure of inflation. As indicated by

21   Ibbotson and Chen, real earnings growth over the 1926-2000 period was 1.8%.

22   The real growth figure over 1960-2007 period for the S&P 500 is 3.0 %.

1	The second input for expected real earnings growth is expected real GDP growth.
2	The rationale is that over the long-term, corporate profits have averaged a
3	relatively consistent 5.50% of U.S. GDP.[18] Real GDP growth, according to
4	McKinsey, has averaged 3.5% over the past 80 years. Expected GDP growth,
5	according to the Federal Reserve Bank of Philadelphia's *Survey of Professional*
6	*Forecasters,* is 2.75% (see page 8 of Exhibit JRW-11).
7	
8	Given these results, I will use the average of the historical S&P EPS real growth
9	and the projected real GDP growth (as reported by the Federal Reserve Bank of
10	Philadelphia Survey) -- 3.0% and 2.75% -- or 2.85%, for real earnings growth.
11	
12	PEGAIN -- PEGAIN is the repricing gain associated with an increase in the P/E
13	ratio. It accounted for 1.3% of the 10.7% annual stock return in the 1926-2000
14	period. In estimating an ex ante expected stock market return, one issue is whether
15	investors expect P/E ratios to increase from their current levels. The P/E ratios for
16	the S&P 500 over the past 25 years are shown on page 9 of Exhibit JRW-11. The
17	run-up and eventual peak in P/Es is most notable in the chart. The relatively low
18	P/E ratios (in the range of 10) over two decades ago are also quite notable. As of
19	October 31, 2008, the P/E for the S&P 500 was 18.86. [19]
20	

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[18]Marc. H. Goedhart, et al, "The Real Cost of Equity," *McKinsey on Finance* (Autumn 2002), p.14.
[19] Source: www.standardandpoors.com.

1		Given the current economic and capital markets environment, I do not believe that
2		investors expect even higher P/E ratios. Therefore, a PEGAIN would not be
3		appropriate in estimating an ex ante expected stock market return. There are two
4		primary reasons for this. First, the average historical S&P 500 P/E ratio is 15.74 –
5		thus the current P/E exceeds this figure. Second, as previously noted, interest rates
6		are at a cyclical low not seen in almost 50 years. This is a primary reason for the
7		high current P/Es. Given the current market environment with relatively high P/E
8		ratios and low relative interest rates, investors are not likely to expect to get stock
9		market gains from lower interest rates and higher P/E ratios.
10		
11	Q.	**GIVEN THIS DISCUSSION, WHAT IS YOUR EX ANTE EXPECTED**
12		**MARKET RETURN AND EQUITY RISK PREMIUM USING THE**
13		**"BUILDING BLOCKS METHODOLOGY"?**
14	A.	My expected market return is represented by the last column on the right in the
15		graph entitled "Decomposing Equity Market Returns: The Building Blocks
16		Methodology" set forth on page 6 of Exhibit JRW-11. As shown, my expected
17		market return of 8.90% is composed of 3.20% expected inflation, 2.85% dividend
18		yield, and 2.85% real earnings growth rate.
19	Q.	**GIVEN THAT THE HISTORICAL COMPOUNDED ANNUAL MARKET**
20		**RETURN IS IN EXCESS OF 10%, WHY DO YOU BELIEVE THAT YOUR**
21		**EXPECTED MARKET RETURN OF 8.90% IS REASONABLE?**

47

1 A. As discussed above, in the development of the expected market return, stock prices

2   are relatively high at the present time in relation to earnings and dividends, and

3   interest rates are relatively low. Hence, it is unlikely that investors are going to

4   experience high stock market returns due to higher P/E ratios and/or lower interest

5   rates. In addition, as shown in the decomposition of equity market returns,

6   whereas the dividend portion of the return was historically 4.3%, the current

7   dividend yield is only 2.85%. Due to these reasons, lower market returns are

8   expected for the future.

9

10 Q. **IS YOUR EXPECTED MARKET RETURN OF 8.90% CONSISTENT**

11   **WITH THE FORECASTS OF MARKET PROFESSIONALS?**

12 A. Yes. In the first quarter 2008 *Survey of Financial Forecasters*, published on

13   February 12, 2008, by the Federal Reserve Bank of Philadelphia, the mean long-

14   term expected return on the S&P 500 was 6.8% (see page 4 of Exhibit JRW-7).

15

16 Q. **IS YOUR EXPECTED MARKET RETURN CONSISTENT WITH THE**

17   **EXPECTED MARKET RETURNS OF CORPORATE CHIEF FINANCIAL**

18   **OFFICERS (CFOs)?**

19 A. Yes. John Graham and Campbell Harvey of Duke University conduct a quarterly

20   survey of corporate CFOs. The survey is a joint project of Duke University and

1   *CFO Magazine.* In the third quarter 2008 survey, the mean expected return on the

2   S&P 500 over the next ten years was 7.79%.[20]

3

4   Q.   **GIVEN THIS EXPECTED MARKET RETURN, WHAT IS YOUR EX
5   ANTE EQUITY RISK PREMIUM USING THE BUILDING BLOCKS
6   METHODOLOGY?**

7

8   A.   As shown on page 2 of Exhibit JRW-11, the current 30-year U.S. Treasury yield is

9   4.35%. My ex ante equity risk premium is simply the expected market return from

10   the Building Blocks methodology minus this risk-free rate:

11

12   Ex Ante Equity Risk Premium   =   8.90%   -   4.35%   = 4.55%

13

14   Q.   **GIVEN THIS DISCUSSION, HOW ARE YOU MEASURING AN
15   EXPECTED EQUITY RISK PREMIUM IN THIS PROCEEDING?**

16   A.   As discussed above, page 5 of Exhibit JRW-11 provides a summary of the results

17   of the equity risk premium studies that I have reviewed. These include the results

18   of: (1) the various studies of the historical risk premium, (2) ex ante equity risk

19   premium studies, (3) equity risk premium surveys of CFOs, Financial Forecasters,

20   and academics, and (4) the Building Block approaches to the equity risk premium.

---

[20] The survey results are available at www.cfosurvey.org.

49

1   There are results reported for over thirty studies, and the average equity risk

2   premium is 4.56%, which I will use as the equity risk premium in my CAPM

3   study.

4

5   Q.   IS YOUR EX ANTE EQUITY RISK PREMIUM CONSISTENT WITH

6   THE EQUITY RISK PREMIUMS OF LEADING INVESTMENT FIRMS?

7   A.   Yes. One of the first studies in this area was by Stephen Einhorn, one of Wall

8   Street's leading investment strategists.[21] His study showed that the market or

9   equity risk premium had declined to the 2.0 - 3.0 percent range by the early

10   1990s. Among the evidence he provided in support of a lower equity risk

11   premium is the inverse relationship between real interest rates (observed interest

12   rates minus inflation) and stock prices. He noted that the decline in the market

13   risk premium has led to a significant change in the relationship between interest

14   rates and stock prices. One implication of this development was that stock prices

15   had increased higher than would be suggested by the historical relationship

16   between valuation levels and interest rates.

17

18   The equity risk premiums of some of the other leading investment firms today

19   support the result of the academic studies. An article in *The Economist* indicated

20   that some other firms like J.P. Morgan are estimating an equity risk premium for

---

[21] Steven G. Einhorn, "The Perplexing Issue of Valuation: Will the Real Value Please Stand Up?" *Financial Analysts Journal* (July-August 1990), pp. 11-16.

50

1   an average risk stock in the 2.0 - 3.0 percent range above the interest rate on U.S.

2   Treasury Bonds.[22]

3

4   Q.   IS YOUR EX ANTE EQUITY RISK PREMIUM CONSISTENT WITH

5   THE EQUITY RISK PREMIUMS USED BY CFOS?

6   A.   Yes. In the previously referenced third quarter 2008 CFO survey conducted by

7   *CFO Magazine* and Duke University, the expected 10-year equity risk premium

8   was 3.99%.

9

10   Q.   IS YOUR EX ANTE EQUITY RISK PREMIUM CONSISTENT WITH

11   THE EX ANTE EQUITY RISK PREMIUMS OF PROFESSIONAL

12   FORECASTERS?

13   A.   Yes. The financial forecasters in the previously referenced Federal Reserve Bank

14   of Philadelphia survey project both stock and bond returns. As shown on page 8 of

15   Exhibit JRW-11, the mean long-term expected stock and bond returns were

16   6.80% and 4.84%, respectively. This provides an ex ante equity risk premium of

17   1.96%.

18

---

[22] For example, see "Welcome to Bull Country," *The Economist* (July 18, 1998), pp. 21-3, and "Choosing the Right Mixture," *The Economist* (February 27, 1999), pp. 71-2.

1   Q.   **IS YOUR EX ANTE EQUITY RISK PREMIUM CONSISTENT WITH**

2   **THE EQUITY RISK PREMIUMS USED BY THE LEADING**

3   **CONSULTING FIRMS?**

4   A.   Yes. McKinsey & Co. is widely recognized as the leading management

5   consulting firm in the world. It published a study entitled "The Real Cost of

6   Equity" in which the McKinsey authors developed an ex ante equity risk premium

7   for the U.S. In reference to the decline in the equity risk premium, as well as

8   what is the appropriate equity risk premium to employ for corporate valuation

9   purposes, the McKinsey authors concluded the following:

10   We attribute this decline not to equities becoming less risky
11   (the inflation-adjusted cost of equity has not changed) but
12   to investors demanding higher returns in real terms on
13   government bonds after the inflation shocks of the late
14   1970s and early 1980s. We believe that using an equity
15   risk premium of 3.5 to 4 percent in the current environment
16   better reflects the true long-term opportunity cost of equity
17   capital and hence will yield more accurate valuations for
18   companies.[23]

19

20   Q.   **WHAT EQUITY COST RATES ARE INDICATED BY YOUR CAPM**

21   **ANALYSIS?**

22   A.   The results of my CAPM study for the proxy group are provided below:

23                     $K = (R_f) + \beta * [E(R_m) - (R_f)]$

24                     $K = 4.5\% + 0.82 * 4.56\%$

25                        $K = 8.2\%$

[23] Marc H. Goedhart, et al, "The Real Cost of Equity," *McKinsey on Finance* (Autumn 2002), p. 15.

D. Equity Cost Rate Summary

1

2   Q.   PLEASE SUMMARIZE YOUR EQUITY COST RATE STUDY.

3   A.   The results for my DCF and CAPM analyses for the Electric Proxy Group

4   indicates equity cost rates of 9.8% and 8.2%, respectively.

5

6   Q.   GIVEN THESE RESULTS, WHAT IS YOUR ESTIMATED EQUITY COST

7   RATE FOR THE GROUP?

8   A.   Given these results, I conclude that the appropriate equity cost rate for the Electric

9   Proxy Group is in the 8.2%-9.8% range. However, due to the current volatile

10   market conditions which were discussed above, I am using the upper end of the

11   range as the equity cost rate. Therefore, I am recommending an equity cost rate of

12   9.75% for Tampa. In addition, due to the uncertain market conditions, I reserve

13   the right to update my study prior to hearings.

14

15 Q.   ISN'T YOUR EQUITY COST RATE RECOMMENDATION LOW BY

16   HISTORICAL STANDARDS?

17 A.   Yes, it is and appropriately so. My rate of return is low by historical standards for

18   two reasons. First, as discussed above, current capital costs are low by historical

19   standards, with interest rates at a cyclical low not seen since the 1960s. And

20   second, as previously discussed, the equity or market risk premium has declined.

21

1 Q. **HOW DO YOU TEST THE REASONABLENESS OF YOUR COST OF**

2 **EQUITY AND OVERALL RATE OF RETURN RECOMMENDATION?**

3 A. To test the reasonableness of my equity cost rate recommendation, I examine the

4 relationship between the return on common equity and the market-to-book ratios

5 for the companies in the Electric Proxy Group.

6

7 Q. **WHAT DO THE RETURNS ON COMMON EQUITY AND MARKET-TO-**

8 **BOOK RATIOS FOR THE PROXY GROUP INDICATE ABOUT THE**

9 **REASONABLENESS OF YOUR RECOMMENDATION?**

10 A. Exhibit JRW-3 provides financial performance and market valuation statistics for

11 companies in the proxy group. The mean current return on equity and market-to-

12 book ratio for the group are 8.9% and 1.36, respectively. These results indicate

13 that, on average, these companies are earning returns on equity above their equity

14 cost rates. As such, this observation provides evidence that my recommended

15 equity cost rate is reasonable and fully consistent with the financial performance

16 and market valuation of the proxy group of electric utility companies.

17

18 **VI. CRITIQUE OF TAMPA'S RATE OF RETURN TESTIMONY**

19

20 **A. Testimonies of Mr. Gordon Gillette and Dr. Donald Murry**
21
22
23 Q. **WHAT ISSUES DO YOU HAVE WITH THE COMPANY'S COST OF**

24 **CAPITAL POSITION?**

54

1	A.	I have issues with the Company's debt cost rate, capital structure, and equity cost
2		rate. The debt cost rate was previously discussed. I focus below on the capital
3		structure and equity cost rate.
4		
5		
6	Q.	**PLEASE EVALUATE THE COMPANY'S RECOMMENDED CAPITAL**
7		**STRUCTURE.**
8	A.	The Company's recommended capital structure is not appropriate for ratemaking
9		purposes in this proceeding for four reasons. The recommended capital structure:
10		(1) is not reflective of the recent capitalization of the company; (2) is equity rich and
11		has a much higher common equity ratio than that employed by other electric
12		companies; (3) includes a number of inappropriate adjustments that result in the
13		inflated common equity ratio; and (4) is not reflective of the capital structure used by
14		Tampa to attract capital from investors. Items (1), (2), and (4) were previously
15		discussed. I will now turn to issue (3).
16		
17	Q.	**WHAT ADJUSTMENTS ARE MADE TO THE COMPANY'S DEBT AND**
18		**EQUITY AMOUNTS IN ARRIVING AT THEIR RECOMMENDED**
19		**CAPITAL STRUCTURE?**
20	A.	The Company's recommended capital structure includes a number of adjustments to
21		debt and equity amounts. These adjustments are detailed in MFR, Schedule D-1a
22		and D-1b. OPC Witness Mr. Hugh Larkin has evaluated most of the adjustments.

1   The adjustment that I am focusing on is the $77M equity adjustment for the

2   Company's Purchased Power Agreements ("PPAs").

3

4 Q. **PLEASE EXPLAIN WHY AN ADJUSTMENT TO EQUITY TO ACCOUNT**

5   **FOR PPAs IS NOT APPROPRIATE.**

6 A. Mr. Gillette has adjusted Tampa's equity by $77M to account for the Company's

7   PPAs. The $77M is computed by multiplying a risk factor of 25% to the present

8   value of the Company's capacity contracts. In computing credit rating metrics, S&P

9   applies such a risk factor ranging from 0% to 100% which is intended to reflect the

10   risk of recovery of the PPA payments. However, S&P does not indicate how the

11   risk factor that ranges from 0% to 100% is determined.   Given a recovery

12   mechanism for PPA payments, the financial condition of an electric utility company

13   is not impaired by entering into these contracts. Hence, providing incremental

14   revenues through a higher equity ratio and overall rate of return are unnecessary and

15   would result in an unwarranted revenue benefit to the utility.   I have identified

16   several flaws in the adjustment.

17

18   **One: Risk Factor**

19   Given the methodology for imputing debt from PPAs, the risk factor is extremely

20   important. Mr. Gillette has presumed that a risk factor of 25% is appropriate for

21   Tampa. However, S&P does not indicate how the risk factor that ranges from 0% to

22   100% is determined.   Hence, the S&P risk factor for imputing debt is not well

23   defined and cannot be assessed in this situation   Given the Commission's support

1   for the   collection of long-term contractual payments, the risk of non-recovery

2   appears to be extremely low (perhaps even zero percent). Hence, a risk factor as

3   high as 25% seems out of line. But, given the lack of guidance from S&P, it is

4   impossible to properly assess the risk factor in this situation.

5

6   In addition, as opposed to S&P, Moody's appears to recognize some of the benefits

7   of PPAs and looks at them in a more positive manner. For example, Moody's

8   states:[24]

9   "If a utility enters into a PPA for the purpose of providing an assured supply
10   and there is reasonable assurance that regulators will allow the costs to be
11   recovered in regulated rates, Moody's may view the PPA as being most akin
12   to an operating cost. In this circumstance, there most likely will be no
13   imputed adjustment to the obligations of the utility."
14

15   In other words, under this scenario Moody's would rate the risk factor at 0% and

16   there would be no imputed debt.

17

18   **Two: S&P Adjustments are Not GAAP Accounting**

19   Even if debt were imputed by S&P from a PPA (assuming a risk factor greater than

20   0%), no changes would be made to the company's GAAP financial statements.

21   Hence, investors would not see the impact of S&P's adjustment. In addition, the

22   Company does not incur a liability on its GAAP-based financial statements for the

23   PPAs.   Furthermore, given a regulatory-mandated recovery method for the

24   payments, investors should be indifferent to a utility entering into a PPA.

---

[24] Moody's Rating Methodology: Global Regulated Electric Utilities, March 2005, page 10.

1

2   **Three: From a Regulatory Perspective, PPA Payments are Unlike Debt**

3   In a regulatory setting, a utility is given the 'opportunity to earn' its cost of debt as

4   well as its overall cost of capital through the ratemaking process. Given the many

5   uncertainties associated with revenues and expenses between rate cases, there is no

6   guarantee that the overall cost of debt can be earned. However, with long-term

7   PPAs, the timely and certain recovery of fixed payments is assured. That is, PPA

8   costs do not feature the uncertainty associated with the 'opportunity to earn' as do

9   debt payments. In sum, given S&P's lack of guidance on the risk factor, the

10   Commission's support for the collection of payments for PPAs, the notion that these

11   are not GAAP adjustments that are not recorded as liabilities on the books of the

12   company, and the fact that, from a regulatory perspective, PPA payments are unlike

13   debt, the PPA adjustment to the Company's capital structure is inappropriate.

14

15   Q.   **PLEASE REVIEW DR. MURRY'S EQUITY COST RATE APPROACHES.**
16
17   A.   Dr. Murry uses a proxy group of electric utility companies as well as TECO Energy

18   and employs CAPM and DCF equity cost rate approaches.

19

20   Q.   **PLEASE SUMMARIZE DR. MURRY'S EQUITY COST RATE RESULTS.**
21
22   A.   Dr. Murry's equity cost rate estimates for Tampa are summarized in Panel A of

23   Exhibit JRW-12. Based on these figures, he concludes that the appropriate equity

24   cost rate for the Company is 12.0%.

25

1 Q. **PLEASE DISCUSS YOUR ISSUES WITH DR. MURRY'S**

2 **RECOMMENDED EQUITY COST RATE.**

3 A. Dr. Murry's proposed return on common equity is too high primarily due to: (1) an

4 inappropriate group of comparable electric companies; (2) an excessive adjustment

5 to the dividend yield and an inflated growth rate in his DCF approach; (3) his use of

6 the higher end of his DCF results to compensate for flotation costs, market pressure,

7 and market value – book value adjustment; and (4) overstated equity risk premium

8 estimates, as well as the inclusion of a size premium, in his CAPM approaches.

9

10 **1. Comparable Electric Companies**

11

12 Q. **PLEASE DISCUSS THE PROBLEM WITH DR. MURRY'S ELECTRIC**

13 **UTILITY GROUP.**

14 A. Dr. Murry's utility proxy group includes a number of companies that are not

15 appropriate because their operating revenues are from sources other than regulated

16 electric utility services. These companies, and their percent of regulated electric

17 revenues, include: OGE Energy Corp. - 48%, PEPCO Holdings - 55%, SCANA

18 Corp. - 42%, and, and Wisconsin Energy - 62%.

19

20 **2. DCF Approach**

21

22 Q. **PLEASE SUMMARIZE DR. MURRY'S DCF ESTIMATES.**

1 A. On pages 33-52 of his testimony and in Documents DAM-13 – DAM-19, Dr. Murry

2 develops an equity cost rate by applying a DCF model to TECO Energy and his

3 group of comparable companies. In the traditional DCF approach, the equity cost

4 rate is the sum of the dividend yield and expected growth. For TECO Energy and

5 the comparable group, he performs two DCF analyses – a 52-week DCF using

6 stock prices over the past year, and a Current DCF using stock prices over the past

7 two weeks. For each of these DCFs, he computes equity cost rates using (1)

8 projected DPS growth rates, (2) *Value Line* projected EPS over the 2002-04 to the

9 2011-13 time period, and (3) projected EPS growth rates estimates from *Value*

10 *Line* (from 2006-07 to 2011-13) and from analysts as compiled by Yahoo! Dr.

11 Murry's DCF results are provided in Panel B of Exhibit JRW-12. Based on these

12 figures, Dr. Murry claims that the relevant DCF results for Tampa are in the range

13 of 11.12% to 13.27%.

14

15 Q. **PLEASE EXPRESS YOUR CONCERNS WITH DR. MURRY'S DCF**

16 **STUDY.**

17 A. I have several major concerns with Dr. Murry's DCF analyses. These are: (1) he

18 has ignored results using projected DPS growth rates for both TECO Energy and

19 the comparable electric utility group; (2) he has totally ignored the DCF results

20 for TECO Energy and relied on highly selected results of his comparable group of

21 electric utility companies; (3) his selected DCF results rely on the upwardly

22 biased EPS growth rates estimates from *Value Line* and from Wall Street analysts

1   as compiled by Yahoo!; and (4) he has erroneously relied on the upper end of the

2   DCF results to account for undocumented flotation costs and market pressure.

3

4   Q.   PLEASE ADDRESS YOUR FIRST ISSUE.

5   A.   Dr. Murry has ignored the DCF results for both TECO Energy and the

6   comparable group using projected DCF growth rates. In the DCF model, the cash

7   flows that investors receive are in the form of dividends. The average projected

8   DPS growth for TECO Energy and the comparable electric utility group are in the

9   2.0% and 3.0% range, respectively. Ignoring the DCF results which use projected

10   DPS growth rates leads to an upwardly biased estimate of a DCF equity cost rate.

11

12   Q.   YOU CLAIM THAT DR. MURRY HAS ALSO IGNORED THE VAST

13   MAJORITY OF HIS DCF RESULTS. PLEASE EXPLAIN.

14   A.   Dr. Murry's summary results are provided in Schedule DAM-23. On page 64 of

15   his testimony, Dr. Murry claims that the relevant DCF results are from 11.12% to

16   13.27%. However, these are the high-end of the range of DCF figures for the

17   comparison group using: (1) 2000-02 to 2009-11 EPS growth rates; and (2)

18   analysts' projected EPS growth rates from *Value Line* and Wall Street analysts as

19   compiled by Yahoo! This relevant range simply represents the high end of the

20   range using these two growth rate measures. As such, he has totally ignored the

21   DCF results for TECO Energy as well as the majority of the DCF results for his

22   comparable group of electric utility companies. By ignoring these results, he is

23   recommending a DCF equity cost rate using the results for the company which is

61

1		200-300 basis points higher than that of his comparable electric utility company
2		group.
3		
4	Q.	**PLEASE REVIEW DR. MURRY'S EXCESSIVE RELIANCE UPON THE**
5		**PROJECTED EPS GROWTH RATE ESTIMATES OF WALL STREET**
6		**ANALYSTS' AND *VALUE LINE.***
7	A.	It seems highly unlikely that investors today would rely excessively on the forecasts
8		of securities analysts and ignore historical growth in arriving at expected growth. It
9		is well known in the academic world that the EPS forecasts of securities analysts are
10		overly optimistic and biased upwards. In addition, as I show below, *Value Line*'s
11		EPS forecasts are excessive and unrealistic.
12		
13	Q.	**PLEASE REVIEW THE BIAS IN ANALYSTS' GROWTH RATE**
14		**FORECASTS.**
15	A.	Analysts' growth rate forecasts are collected and published by Bloomberg, Zacks,
16		First Call, I/B/E/S, and Reuters. These services retrieve and compile EPS forecasts
17		from Wall Street analysts. These analysts come from both the sell side (Merrill
18		Lynch, Paine Webber) and the buy side (Prudential Insurance, Fidelity).
19		
20		The problem with using these forecasts to estimate a DCF growth rate is that the
21		objectivity of Wall Street research has been challenged, and many have argued
22		that analysts' EPS forecasts are overly optimistic and biased upwards. To evaluate
23		the accuracy of analysts' EPS forecasts, I have compared actual 3-5 year EPS

1	growth rates with forecasted EPS growth rates on a quarterly basis over the past
2	20 years for all companies covered by the I/B/E/S data base. In Panel A of
3	Exhibit JTW-13, I show the average analysts' forecasted 3-5 year EPS growth
4	rate with the average actual 3-5 year EPS growth rate. Because of the necessary
5	3-5 year follow-up period to measure actual growth, the analysis in this graph
6	only: (1) covers forecasted and actual EPS growth rates through 1999 and (2)
7	includes only companies that have 3-5 years of actual EPS data following the
8	forecast period.
9	
10	The following example shows how the results can be interpreted. For the 3-5year
11	period prior to the first quarter of 1999, analysts had projected an EPS growth rate
12	of 15.13%, but companies only generated an average annual EPS growth rate over
13	the 3-5 years of 9.37%. This projected EPS growth rate figure represented the
14	average projected growth rate for over 1,510 companies, with an average of 4.88
15	analysts' forecasts per company. For the entire twenty-year period of the study,
16	for each quarter there were on average 5.60 analysts' EPS projections for 1,281
17	companies. Overall, my findings indicate that forecast errors for long-term
18	estimates are predominantly positive, which indicates an upward bias in growth
19	rate estimates. The mean and median forecast errors over the observation period
20	are 143.06% and 75.08%, respectively. The forecast errors are negative for only
21	eleven of the eighty quarterly time periods: five consecutive quarters starting at the
22	end of 1995 and six consecutive quarters starting in 2006. As shown in the figure
23	below, the quarters with negative forecast errors were for the 3-5 year periods

1   following earnings declines associated with the 1991 and 2001 economic

2   recessions in the U.S. overall. Thus, there is evidence of a persistent upward bias

3   in long-term EPS growth forecasts.

4

5   The post-1999 period has seen the boom and then the bust in the stock market, an

6   economic recession, 9/11, and the Iraq war. Furthermore, and highly significant

7   in the context of this study, we have also had the New York state investigation of

8   Wall Street firms and the subsequent Global Securities Settlement in which nine

9   major brokerage firms paid a fine of $1.5B for their biased investment research.

10

11 To evaluate the impact of these events on analysts' forecasts, the average 3-5year

12 EPS growth rate projections for all companies provided in the I/B/E/S database on

13 a quarterly basis from 1988 to 2006 are shown in Panel B of Exhibit JRW-13. In

14 this graph, no comparison to actual EPS growth rates is made, and hence, there is

15 no follow-up period. Therefore, 3-5 year growth rate forecasts are shown until

16 2006, and since companies are not lost due to a lack of follow-up EPS data, these

17 results are for a larger sample of firms. Analysts' forecasts for EPS growth were

18 higher for this larger sample of firms, with a more pronounced run-up and then

19 decline around the stock market peak in 2000. The average projected growth rate

20 hovered in the 14.5%-17.5% range until 1995 and then increased dramatically

21 over the next five years to 23.3% in the fourth quarter of the year 2000.

22 Forecasted EPS growth has since declined to the 15.0% range.

23

1 **Q.** **WHAT IMPACT HAVE RECENT REGULATORY DEVELOPMENTS HAD**

2 **ON ANALYSTS' EPS GROWTH RATE FORECASTS?**

3 **A.** Analysts' EPS growth rate forecasts have subsided somewhat since the stock

4 market peak of 2000. In addition, the apparent conflict of interest within

5 investment firms with investment banking and analysts' operations was addressed

6 in the Global Analysts Research Settlements ("GARS"). GARS, as agreed upon

7 on April 23, 2003, between the SEC, NASD, NYSE and ten of the largest U.S.

8 investment firms, includes a number of regulations that were introduced to

9 prevent investment bankers from pressuring analysts to provide favorable

10 projections. Nonetheless, despite the new regulations, analysts' EPS growth rate

11 forecasts have not significantly changed and continue to be overly-optimistic.

12 Analysts' long-term EPS growth rate forecasts before and after GARS, are about

13 two times the level of historic GDP growth. Furthermore, historic growth in

14 GDP and corporate earnings has been in the 7% range.

15

16 Finally, these observations are supported by a *Wall Street Journal* article entitled

17 "Analysts Still Coming Up Rosy – Over-Optimism on Growth Rates is Rampant –

18 and the Estimates Help to Buoy the Market's Valuation." The following quote

19 provides insight into the continuing bias in analysts' forecasts:

20 Hope springs eternal, says Mark Donovan, who manages
21 Boston Partners Large Cap Value Fund. "You would have
22 thought that, given what happened in the last three years,
23 people would have given up the ghost. But in large measure
24 they have not."

1		These overly optimistic growth estimates also show that,
2		even with all the regulatory focus on too-bullish analysts
3		allegedly influenced by their firms' investment-banking
4		relationships, a lot of things haven't changed: Research
5		remains rosy and many believe it always will.[25]

6

7 Q. IS THE BIAS IN ANALYSTS' GROWTH RATE FORECASTS

8   GENERALLY KNOWN IN THE MARKETS?

9 A. Yes. Page 2 of Exhibit JRW-13 provides a recent article published in the *Wall Street*

10   *Journal* that discusses the upward bias in analysts' EPS growth rate forecasts.

11

12 Q. ARE ANALYSTS' EPS GROWTH RATE FORECASTS LIKEWISE

13   UPWARDLY BIASED FOR ELECTRIC UTILITY COMPANIES?

14 A. Yes. To evaluate whether analysts' EPS growth rate forecasts are upwardly biased

15   for electric utility companies, I conducted a study similar to the one described

16   above using a group of electric utility companies. The results are shown in Panel

17   C of Exhibit JRW-13. The projected EPS growth rates have declined from about

18   six percent in the 1990s to about five percent in the 2000s. As shown, the

19   achieved EPS growth rates have been volatile. Overall, the upward bias in EPS

20   growth rate projections is not as pronounced for electric utility companies as it is

21   for all companies. Over the entire period, the average quarterly 3-5 year projected

22   and actual EPS growth rates are 4.59% and 2.90%, respectively. These results are

23   consistent with the results for companies in general -- analysts' projected EPS

24   growth rate forecasts are upwardly-biased for utility companies.

---

[25] Ken Brown, "Analysts Still Coming Up Rosy – Over-Optimism on Growth Rates is Rampant – and the Estimates Help to Buoy the Market's Valuation." *Wall Street Journal*, (January 27, 2003), p. C1.

1

2   Q.   ARE *VALUE LINE*'S GROWTH RATE FORECASTS SIMILARILY

3   UPWARDLY BIASED?

4   A.   Yes. *Value Line* has a decidedly positive bias to its earnings growth rate forecasts as

5   well. To assess *Value Line*'s earnings growth rate forecasts, I used the *Value Line*

6   *Investment Analyzer*. The results are summarized in Panel A of Exhibit JRW-14. I

7   initially filtered the database and found that *Value Line* has 3-5 year EPS growth rate

8   forecasts for 2,453 firms. The average projected EPS growth rate was 14.6%. This

9   is high given that the average historical EPS growth rate in the U.S. is about 7%. A

10   major factor seems to be that *Value Line* only predicts negative EPS growth for 47

11   companies. This is less than two percent of the companies covered by *Value Line*.

12   Given the ups and downs of corporate earnings, this is unreasonable.

13

14   To put this figure in perspective, I screened the *Value Line* companies to see what

15   percent of companies covered by *Value Line* had experienced negative EPS growth

16   rates over the past five years. *Value Line* reported a five-year historic growth rate for

17   2,371 companies. The results are shown in Panel B of Exhibit JRW-14 and indicate

18   that the average 5-year historic growth rate was 12.9%, and *Value Line* reported

19   negative historic growth for 476 firms which represents 20.1% of these companies.

20   It should be noted that the past five years have been a period of rapidly rising

21   corporate earnings growth as the economy and businesses have rebounded from the

22   recession of 2001.

23

1   These results indicate that *Value Line*'s EPS forecasts are excessive and unrealistic.

2   It appears that the analysts at *Value Line* are similar to their Wall Street brethren in

3   that they are reluctant to forecast negative earnings growth.

4

5 Q.   **FINALLY, ON PAGES 39-43 OF HIS TESTIMONY, DR. MURRY HAS**

6   **ARGUED THAT HE HAS FOCUSED ON THE HIGHER DCF RESULTS**

7   **AS AN ALTERNATIVE TO MAKING AN ADJUSTMENT FOR**

8   **FLOTATION COSTS OR MARKET PRESSURE. PLEASE RESPOND.**

9 A.   Dr. Murry's argument for using the higher end DCF results to account for

10   flotation costs or market pressure is in error. There is no need for such an

11   adjustment. Usually it is argued that a flotation cost adjustment is necessary to

12   prevent the dilution of the existing shareholders. Such an adjustment is commonly

13   justified by reference to bonds and the manner in which issuance costs are

14   recovered by including the amortization of bond flotation costs in annual

15   financing costs. However, this is incorrect for several reasons:

16

17   (1)   If an equity flotation cost adjustment is similar to a debt flotation cost

18   adjustment, the fact that the market-to-book ratios for electric utility companies

19   are nearly 2.0 actually suggests that there should be a flotation cost reduction (and

20   not increase) to the equity cost rate. This is because when (a) a bond is issued at a

21   price in excess of face or book value, and (b) the difference between market price

22   and the book value is greater than the flotation or issuance costs, the cost of that

23   debt is lower than the coupon rate of the debt. The amount by which market

1   values of electric utility companies are in excess of book values is much greater

2   than flotation costs. Hence, if common stock flotation costs were exactly like

3   bond flotation costs, and one was making an explicit flotation cost adjustment to

4   the cost of common equity, the adjustment would be downward;

5

6   (2)   It is commonly argued that a flotation cost adjustment is needed to prevent

7   dilution of existing stockholders' investment. However, the reduction of the book

8   value of stockholder investment associated with flotation costs can occur only

9   when a company's stock is selling at a market price at/or below its book value.

10   As noted above, electric utility companies are selling at market prices well in

11   excess of book value. Hence, when new shares are sold, existing shareholders

12   realize an increase in the book value per share of their investment, not a decrease;

13

14   (3)   Flotation costs consist primarily of the underwriting spread or fee and not

15   out-of-pocket expenses. On a per share basis, the underwriting spread is the

16   difference between the price the investment banker receives from investors and

17   the price the investment banker pays to the company. Hence, these are not

18   expenses that must be recovered through the regulatory process. Furthermore, the

19   underwriting spread is known to the investors who are buying the new issue of

20   stock, who are well aware of the difference between the price they are paying to

21   buy the stock and the price that the Company is receiving. The offering price

22   which they pay is what matters when investors decide to buy a stock based on its

23   expected return and risk prospects. Therefore, the company is not entitled to an

1   adjustment to the allowed return to account for those costs; and

2

3   (4)   Flotation costs, in the form of the underwriting spread, are a form of a

4   transaction cost in the market. They represent the difference between the price

5   paid by investors and the amount received by the issuing company. Whereas Dr.

6   Murry believes that the Company should be compensated for these transactions

7   costs by using the high-end DCF results neither he nor I have accounted for other

8   market transaction costs in determining a cost of equity for the Company. Most

9   notably, brokerage fees that investors pay when they buy shares in the open

10   market are another market transaction cost. Brokerage fees increase the effective

11   stock price paid by investors to buy shares. If Dr. Murry and I had included these

12   brokerage fees or transaction costs in our DCF analyses, the higher effective stock

13   prices paid for stocks would lead to lower dividend yields and equity cost rates.

14   To be fair then, if Dr. Murry is to make an upward adjustment for transaction

15   costs in the form of using the high-end DCF results, he also should have made a

16   downward adjustment for transaction costs in the form of brokerage fees.

17

18 Q.   **PLEASE SUMMARIZE YOUR ASSESSMENT OF DR. MURRY'S DCF**

19   **GROWTH RATE.**

20 A.   Dr. Murry's DCF equity cost rate is overstated because he has: (1) employed an

21   inappropriate group of comparable electric companies; (2) made an excessive

22   adjustment to the dividend yield and used the upwardly biased EPS growth rate

23   forecasts of Wall Street analysts and *Value Line* in his DCF approach; and (3)

1		selectively picked the high end of the range of his DCF equity cost rate estimates to
2		account for undocumented flotation costs and market pressure.
3		
4		**3. CAPM Analysis**
5		
6	Q.	**PLEASE DISCUSS DR. MURRY'S CAPM.**
7	A.	On pages 52-63, in Documents DAM-24 and DAM-25, Dr. Murry applies the
8		CAPM to TECO Energy and the comparison group of electric utility companies.
9		The first CAPM, which he calls the size-adjusted CAPM, is a traditional CAPM
10		with an incremental 0.92%-1.65% adjustment to account for the relative size of
11		TECO Energy and the comparable electric utility companies. The second CAPM,
12		which Dr. Murry calls a historical CAPM, is based strictly on historical stock and
13		bond returns. Dr. Murry's historical CAPM is very untraditional in three ways:
14		(1) the market total return is the average of the historical returns for large and
15		small stocks as reported by Ibbotson Associates, (2) the historic bond return of
16		6.20% is for long-term corporate bonds, and (3) the risk-free rate Dr. Murry uses
17		is the historic Aaa corporate bond return. The results of Dr. Murry's CAPM
18		analyses are summarized in Panel C of Exhibit JRW-12
19		
20	Q.	**PLEASE SUMMARIZE YOUR ASSESSMENT OF DR. MURRY'S CAPM**
21		**ANALYSES.**
22	A.	There are two primary flaws with Dr. Murry's CAPM analyses: (1) his explicit
23		size adjustment of 0.92% for TECO Energy and the comparison electric utility

71

1		group in his size-adjusted CAPM and an implicit size premium in his historical
2		CAPM; and (2) most significantly, his equity risk premium of 7.10% in his size-
3		adjusted CAPM and his risk premium of 8.50% in his historical CAPM.
4		
5	Q.	**PLEASE DISCUSS DR. MURRY'S EXPLICIT AND IMPLICIT SIZE**
6		**ADJUSTMENTS.**
7	A.	As noted above, Dr. Murry uses explicit size adjustment of 0.92% for TECO
8		Energy and the comparison group in his size-adjusted CAPM and uses an implicit
9		size premium in his historical CAPM. The implicit size premium in his historical
10		CAPM results from the fact that his market total return of 14.70% is the average
11		of the arithmetic mean stock returns for large stocks and for small stocks from
12		Ibbotson Associates. Dr. Murry supports the need for a size premium by citing
13		the work of Ibbotson Associates.
14		
15		There are several flaws in this analysis. First, as discussed later in my testimony,
16		there are a number of errors in using historical market returns to compute risk
17		premiums. Second, the Ibbotson study used for the explicit size premium is based
18		on the stock returns for companies in the 9th decile. However, a review of the
19		Ibbotson document indicates that these companies have betas that are much larger
20		than the betas of electric utility companies. Hence, these size premiums are not
21		associated with the electric utility industry.
22		Finally, and most importantly, any equity cost rate adjustment based on the
23		relative size of a public utility is inappropriate. Professor Annie Wong has tested

1		for a size premium in utilities and concluded that, unlike industrial stocks, utility
2		stocks do not exhibit a significant size premium.[26] As explained by Professor
3		Wong, there are several reasons why such a size premium would not be
4		attributable to utilities. Utilities are regulated closely by state and federal agencies
5		and commissions and, hence, their financial performance is monitored on an on-
6		going basis by both the state and federal governments. In addition, public utilities
7		must gain approval from government entities for common financial transactions
8		such as the sale of securities. Furthermore, unlike their industrial counterparts,
9		accounting standards and reporting are fairly standardized for public utilities.
10		Finally, a utility's earnings are predetermined to a certain degree through the
11		ratemaking process in which performance is reviewed by state commissions and
12		other interested parties. Overall, in terms of regulation, government oversight,
13		performance review, accounting standards, and information disclosure, utilities
14		are much different than industrials which could account for the lack of a size
15		premium.
16		
17	Q.	**PLEASE REVIEW THE ERRORS IN DR. MURRY'S EQUITY OR RISK**
18		**PREMIUM IN HIS TWO CAPM APPROACHES.**
19	A.	The primary problem with Dr. Murry's two CAPM analyses is the size of the
20		market or equity risk premium. Dr. Murry uses a risk premium of 7.10% in his
21		size-adjusted CAPM. This is the arithmetic average risk premium of the 1926-

---

[26] Annie Wong, "Utility Stocks and the Size Effect: An Empirical Analysis", *Journal of the Midwest Finance Association*, 1993, PP. 95-101.

1   2007 results from the Ibbotson study. He uses a risk premium of 8.50% in his

2   historical CAPM which is the difference between his historic market return of

3   14.70% (the average of the arithmetic mean stock returns for large stocks of

4   12.3% and for small stocks of 17.1%) and 6.20% which is the historic long-term

5   corporate bond return. Both of these risk premiums are based solely on the

6   difference in the arithmetic mean stock and bond returns over the 1926-2007

7   period.

8

9   Q.   **PLEASE ADDRESS THE ISSUES INVOLVED IN USING HISTORICAL**

10   **STOCK AND BOND RETURNS TO COMPUTE A FORWARD-LOOKING**

11   **OR EX ANTE RISK PREMIUM.**

12 A.   Using the historical relationship between stock and bond returns to measure an ex

13   ante equity risk premium is erroneous and overstates the true market equity risk

14   premium. The equity risk premium is based on expectations of the future and

15   when past market conditions vary significantly from the present, historic data

16   does not provide a realistic or accurate barometer of expectations of the future.

17   At the present time, using historical returns to measure the ex ante equity risk

18   premium ignores current market conditions and masks the dramatic change in the

19   risk and return relationship between stocks and bonds. This change suggests that

20   the equity risk premium has declined.

21

22 Q.   **PLEASE DISCUSS THE ERRORS IN USING HISTORIC STOCK AND**
23   **BOND RETURNS TO ESTIMATE AN EQUITY RISK PREMIUM.**
24

74

1

2   A.   There are a number of flaws in using historic returns over long time periods to

3   estimate expected equity risk premiums. These issues include:

4   (A)   Biased historical bond returns;

5   (B)   The arithmetic versus the geometric mean return;

6   (C)   The large error in measuring the equity risk premium using historical

7   returns;

8   (D)   Biased historical stock returns and transactions costs;

9   (E)   Company survivorship bias;

10   (F)   The "Peso Problem" - U.S. stock market survivorship bias;

11   (G)   Market conditions today are significantly different than the past; and

12   (H)   Changes in risk and return in the markets.

13   These issues will be addressed in order.

14

15   Biased Historical Bond Returns

16

17   Q.   **HOW ARE HISTORICAL BOND RETURNS BIASED?**

18   A.   An essential assumption of these studies is that over long periods of time investors'

19   expectations are realized. However, the experienced returns of bondholders in the

20   past violate this critical assumption. Historic bond returns are biased downward as a

21   measure of expectancy because of capital losses suffered by bondholders in the past.

22   As such, risk premiums derived from this data are biased upwards.

23

1   <u>The Arithmetic versus the Geometric Mean Return</u>

2

3 Q. **PLEASE DISCUSS THE ISSUE RELATING TO THE USE OF THE**

4   **ARITHMETIC VERSUS THE GEOMETRIC MEAN RETURNS IN THE**

5   **IBBOTSON METHODOLOGY.**

6 A. The measure of investment return has a significant effect on the interpretation of

7   the risk premium results. When analyzing a single security price series over time

8   (i.e., a time series), the best measure of investment performance is the geometric

9   mean return. Using the arithmetic mean overstates the return experienced by

10   investors. <u>In a study entitled "Risk and Return on Equity: The Use and Misuse of</u>

11   <u>Historical Estimates," Carleton and Lakonishok make the following observation:</u>

12   <u>"The geometric mean measures the changes in wealth over more than one period</u>

13   <u>on a buy and hold (with dividends invested) strategy."</u>[27] Since Dr. Murry's study

14   covers more than one period (and he assumes that dividends are reinvested), he

15   should be employing the geometric mean and not the arithmetic mean.

16

17 Q. **PLEASE PROVIDE AN EXAMPLE DEMONSTRATING THE PROBLEM**

18   **WITH USING THE ARITHMETIC MEAN RETURN.**

A19   To demonstrate the upward bias of the arithmetic mean, consider the following

20   example. Assume that you have a stock (that pays no dividend) that is selling for

21     $100 today, increases to $200 in one year, and then falls back to $100 in two

---

[27] Willard T. Carleton and Josef Lakonishok, "Risk and Return on Equity: The Use and Misuse of Historical Estimates," *Financial Analysts Journal* (January-February, 1985), pp. 38-47.

1   years. The table below shows the prices and returns.

Time Period	Stock Price	Annual Return
0	$100	
1	$200	100%
2	$100	-50%

2

3   The arithmetic mean return is simply (100% + (-50%))/2 = 25% per year. The

4   geometric mean return is $((2 * .50)^{(1/2)}) - 1 = 0\%$ per year. Therefore, the

5   arithmetic mean return suggests that your stock has appreciated at an annual rate

6   of 25%, while the geometric mean return indicates an annual return of 0%. Since

7   after two years, your stock is still only worth $100, the geometric mean return is

8   the appropriate return measure. For this reason, when stock returns and earnings

9   growth rates are reported in the financial press, they are generally reported using

10   the geometric mean. This is because of the upward bias of the arithmetic mean.

11   As further evidence of the appropriate mean return measure, the U.S. Securities

12   and Exchange Commission requires equity mutual funds to report historic return

13   performance using geometric mean and not arithmetic mean returns.[28] Therefore,

14   Dr. Murry's arithmetic mean return measures are upwardly biased and should be

15   disregarded.

16

17

18   The Large Error in Measuring Equity Risk Premiums with Historic Data

19

---

[28] U.S. Securities and Exchange Commission, Form N-1A.

1 Q. **PLEASE DISCUSS THE LARGE ERROR IN MEASURING THE EQUITY**

2   **RISK PREMIUM USING HISTORICAL STOCK AND BOND RETURNS.**

3 A. Measuring the equity risk premium using historical stock and bond return is subject

4   to a very large amount of forecasting error. For example, the long-term equity risk

5   premium of 6.5% has a standard deviation of 20.6%. This may be interpreted in the

6   following way with respect to the historical distribution of the long-term equity risk

7   premium using a standard normal distribution and a 95% +/- two standard deviation

8   confidence interval: We can say, with a 95% degree of confidence, that the true

9   equity risk premium is between -34.7% and +47.7%. As such, the historical equity

10   risk premium is measured with a large degree of error.

11
12   Biased Historic Stock Returns and Transactions Costs
13
14
15 Q. **YOU NOTE THAT HISTORIC STOCK RETURNS ARE BIASED USING**

16   **THE IBBOTSON METHODOLOGY. PLEASE ELABORATE.**

17 A. Returns developed using Ibbotson's methodology are computed on stock indexes

18   and, therefore (1) cannot be reflective of expectations because these returns are

19   unattainable to investors and (2) produce biased results. This methodology assumes:

20   (a) monthly portfolio rebalancing and (b) reinvestment of interest and dividends.

21   Monthly portfolio rebalancing presumes that investors rebalance their portfolios at

22   the end of each month in order to have an equal dollar amount invested in each

23   security at the beginning of each month. The assumption would obviously generate

24   extremely high transaction costs and thereby render these returns unattainable to

1 investors. In addition an academic study demonstrates that the monthly portfolio

2 rebalancing assumption produces biased estimates of stock returns.[29]

3

4 Transaction costs themselves provide another bias in historic versus expected

5 returns. The observed stock returns of the past were not the realized returns of

6 investors due to the much higher transaction costs of previous decades. These

7 higher transaction costs are reflected through the higher commissions on stock

8 trades and the lack of low cost mutual funds like index funds. Jeremy Siegel

9 estimates that the transactions costs associated with replicating a market portfolio

10 with reinvested dividends would subtract 100-200 basis points from the stock

11 holder returns. In other words, the actual realized equity returns were probably

12 100-200 basis points below those calculated from historic data.[30]

13

14 Company Survivorship Bias

15

16 Q.   HOW DOES COMPANY SURVIVORSHIP BIAS AFFECT DR. MURRY'S

17   HISTORIC EQUITY RISK PREMIUM?

18

19 A.   Using historic data to estimate an equity risk premium suffers from company

20   survivorship bias. Company survivorship bias results when using returns from

---

[29] See Richard Roll, "On Computing Mean Returns and the Small Firm Premium," *Journal of Financial Economics* (1983), pp. 371-86.

[30] Jeremy J. Siegel, "Perspectives on the Equity Risk Premium," *Financial Analysts Journal* (November/December 2005), p. 65.

1   indexes like the S&P 500. The S&P 500 includes only companies that have

2   survived. The fact that returns of firms that did not perform so well were dropped

3   from these indexes is not reflected. Therefore, these stock returns are upwardly

4   biased because they only reflect the returns from more successful companies.

5

6   The "Peso Problem" - U.S. Stock Market Survivorship Bias

7

8 Q.   WHAT IS THE "PESO PROBLEM," AND HOW DOES IT RELATE TO

9   SURVIVORSHIP BIAS IN U. S. STOCK MARKET RETURNS?

10 A.   Dr. Murry's use of historic return data also suffers from the so-called "Peso

11   problem," which is also known as U.S. stock market survivorship bias. The "Peso

12   problem" issue was first highlighted by the Nobel laureate, Milton Friedman, and

13   gets its name from conditions related to the Mexican peso market in the early

14   1970s. This issue involves the fact that past stock market returns were higher

15   than were expected at the time because despite war, depression, and other social,

16   political, and economic events, the U.S. economy survived and did not suffer

17   hyperinflation, invasion, and/or the calamities of other countries. As such, highly

18   improbable events, which may or may not occur in the future, are factored into

19   stock prices, leading to seemingly low valuations. Higher than expected stock

20   returns are then earned when these events do not subsequently occur. Therefore,

21   the "Peso problem" indicates that historic stock returns are overstated as measures

22   of expected returns because the U.S. markets have not experienced the disruptions

23   of other major markets around the world.

1

2 <u>Market Conditions Today are Significantly Different than in the Past</u>

3

4

5 **Q. FROM AN EQUITY RISK PREMIUM PERSPECTIVE, PLEASE**

6 **DISCUSS HOW MARKET CONDITIONS ARE DIFFERENT TODAY.**

7 A. The equity risk premium is based on expectations of the future. When past market

8 conditions vary significantly from the present, historic data does not provide a

9 realistic or accurate barometer of expectations of the future. As noted previously,

10 stock valuations (as measured by P/E) are relatively high and interest rates are

11 relatively low, on a historic basis. Therefore, given the high stock prices and low

12 interest rates, expected returns are likely to be lower on a going forward basis.

13

14 <u>Changes in Risk and Return in the Markets</u>

15

16 **Q. PLEASE DISCUSS THE NOTION THAT HISTORIC EQUITY RISK**

17 **PREMIUM STUDIES DO NOT REFLECT THE CHANGE IN RISK AND**

18 **RETURN IN TODAY'S FINANCIAL MARKETS.**

19 A. The historic equity risk premium methodology is unrealistic in that it makes the

20 explicit assumption that risk premiums do not change over time based on market

21 conditions such as inflation, interest rates, and expected economic growth.

22 Furthermore, using historic returns to measure the equity risk premium masks the

23 dramatic change in the risk and return relationship between stocks and bonds. The

24 nature of the change, as I will discuss below, is that bonds have increased in risk

1	relative to stocks. This change suggests that the equity risk premium has declined in
2	recent years.
3	
4	Page 1 of Exhibit JRW-15 provides the yields on long-term U.S. Treasury bonds
5	from 1926 to 2007. One very obvious observation from this graph is that interest
6	rates increase dramatically from the mid-1960s until the early 1980s and have
7	since returned to their 1960 levels. The annual market risk premiums for the 1926
8	to 2007 period are provided on page 2 of Exhibit JRW-15. The annual market
9	risk premium is defined as the return on common stock minus the return on long-
10	term U.S. Treasury Bonds. There is considerable variability in this series and a
11	clear decline in recent decades. The high was 54% in 1933, and the low was -
12	38% in 1931. Evidence of a change in the relative riskiness of bonds and stocks
13	is provided on page 3 of Exhibit JRW-15, which plots the standard deviation of
14	monthly stock and bond returns since 1930. The plot shows that, whereas stock
15	returns were much more volatile than bond returns from the 1930s to the 1970s,
16	bond returns became more variable than stock returns during the 1980s. In recent
17	years. stocks and bonds have become much more similar in terms of volatility. but
18	stocks are still a little more volatile. The decrease in the volatility of stocks.
19	relative to bonds over time has been attributed to several stock related factors: (1)
20	the impact of technology on productivity and the new economy; (2) the role of
21	information (see former Federal Reserve Chairman Greenspan's comments on
22	pages 8-9 in this testimony) on the economy and markets; (3) better cost and risk
23	management by businesses; (4) several bond related factors; (5) deregulation of

1   the financial system; (6) inflation fears and interest rates; and (7) the increase in

2   the use of debt financing. Further evidence of the greater relative riskiness of

3   bonds is shown on page 4 of Exhibit JRW-15, which plots real interest rates (the

4   nominal interest rate minus inflation) from 1926 to 2007. Real rates have been

5   well above historic norms during the past 10-15 years. These high real interest

6   rates reflect the fact that investors view bonds as riskier investments.

7

8   The net effect of the change in risk and return has been a significant decrease in the

9   return premium that stock investors require over bond yields. In short, the equity or

10   market risk premium has declined in recent years. This decline has been discovered

11   in studies by leading academic scholars and investment firms, and has been

12   acknowledged by government regulators. As such, using a historic equity risk

13   premium analysis is simply outdated and not reflective of current investor

14   expectations and investment fundamentals.

15

16   Q.   DO YOU HAVE ANY OTHER THOUGHTS ON THE USE OF

17   HISTORICAL RETURN DATA TO ESTIMATE AN EQUITY RISK

18   PREMIUM?

19   A.   Yes. Jay Ritter, a Professor of Finance at the University of Florida, identified the

20   use of historical stock and bond return data to estimate a forward-looking equity

21   risk premium as one of the "Biggest Mistakes" taught by the finance profession.[31]

22   His argument is based on the theory behind the equity risk premium, the excessive

---

[31] Jay Ritter, "The Biggest Mistakes We Teach," *Journal of Financial Research* (Summer 2002).

1 results produced by historical returns, and the previously-discussed errors such as

2 survivorship bias in historical data.

3

4 Q. **PLEASE PROVIDE A SUMMARY ASSESSMENT OF DR. MURRY'S**

5 **HISTORICAL EQUITY RISK PREMIUMS.**

6 A. Dr. Murry's equity risk premiums of 7.1% and 8.5% are derived from historical

7 stock and bond returns is not reflective of market expectations. As noted above,

8 equity risk premiums estimated from historical returns are subject to a myriad of

9 empirical problems that prevent them from being measures of market expectations.

10 Perhaps reflective of these empirical issues, Dr. Murry's equity risk premiums are

11 well in excess of the equity risk premium estimates discovered in recent studies by

12 leading finance scholars.

13

14 Q. **DO YOU BELIEVE THAT DR. MURRY'S EQUITY COST RATE OF**

15 **12.0% IS CONSISTENT WITH THE RETURN REQUIREMENTS OF**

16 **INVESTORS IN THE FINANCIAL MARKETS?**

17 A. No. Dr. Murry's analysis and results are especially out of touch with the real world

18 of finance. Investment banks, consulting firms, and CFOs use the equity risk

19 premium concept every day in making financing, investment, and valuation

20 decisions. On this issue, the opinions of CFOs are especially relevant. CFOs deal

21 with capital markets on an ongoing basis since they must continually assess and

22 evaluate capital costs for their companies. Furthermore, as is the case with any

23 student of finance, they are well aware of the historical equity risk premium results

1   as published by Morningstar/Ibbotson Associates. Exhibit JRW-16 shows the

2   equity risk premium results from the Duke University – *CFO Magazine* survey on

3   a quarterly basis from 2000 to 2008. The CFOs in the survey indicate that the

4   appropriate equity risk premium at the present time is in the 4.0% range and

5   certainly not in the 7.1%-8.5% range. As such, the appropriate equity cost rate for

6   a public utility should be in the 9.0% range and not in the 12.0% range.

7

8   **B. Testimony of Ms. Susan D. Abbott**

9   Q.   **PLEASE SUMMARIZE MS. ABBOTT'S TESTIMONY.**

10   A.   Ms. Abbott's testimony provides an overview of the ratings process of credit rating

11   agencies and also the ratings for Tampa. She discusses the role of rating agencies in

12   the markets, provides an overview of the debt rating process and the impact of

13   regulation of utilities, reviews the rating methodologies and categories of the major

14   rating agencies, as well as the financial metrics employed in the debt rating process.

15   Ms. Abbott also reviews Tampa's financial metrics and bond ratings, recent rating

16   actions by the three major credit rating agencies, and discusses Tampa construction

17   program and credit ratings.

18

19   Q.   **INITIALLY, DOES MS. ABBOTT PERFORM ANY STUDIES TO**

20   **SUPPORT DR. MURRY'S RECOMMENDED RETURN ON EQUITY OF**

21   **12.0%?**

1   A.   No. Ms. Abbott does not perform any studies to evaluate the adequacy of Dr.

2   Murry's 12.0% rate of return recommendation.

3

4   Q.   **PLEASE DISCUSS MS. ABBOTT'S EVALUATION OF TAMPA'S**

5   **CREDIT RATINGS AND CONSTRUCTION PROGRAM.**

6   A.   Whereas Ms. Abbott discusses utility construction programs in the context of the

7   debt rating process, her testimony is very general in nature and she performs no

8   studies comparing the magnitude of Tampa's construction program relative to

9   those of other electric utilities and/or the electric utilities in Dr. Murry's proxy

10   group. Therefore, she has made no assessment of the construction program and

11   investment risk of Tampa relative to other electric utility companies.

12

13   Q.   **PLEASE ADDRESS MS. ABBOTT'S DISCUSSION OF THE FINANCIAL**

14   **METRICS ASSOCIATED WITH THE DEBT RATING PROCESS AND**

15   **THEIR APPLICATION TO TAMPA.**

16   A.   Ms. Abbott reviews the three primary financial metrics used by the debt rating

17   agencies – Funds From Operations/Total Debt ("FFO/TD"), Funds From

18   Operations/Interest ("FFO/INT"), and Debt/Capital ("D/C"). She then computes

19   these metrics for Tampa for the years 2004-2007 and for the year 2009 under two

20   scenarios: (1) Tampa without rate relief; and (2) Tampa with the rate relief

21   requested by the Company. Obviously, the metrics are much more favorable to

22   Tampa under (2) than under (1). However, the metrics computed under (1) are

86

1   not realistic. They presume that Tampa gets no rate relief in the current rate case.

2   Nonetheless, even without rate relief, the cash flow metrics (FFO/TD and

3   FFO/INT) for Tampa for 2009 are at the very high end of the BBB rating

4   category. Furthermore, as Ms. Abbott notes on page 19 of her testimony, the debt

5   rating process is a very complex process that involves far more analysis than just

6   the calculation of a few ratios. As Ms. Abbott says, "It is always difficult to

7   predict what a rating agency will do." In addition, as highlighted by S&P, "The

8   ratings matrix is a guideline, not written in stone. The ratings matrix is not meant

9   to be precise. There can always be small positives and negatives that would lead

10   to a notch higher or lower than the typical outcome. Moreover, there will always

11   be exceptions – cases that do not fit neatly into this analytical framework."[32]

12

13   Q.   ON PAGES 20 OF HER TESTIMONY, MS. ABBOTT CLAIMS THAT

14   TAMPA SHOULD BE TARGETING AN 'A' BOND RATING. HAS

15   EITHER SHE OR MR GILETTE PERFORMED A COST – BENEFIT

16   STUDY TO ASSESS WHETHER THIS MAKES ECONOMIC SENSE?

17   A.   As indicated in Tampa's response to OPC POD 3-82, no such study has been

18   performed.

19   Q.   PLEASE DISCUSS THE RECENT RATINGS DECISIONS ON TAMPA.

20   A.   The three major rating agencies have most recently affirmed or enhanced the

21   outlook for the ratings of Tampa Electric. An important factor in these decisions

---

[32] Standard & Poor's, *Corporate Ratings Criteria 2008*, page 21.

1   appears to be the deleveraging of the parent company, TECO Energy, in the wake

2   of the sale of TECO's transport subsidiary.

3

4 **Q.**   **DOES THIS CONCLUDE YOUR TESTIMONY?**

5 A.

6 Yes.

CERTIFICATE OF SERVICE
DOCKET NO. 080317-EI

     I HEREBY CERTIFY that a true and correct copy of the foregoing Direct Testimony of Dr. J. Randall Woolridge has been furnished by hand delivery or U.S. Mail to the following parties on this 26th day of November, 2008.
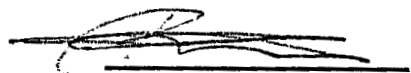
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APPENDIX 1
QUALIFICATIONS OF DR. J. RANDALL WOOLRIDGE

Appendix A
Educational Background, Research, and Related Business Experience
J. Randall Woolridge

J. Randall Woolridge is a Professor of Finance and the Goldman, Sachs & Co. and Frank P. Smeal Endowed Faculty Fellow in Business Administration in the College of Business Administration of the Pennsylvania State University in University Park, PA. In addition, Professor Woolridge is Director of the Smeal College Trading Room and President and CEO of the Nittany Lion Fund, LLC.

Professor Woolridge received a Bachelor of Arts degree in Economics from the University of North Carolina, a Master of Business Administration degree from the Pennsylvania State University, and a Doctor of Philosophy degree in Business Administration (major area-finance, minor area-statistics) from the University of Iowa. At Iowa he received a Graduate Fellowship and was awarded membership in Beta Gamma Sigma, a national business honorary society. He has taught Finance courses at the University of Iowa, Cornell College, and the University of Pittsburgh, as well as the Pennsylvania State University. These courses include corporation finance, commercial and investment banking, and investments at the undergraduate, graduate, and executive MBA levels.

Professor Woolridge's research has centered on the theoretical and empirical foundations of corporation finance and financial markets and institutions. He has published over 35 articles in the best academic and professional journals in the field, including the *Journal of Finance*, the *Journal of Financial Economics*, and the *Harvard Business Review*. His research has been cited extensively in the business press. His work has been featured in the *New York Times, Forbes, Fortune, The Economist, Financial World, Barron's, Wall Street Journal, Business Week, Washington Post, Investors' Business Daily, Worth Magazine, USA Today*, and other publications. In addition, Dr. Woolridge has appeared as a guest to discuss the implications of his research on CNN's *Money Line*, CNBC's *Morning Call* and *Business Today*, and Bloomberg Televisions' *Morning Call*.

Professor Woolridge's popular stock valuation book, *The StreetSmart Guide to Valuing a Stock* (McGraw-Hill, 2003), was released in its second edition. He has also co-authored *Spinoffs and Equity Carve-Outs: Achieving Faster Growth and Better Performance* (Financial Executives Research Foundation, 1999) as well as a new textbook entitled *Applied Principles of Finance* (Kendall Hunt, 2006). Dr. Woolridge is a founder and a managing director of www.valuepro.net - a stock valuation website.

Professor Woolridge has also consulted with and prepared research reports for major corporations, financial institutions, and investment banking firms, and government agencies. In addition, he has directed and participated in over 500 university- and company- sponsored professional development programs for executives in 25 countries in North and South America, Europe, Asia, and Africa.

Dr. Woolridge has prepared testimony and/or provided consultation services in the following cases:

Pennsylvania: Dr. Woolridge has prepared testimony on behalf of the Pennsylvania Office of Consumer Advocate in the following cases before the Pennsylvania Public Utility Commission; Bell Telephone Company (R-811819), Peoples Natural Gas Company (R-832315), Pennsylvania Power Company (R-832409), Western Pennsylvania Water Company (R-832381), Pennsylvania Power Company (R-842740), Pennsylvania Gas and Water Company (R-850178), Metropolitan Edison Company (R-860384), Pennsylvania Electric Company (R-860413), North Penn Gas Company (R-860535), Philadelphia Electric Company (R-870629), Western Pennsylvania Water Company (R-870825), York Water Company (R-870749), Pennsylvania-American Water Company (R-880916), Equitable Gas Company (R-880971), the Bloomsburg Water Co. (R-891494), Columbia Gas of Pennsylvania, Inc. (R-891468), Pennsylvania-American Water Company (R-90562), Breezewood Telephone Company (R-901666), York Water Company (R-901813), Columbia Gas of Pennsylvania, Inc. (R-901873), National Fuel Gas Corporation (R-911912), Pennsylvania-American Water Company (R-911909), Borough of Media Water Fund (R-912150), UGI Utilities, Inc. - Electric Utility Division (R-922195), Dauphin Consolidated Water Supply Company - General Waterworks of Pennsylvania, Inc, (R-932604), National Fuel Gas Corporation (R-932548), Commonwealth Telephone Company (I-

920020), Conestoga Telephone and Telegraph Company (I-920015), Peoples Natural Gas Company (R-932866), Blue Mountain Consolidated Water Company (R-932873), National Fuel Gas Corporation (R-942991), UGI - Gas Division (R-953297), UGI - Electric Division (R-953534), Pennsylvania-American Water Company (R-973944), Pennsylvania-American Water Company (R-994638), Philadelphia Suburban Water Company (R-994868;R-994877;R-994878; R-9948790), Philadelphia Suburban Water Company (R-994868), Wellsboro Electric Company (R-00016356), Philadelphia Suburban Water Company (R-00016750), National Fuel Gas Corporation (R-00038168), Pennsylvania-American Water Company (R-00038304), York Water Company (R-00049165), Valley Energy Company (R-00049345), Wellsboro Electric Company (R-00049313), National Fuel Gas Corporation (R-00049656), T.W. Phillips Gas and Oil Co. (R-00051178), PG Energy (R-00061365), City of Dubois Water Company (Docket No. R-00050671), R-00049165), York Water Company (R-00061322), Emporium Water Company (R-00061297), Pennsylvania-American Water Company (R-00072229),

New Jersey: Dr. Woolridge prepared testimony for the New Jersey Department of the Public Advocate, Division of Rate Counsel: New Jersey-American Water Company (R-91081399J), New Jersey-American Water Company (R-92090908J), and Environmental Disposal Corp. (R-94070319).

Alaska: Dr. Woolridge prepared testimony for Attorney General's Office of Alaska: Golden Heart Utilities, Inc. and College Utilities Corp. (Water Public Utility Service TA-29-118 and Sewer Public Utility Service TA-82-97), Anchorage Water and Wastewater Utility (TA-106-122).

Arizona: Dr. Woolridge prepared testimony for Utility Division staff of the Arizona Corporation Commission, Arizona Public Service Company (Docket No. E-01345A-06-0009).

Hawaii: Dr. Woolridge prepared testimony for the Hawaii Office of the Consumer Advocate: East Honolulu Community Services, Inc. (Docket No. 7718).

Delaware: Dr. Woolridge prepared testimony for the Delaware Division of Public Advocate: Artesian Water Company (R-00-649). Dr. Woolridge prepared testimony for the staff of the Public Service Commission: Artesian Water Company (R-06-158).

Ohio: Dr. Woolridge prepared testimony for the Ohio Office of Consumers' Council: SBC Ohio (Case No. 02-1280-TP-UNC R-00-649), and Cincinnati Gas & Electric Company (Case No. 05-0059-EL-AIR).

Texas: Dr. Woolridge prepared testimony for the Atmos Cities Steering Committee: Mid-Texas Division of Atmos Energy Corp. (Docket No. 9670).

New York: Dr. Woolridge prepared testimony for the County of Nassau in New York State: Long Island Lighting Company (PSC Case No. 942354).

Florida: Dr. Woolridge prepared testimony for the Office of Public Counsel in Florida: Florida Power & Light Co. (Docket No. 050045-EL), Florida Public Utilities Company (Docket No. 070304-EI).

Indiana: Dr. Woolridge prepared testimony for the Indiana Office of Utility Consumer Counsel (OUCC) in the following cases: Southern Indiana Gas and Electric Company (IURC Cause No. 43111 and IURC Cause No. 43112).

Oklahoma: Dr. Woolridge prepared testimony for the Oklahoma Industrial Energy Companies (OIEC) in the following cases: Public Service Company of Oklahoma (Cause No. PUD 200600285), Oklahoma Gas & Electric Company (Cause No. PUD 200700012

Appendix A
Educational Background, Research, and Related Business Experience
J. Randall Woolridge

Connecticut: Dr. Woolridge prepared testimony for the Office of Consumer Counsel in Connecticut: United Illuminating (Docket No. 96-03-29), Yankee Gas Company (Docket No. 04-06-01), Southern Connecticut Gas Company (Docket No. 03-03-17), the United Illuminating Company (Docket No. 05-06-04), Connecticut Light and Power Company (Docket No. 05-07-18), Birmingham Utilities, Inc. (Docket No. 06-05-10), Connecticut Water Company (Docket No. 06-07-08), Connecticut Natural Gas Corp. (Docket No. 06-03-04), Aquarion Water Company (Docket No. 07-05-09), Yankee Gas Company (Docket No. 06-12-02), and Connecticut Light and Power Company (Docket No. 07-07-01).

California: Dr. Woolridge prepared testimony for the Office of Ratepayer Advocate in California: San Gabriel Valley Water Company (Docket No. 05-08-021), Pacific Gas & Electric (Docket No. 07-05-008), San Diego Gas & Electric (Docket No. 07-05-007), and Southern California Edison (Docket No. 07-05-003).

South Carolina: Dr. Woolridge prepared testimony for the Office of Regulatory Staff in South Carolina: South Carolina Electric and Gas Company (Docket No. 2005-113-G), Carolina Water Service Co. (Docket No. 2006-87-WS), Tega Cay Water Company (Docket No. 2006-97-WS), United Utilities Companies, Inc. (Docket No. 2006-107-WS).

Missouri: Dr. Woolridge prepared testimony for the Department of Energy in Missouri: Kansas City Power & Light Company (CASE NO. ER-2006-0314). Dr. Woolridge prepared testimony for the Office of Attorney General of Missouri: Union Electric Company (CASE NO. ER-2007-0002).

Kentucky: Dr. Woolridge prepared testimony for the Office of Attorney General in Kentucky: Kentucky-American Water Company (Case No. 2004-00103), Union Heat, Light, and Power Company (Case No. 2004-00042), Kentucky Power Company (Case No. 2005-00341), Union Heat, Light, and Power Company (Case No. 2006-00172), Atmos Energy Corp. (Case No. 2006-00464), Columbia Gas Company (Case No. 2007-00008), Delta Natural Gas Company (Case No. 2007-00089), Kentucky-American Water Company (Case No. 2007-00143).

Washington, D.C.: Dr. Woolridge prepared testimony for the Office of the People's Counsel in the District of Columbia: Potomac Electric Power Company (Formal Case No. 939).

Washington: Dr. Woolridge consulted with trial staff of the Washington Utilities and Transportation Commission on the following cases: Puget Energy Corp. (Docket Nos. UE-011570 and UG-011571); and Avista Corporation (Docket No. UE-011514).

Kansas: Dr. Woolridge prepared testimony on behalf of the Kansas Citizens' Utility Ratepayer Board in the following cases: Western Resources Inc. (Docket No. 01-WSRE-949-GIE), UtiliCorp (Docket No. 02-UTCG701-CIG), and Westar Energy, Inc. (Docket No. 05-WSEE-981-RTS).

FERC: Dr. Woolridge has prepared testimony on behalf of the Pennsylvania Office of Consumer Advocate in the following cases before the Federal Energy Regulatory Commission: National Fuel Gas Supply Corporation (RP-92-73-000) and Columbia Gulf Transmission Company (RP97-52-000).

Vermont: Dr. Woolridge prepared testimony for the Department of Public Service in the Central Vermont Public Service (Docket No. 6988) and Vermont Gas Systems, Inc. (Docket No. 7160).

Exhibit JRW-1

Tampa Electric Company
Cost of Capital

Weighted Average Cost of Capital - Regulatory Capital Structure

Capital Source	Capitalization Ratio	Cost Rate	Weighted Cost Rate
Long Term Debt	43.80%	6.80%	2.98%
Short Term Debt	0.60%	2.33%	0.01%
Customer Deposits	2.82%	6.07%	0.17%
Common Equity	42.48%	9.75%	4.14%
Tax Credits - Weighted Cost	0.33%	8.21%	0.03%
Deferred Income Taxes	9.97%	0.00%	0.00%
Total	100.00%		7.33%

Weighted Average Cost of Capital - Conventional Capital Structure

Capital Source	Capitalization Ratio	Cost Rate	Weighted Cost Rate
Long Term Debt	50.42%	6.80%	3.43%
Short Term Debt	0.69%	2.33%	0.02%
Common Equity	48.89%	9.75%	4.77%
Total	100.00%		8.21%

Exhibit JRW-2
Ten-Year Treasury Yields
1953-Present

Source: http://research.stlouisfed.org/fred2/data/GS10.txt
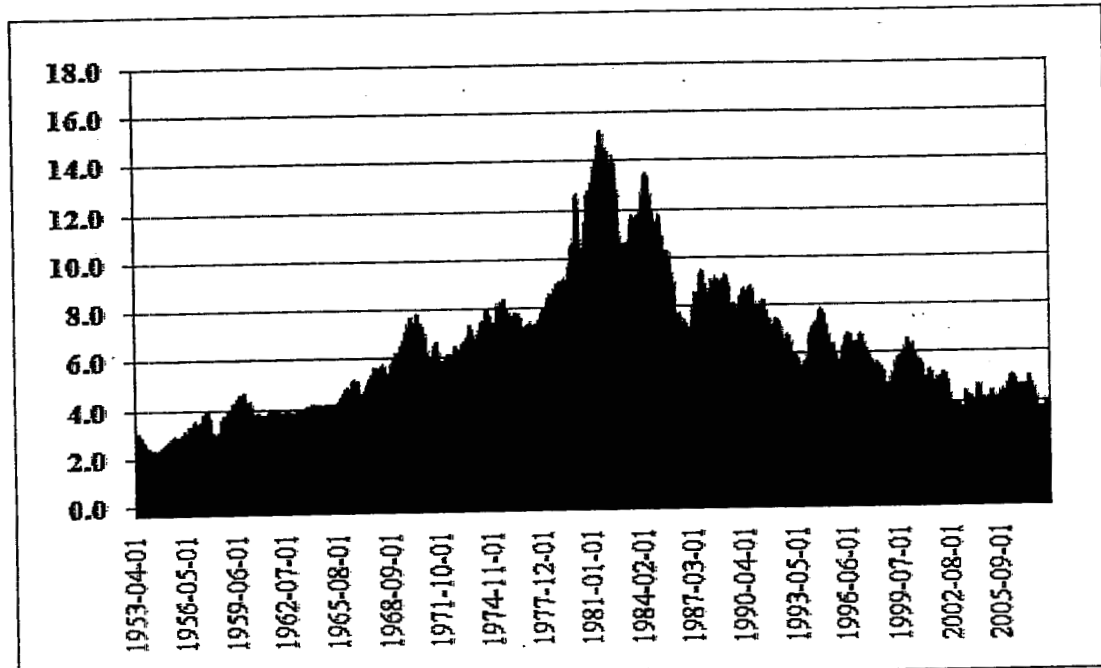
Exhibit JRW-3
Tampa Electric Company
Summary Financial Statistics for Electric Proxy Group

Electric Proxy Group

Company	Operating Revenue ($mil)	Percent Elec Revenue	Net Plant ($mil)	Moody's Bond Rating	S&P Bond Rating	Long-Term Interest Coverage	Primary Service Area	Common Equity Ratio	Return on Equity	Market to Book Ratio
ALLETE, Inc. (NYSE-ALE)	816.3	88	1,224.3	NR	A-	6.0	MN, WS	57	11.7	1.41
Ameren Corporation (NYSE-AEE)	7,671.0	82	15,566.0	Baa2	BBB	4.2	IL, MO	46	10.4	0.93
Central Vermont Public Serv. Corp. (NYSE-CV)	340.7	100	327.6	NR	BBB+	4.1	VT	50	8.8	1.13
Cleco Corporation (NYSE-CNL)	1,042.7	95	1,877.6	Baa1	BBB	2.5	LA	49	12.5	1.24
DPL Inc.(NYSE-DPL)	1,587.8	100	2,821.8	A2	A-	6.2	OH	39	NM	2.77
Empire District Electric Co. (NYSE-EDE)	504.9	87	1,261.5	Baa1	BBB+	2.1	MO,KS,OK,AR	44	6.7	1.07
Hawaiian Electric Industries, Inc. (NYSE-HE)	2,885.3	83	2,480.0	Baa2	BBB	2.7	HI	38	8.2	1.57
IDACORP, Inc. (NYSE-IDA)	902.6	100	2,687.8	A3	A-	2.4	ID,OR	46	6.6	0.94
Northeast Utilities (NYSE-NU)	5,571.2	84	7,721.7	Baa1	BBB+	2.8	CT,NH,MA	40	8.3	1.09
NSTAR (NYSE-NST)	3,191.6	78	4,243.1	A1	AA-	3.3	MA	40	5.6	1.79
Pinnacle West Capital Corp. (NYSE-PNW)	3,628.0	86	8,570.9	Baa2	BBB-	3.2	AZ	52	8.8	0.82
Progress Energy Inc. (NYSE-PGN)	8,723.0	100	17,501.0	A2	A-	2.9	NC,SC,FL	43	8.2	1.10
UIL Holdings Corporation (NYSE-UIL)	941.5	100	969.6	Baa2	NR	4.2	CT	44	10.5	1.80
Mean	2,908.2	91	5,173.3	Baa1		3.6		45	8.9	1.36

Data Source: AUS *Utility Reports*, November, 2008; Service Area and Long-Term Interest Coverage are from *Value Line Investment Survey*, 2008.

Exhibit JRW-4
Tampa Electric Company
Capital Structure Ratios

Panel A - Tampa's Recommended Capitalization Ratios - Investor Provided Capital

Capital	Capitalization Ratios	Capitalization Ratios
Short-Term Debt	1,397,566	42.11%
Long-Term Debt	8,001.99	0.24%
Common Equity*	1,835,985	55.32%
Total Capital*	3,318,553	100.00%

* Includes $77,000 adjustment for PPAs
Source: Testimony of Dr. Murry

Panel B - Tampa's Average Capitalization Ratios - 2005-2007

	2005	2006	2007	Average
Short-Term Debt	47.36%	48.27%	52.16%	49.26%
Long-Term Debt	1.79%	2.76%	0.60%	1.72%
Common Equity*	50.85%	48.97%	47.24%	49.02%
Total*	100.00%	100.00%	100.00%	100.00%

* Excludes adjustments for PPAs
Source: Page 2 of Exhibit JRW-4

Panel C - Average Common Equity Ratio of Electric Proxy Group - 2008

	2008
Average Common Equity Ratio	45.7

Source: Page 3 of Exhibit JRW-4

Panel D - Tampa Electric Capital Structure

	2007		2008	
Source	Amount	Ratio	Amount	Ratio
Long Term Debt	$1,638,241	45.57%	$1,603,286	42.03%
Short Term Debt	17,324	0.48%	27,462	0.72%
Customer Deposits	99,885	2.78%	109,307	2.87%
Common Equity	1,460,034	40.62%	1,691,387	44.34%
Tax Credits - Weighted Cost	13,228	0.37%	11,293	0.30%
Deferred Income Taxes	366,044	10.18%	372,209	9.76%
Total	$3,594,756	100.00%	$3,814,944	100.00%

Capital Structure Investor Sources Only:				
Long Term Debt	$1,638,241	52.58%	$1,603,286	48.26%
Short Term Debt	17,324	0.56%	27,462	0.83%
Common Equity	1,460,034	46.86%	1,691,387	50.91%
	3,115,599	100.00%	3,322,135	100.00%

Source: MFR D-1a

Panel E - OPC Recommended Capital Structure Ratios

Source	
Long Term Debt	43.80%
Short Term Debt	0.60%
Customer Deposits	2.82%
Common Equity	42.48%
Tax Credits - Weighted Cost	0.33%
Deferred Income Taxes	9.97%
Total	100.00%

Capital Structure Investor Sources Only:	
Long Term Debt	50.42%
Short Term Debt	0.69%
Common Equity	48.89%
Total	100.00%

Tampa Electric Company
Thirteen Month Jurisdictional Capital Structure

	2005				2005				
	Mar	June	Sept	Dec	Mar	June	Sept	Dec	Average
Long-term Debt	$ 1,195,913,100	$ 1,196,774,848	$ 1,190,478,376	$ 1,189,711,165	47.47%	47.46%	47.40%	47.11%	47.36%
Short-term Debt	39,852,417	39,823,462	41,625,969	59,614,202	1.58%	1.58%	1.66%	2.36%	1.79%
Common Equity	1,283,446,175	1,285,126,390	1,279,654,494	1,276,298,423	50.95%	50.96%	50.95%	50.53%	50.85%
Total	2,519,211,692	2,521,724,700	2,511,758,839	2,525,623,790	100.00%	100.00%	100.00%	100.00%	100.00%

	2006				2006				
	Mar	June	Sept	Dec	Mar	June	Sept	Dec	Average
Long-term Debt	$ 1,189,101,961	$ 1,206,085,095	$ 1,242,404,168	$ 1,276,549,822	46.89%	47.62%	48.79%	49.77%	48.27%
Short-term Debt	78,774,665	75,761,170	66,398,305	60,352,489	3.11%	2.99%	2.61%	2.35%	2.76%
Common Equity	1,267,827,147	1,250,899,637	1,237,395,037	1,227,968,563	50.00%	49.39%	48.60%	47.88%	48.97%
Total	2,535,703,773	2,532,745,902	2,546,197,510	2,564,870,874	100.00%	100.00%	100.00%	100.00%	100.00%

	2007				2007				
	Mar	June	Sept	Dec	Mar	June	Sept	Dec	Average
Long-term Debt	$ 1,314,986,187	$ 1,367,068,720	$ 1,382,565,969	$ 1,404,913,615	51.12%	52.42%	52.55%	52.54%	52.16%
Short-term Debt	25,699,498	7,821,490	14,726,750	14,856,944	1.00%	0.30%	0.56%	0.56%	0.60%
Common Equity	1,231,805,024	1,233,100,824	1,233,737,707	1,254,250,601	47.88%	47.28%	46.89%	46.91%	47.24%
Total	2,572,490,709	2,607,991,034	2,631,030,426	2,674,021,160	100.00%	100.00%	100.00%	100.00%	100.00%

Source: Tampa response to OPC POD 3-90.

Tampa Electric Company
Common Equity Ratios of Electric Proxy Group

Electric Proxy Group

Company	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Mean
ALLETE, Inc. (NYSE-ALE)	62.0	62.0	63.0	63.0	63.0	60.0	60.0	60.0	60.0	57.0	57	60.7
Ameren Corporation (NYSE-AEE)	49.0	49.0	49.0	47.0	47.0	47.0	47.0	47.0	46.0	46.0	46	47.2
Central Vermont Public Serv. Corp. (NYSE-CV)	59.0	59.0	59.0	60.0	60.0	51.0	51.0	51.0	50.0	50.0	50	54.6
Cleco Corporation (NYSE-CNL)	56.0	56.0	56.0	54.0	54.0	51.0	51.0	51.0	49.0	49.0	49	52.4
DPL Inc.(NYSE-DPL)	34.0	34.0	34.0	35.0	35.0	35.0	36.0	36.0	36.0	39.0	39	35.7
Empire District Electric Co. (NYSE-EDE)	45.0	45.0	45.0	48.0	48.0	45.0	45.0	45.0	45.0	44.0	44	45.4
Hawaiian Electric Industries, Inc. (NYSE-HE)	27.0	27.0	27.0	27.0	27.0	29.0	29.0	29.0	29.0	38.0	38	29.7
IDACORP, Inc. (NYSE-IDA)	48.0	48.0	48.0	47.0	47.0	46.0	46.0	46.0	46.0	46.0	46	46.7

Tampa Electric Company
2007 - 2009 Capital Structure Comparison

2007 Actual Weighted Cost of Capital:	Total Company Per Books Per MFR D-1a	Specific Adjustments — Common Dividends	Deferred Tax / Pro rata	Deferred Tax / STD	PPA Equity Adjustment	Other	Pro rata Adjustments	Jurisdictional Capital Structure	Jurisdictional Adjusted Separation Factor	(Mid-pt.) Capital Structure	Weighted Cost Rate
			0	0							
Long Term Debt	$1,638,241	$0	$0	$0	$0	($24)	($191,866)	$1,446,351	0.973346	$1,407,803	6.43%
Short Term Debt	17,324		0	0		0	-2,029	15,295	0.973325	14,887	3.68%
Customer Deposits	99,885		0	0		0	-11,698	88,187	0.973352	85,837	6.04%
Common Equity	1,460,034	2,540	0	0	0	-39	-171,290	1,291,245	0.973347	1,256,830	11.75%
Tax Credits - Weighted Cost	13,228		0	0		-2	-1,549	11,677	0.973366	11,366	8.94%
Deferred Income Taxes	366,044		0	0		11,733	-44,245	333,532	0.973349	324,643	0.00%
Total	$3,594,756	$2,540	$0	$0	$0	$11,668	($422,677)	$3,186,287		$3,101,366	
Capital Structure Investor Sources Only:											
Long Term Debt	$1,638,241	52.6%						$1,446,351	52.5%	$1,407,803	52.5%
Short Term Debt	17,324	0.6%						15,295	0.6%	14,887	0.6%
Common Equity	1,460,034	46.9%						1,291,245	46.9%	1,256,830	46.9%
	3,115,599	100.0%						2,752,891	100.0%	2,679,520	100.0%
2008 Weighted Cost of Capital:											
Long Term Debt	$1,603,286	$0	$0	$0	$0	($26)	($183,276)	$1,419,984	0.975386	$1,385,032	6.86%
Short Term Debt	27,462		0	0		0	-3,139	24,323	0.975373	23,724	5.73%
Customer Deposits	109,307		0	0		0	-12,495	96,812	0.975385	94,429	6.27%
Common Equity	1,691,387	11,713	0	0	0	-27	-194,666	1,508,387	0.975386	1,471,259	11.75%
Tax Credits - Weighted Cost	11,293		0	0		-2	-1,291	10,000	0.975400	9,754	9.38%
Deferred Income Taxes	372,209		0	0		432	-42,598	330,043	0.975385	321,919	0.00%
Total	$3,814,944	$11,713	$0	$0	$0	$377	($437,485)	$3,389,549		$3,306,117	
Capital Structure Investor Sources Only:											
Long Term Debt	$1,603,286	48.3%						$1,419,984	48.1%	$1,385,032	48.09%
Short Term Debt	27,462	0.8%						24,323	0.8%	23,724	0.82%
Common Equity	1,691,387	50.9%						1,508,387	51.1%	1,471,259	51.09%
	3,322,135	100.0%						2,952,694	100.0%	2,880,015	100.00%
2009 Test Year Weighted Cost of Capital:			Note 1	Note 2	Note 3		Note 4				
Long Term Debt	$1,841,637	$0	$76,352	$0	$0	$0	($262,725)	$1,455,264	0.960352	$1,397,566	6.80%
Short Term Debt	49,170		165	-39,498		0	-1,504	8,332	0.960352	8,002	4.63%
Customer Deposits	121,838		5,667	0		0	-19,499	108,006	0.960352	103,724	6.07%
Common Equity	2,075,341	7,677	96,908	0	77,000	0	-345,142	1,911,784	0.960352	1,835,985	12.00%
Tax Credits - Weighted Cost	10,795		0	0		-2	-1,650	9,142	0.960352	8,780	9.75%
Deferred Income Taxes	396,055		454	-24,805		452	-56,912	315,243	0.960352	302,744	0.00%
Total	$4,294,835	$7,677	$179,546	($64,304)	$77,000	$450	($687,432)	$3,807,772		$3,656,800	
Capital Structure Investor Sources Only:											
Long Term Debt	$1,841,637	43.6%						$1,455,264	43.1%	$1,397,566	43.1%
Short Term Debt	49,170	1.3%						8,332	0.2%	8,002	0.2%
Common Equity	2,075,341	55.1%						1,911,784	56.6%	1,835,985	56.6%
	3,766,147	100.0%						3,375,381	100.0%	3,241,552	100.0%

Source: Tampa Response to OPC POD 3-58.

Note 1: Includes the following proforma adjustments that impact only 2009. Deferred tax impact separately identified and remaining adjustment prorated over other sources of capital: Annualization of CTs and rail project, Amortization of Rate Case Expense, Amortization of Dredging O&M, Storm Reserve, IRS Adjustment to Deferred Taxes.

Note 2: Adjustment for Under recovery of Fuel, which reflects appropriate treatment for establishing permanent base rates. 2007 and 2008 fuel underrecoveries are included in pro rata adjustments.

Note 3: Adjustment to equity to offset off balance sheet obligations for purchased power. This adjustment is not included in 2007 and 2008.

Note 4: Pro rata adjustment detail for all three years is included in MFR D-1b.

Tampa Electric Company
Short-Term Debt Cost Rate

Three-Month LIBOR Rates
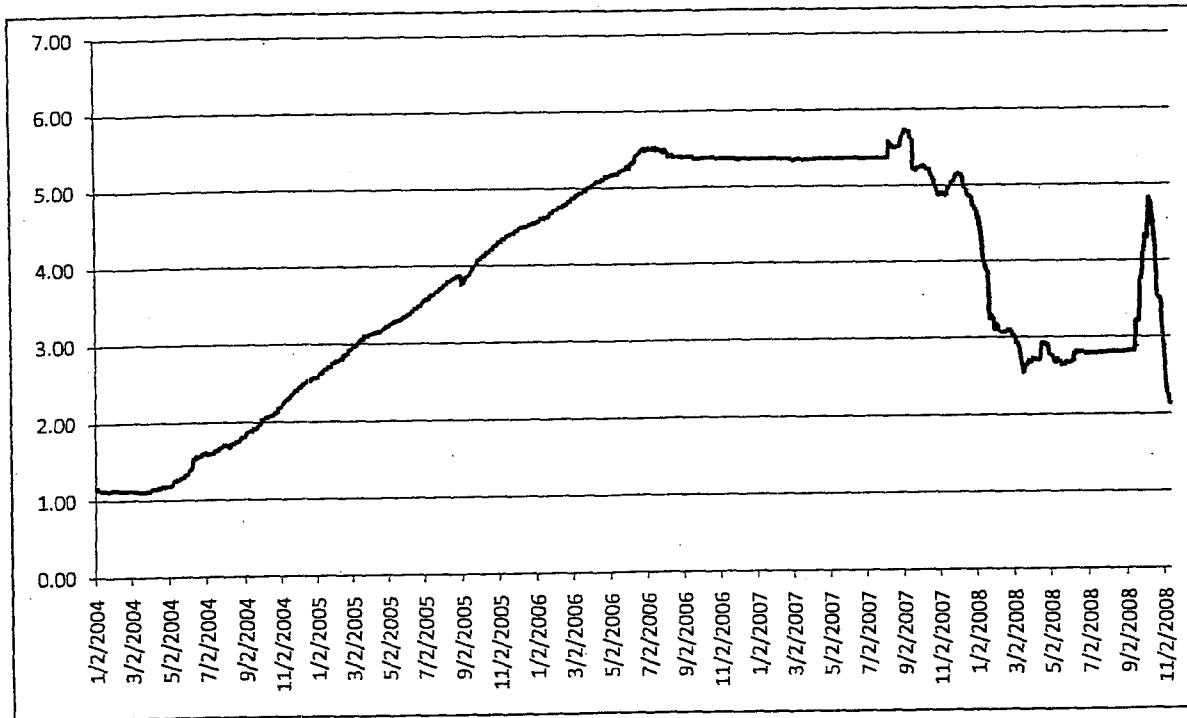
Current Three-Month LIBOR Rate

Key Rates	CURRENT
FEDERAL RESERVE TARGET RATE	1.00
PRIME RATE	4.00
1-MONTH LIBOR	1.42
3-MONTH LIBOR	2.15
5-YEAR AAA BANKING & FINANCE	6.18
10-YEAR AAA BANKING & FINANCE	7.69

Source: Bloomberg

Tampa Electric Company
Long-Term Debt Cost Rate

(1) Description, Coupon Rate	(2) Issue Date	(3) Maturity Date	(4) Principal Amount Sold (Face Value)	(5) 13-Month Average Principal Amt. Outstanding	(6) Discount (Premium) on Principal Amount Sold	(7) Issuing Expense On Principal Amount Sold	(8) Life (Years)	(9) Annual Amortization (6+7)/(8)	(10) Interest Expense (Coupon Rate) (1) x (5)	(11) Total Annual Cost (9)+(10)	(12) Unamortized Discount (Premium) Associated With (5)	(13) Unamort. Issuing Expense & Loss on Reacquired Debt Associated With (5)
6.875% Due 2012	6/25/2001	6/15/2012	$ 210,000	$ 210,000	$ 886	$ 1,506	10.98	$ 218	$ 14,438	$ 14,656	$ 240	$ 408
5.10% Due 2013	6/11/2002	10/1/2013	60,685	60,685	(1,066)	600	11.32	(41)	3,095	3,054	(401)	226
5.50% Due 2023	6/11/2002	10/1/2023	86,400	86,400	1,078	854	21.32	91	4,752	4,843	719	571
6.375% Due 2012 (a)	8/26/2002	8/15/2012	330,000	330,000	2,650	13,496	9.98	1,618	21,038	22,656	830	4,227
6.25% Due 2016	4/11/2003	4/11/2016	250,000	250,000	-	1,945	13.01	149	15,625	15,774	-	1,014
6.550% Due 2036	5/12/2006	5/15/2036	250,000	250,000	1,583	4,142	30.03	190	16,375	16,565	1,399	3,710
6.150% Due 2037 (b)	5/25/2007	5/15/2037	190,000	190,000	1,077	1,099	30.00	73	11,685	11,758	1,002	1,024
5.00% Due 2034	1/19/2006	12/1/2034	85,950	85,950	-	3,264	28.89	215	4,298	4,513	-	2,778
5.65% Due 2018	7/26/2007	5/15/2018	54,200	54,200	-	1,401	10.82	130	3,062	3,192	-	1,150
5.15% Due 2025	7/25/2007	9/1/2025	51,600	51,600	-	1,293	18.12	115	2,657	2,772	-	1,112
6.10% Due 2018 (c)	5/13/2008	5/15/2018	100,000	100,000	-	8,571	10.00	857	6,100	6,957	-	7,607
6.90% Due 2019 (d)	11/1/2009	11/1/2019	125,000	19,231	-	1,250	10.00	21	1,438	1,459	-	190
Unamortized loss on reacquired debt								2,830	669	3,499	-	18,623
Total			$ 1,666,066	$ 6,185	$ 39,421			$ 6,466	$ 105,232	$ 111,698	$ 3,790	$ 42,639

Total Long-Term Debt Average   1,641,637
Total Interest Average   111,698
Long-Term Debt Cost Rate   6.80%

Source: Tampa Response to OPC 3-50, part 2.

Exhibit JRW-5

Coefficient of Variation

S&P 500 Price CV/Bear Sterns Bond Price Index CV
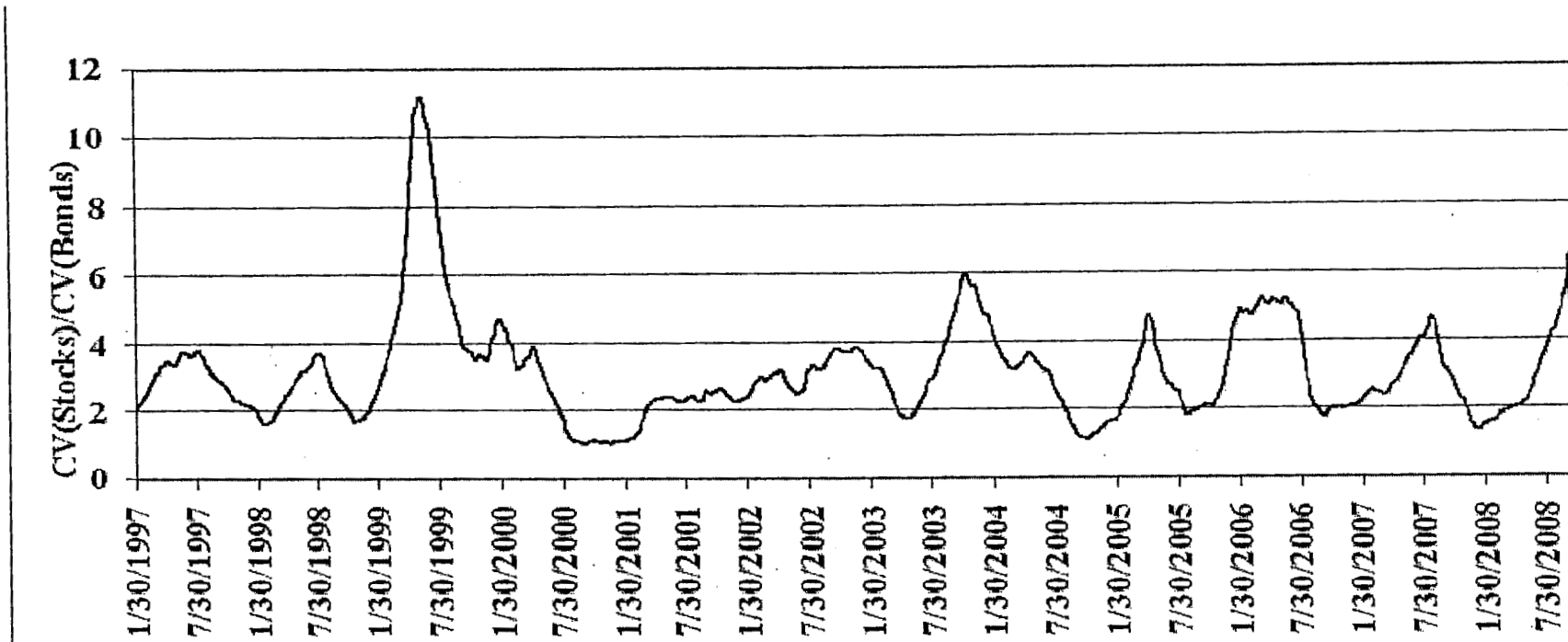
Data Source: Bloomberg

Exhibit JRW-6

Panel A

Electric Utilities

R-Square = .65, N=56.

Panel B

Gas Distribution Companies

R-Square = .60, N=12.
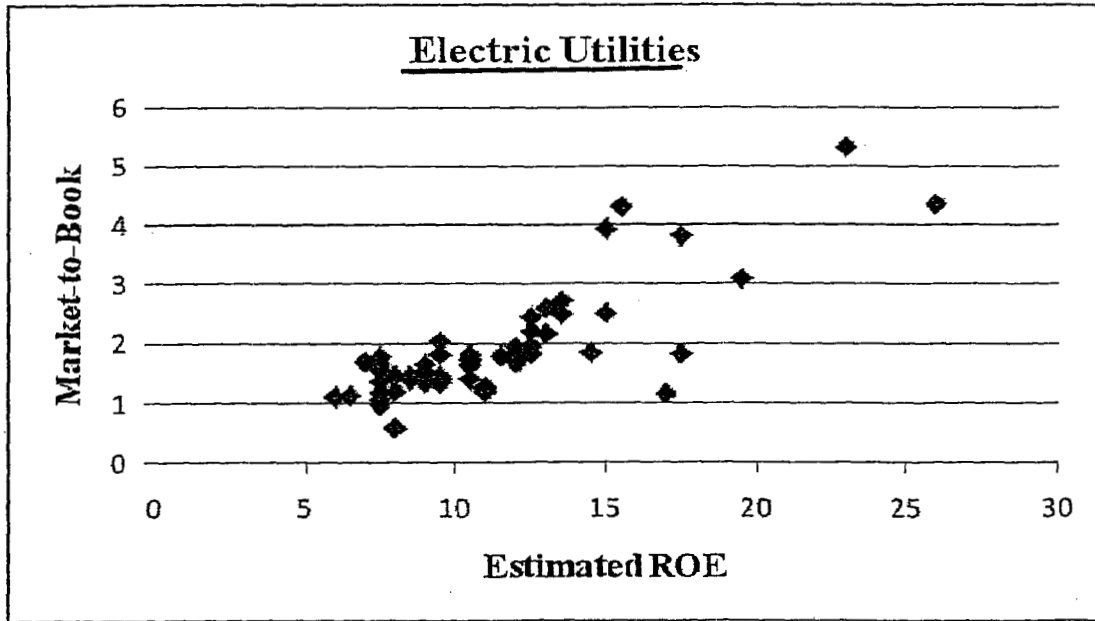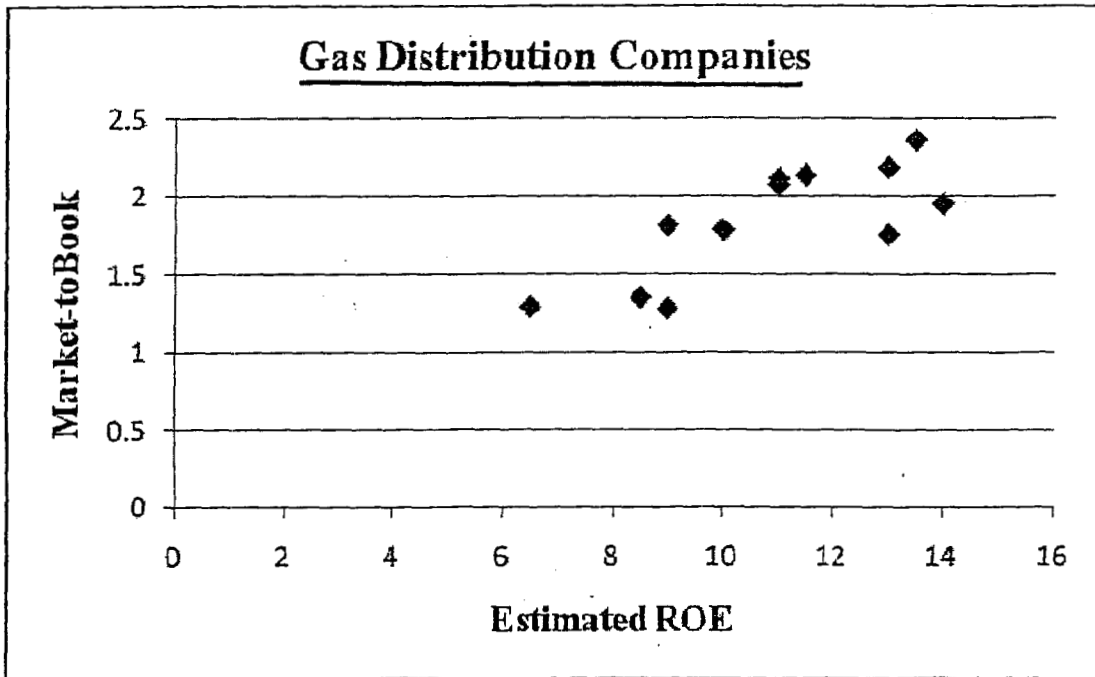
Exhibit JRW-6

Panel C

Water Utilities
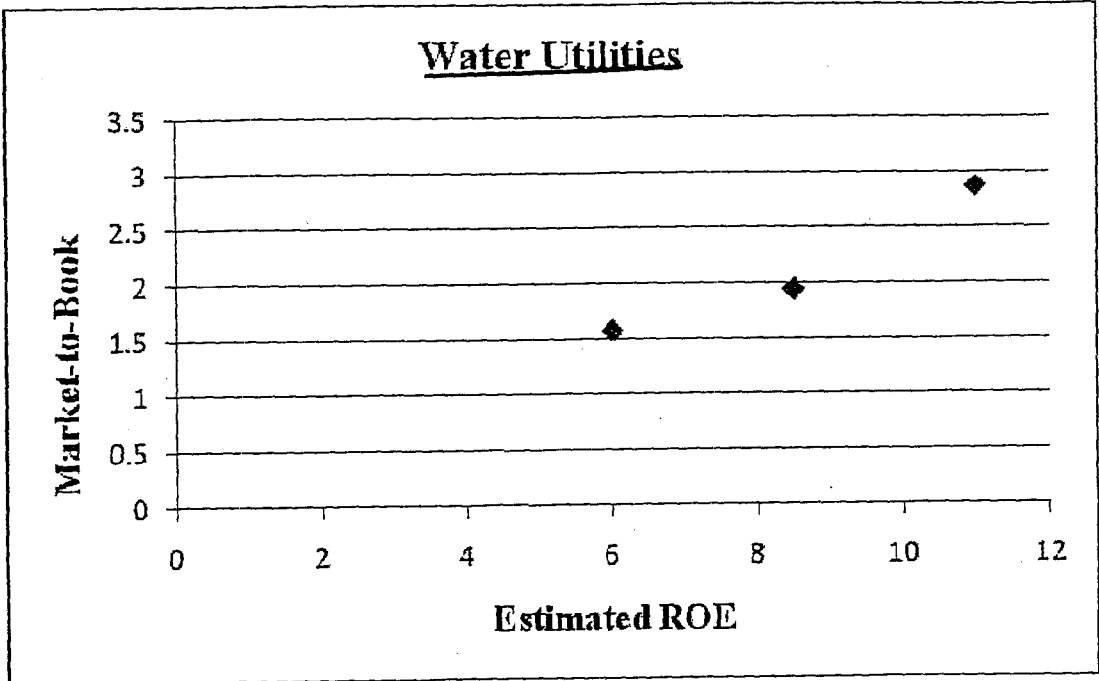
R-Square = .92, N=4.

Exhibit JRW-7
Long-Term 'A' Rated Public Utility Bonds
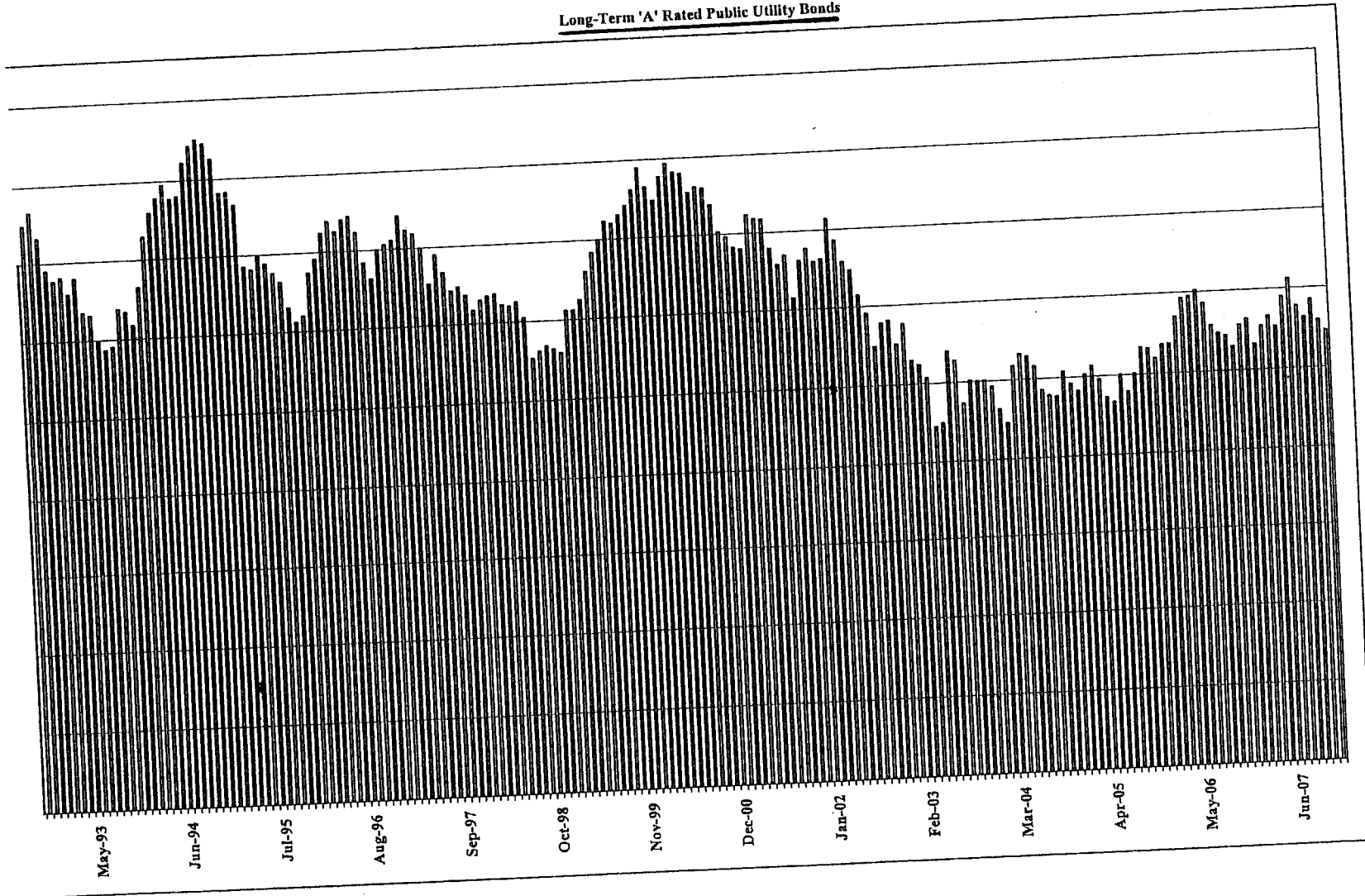
Exhibit JRW-4
Dow Jones Utilities Dividend Yield
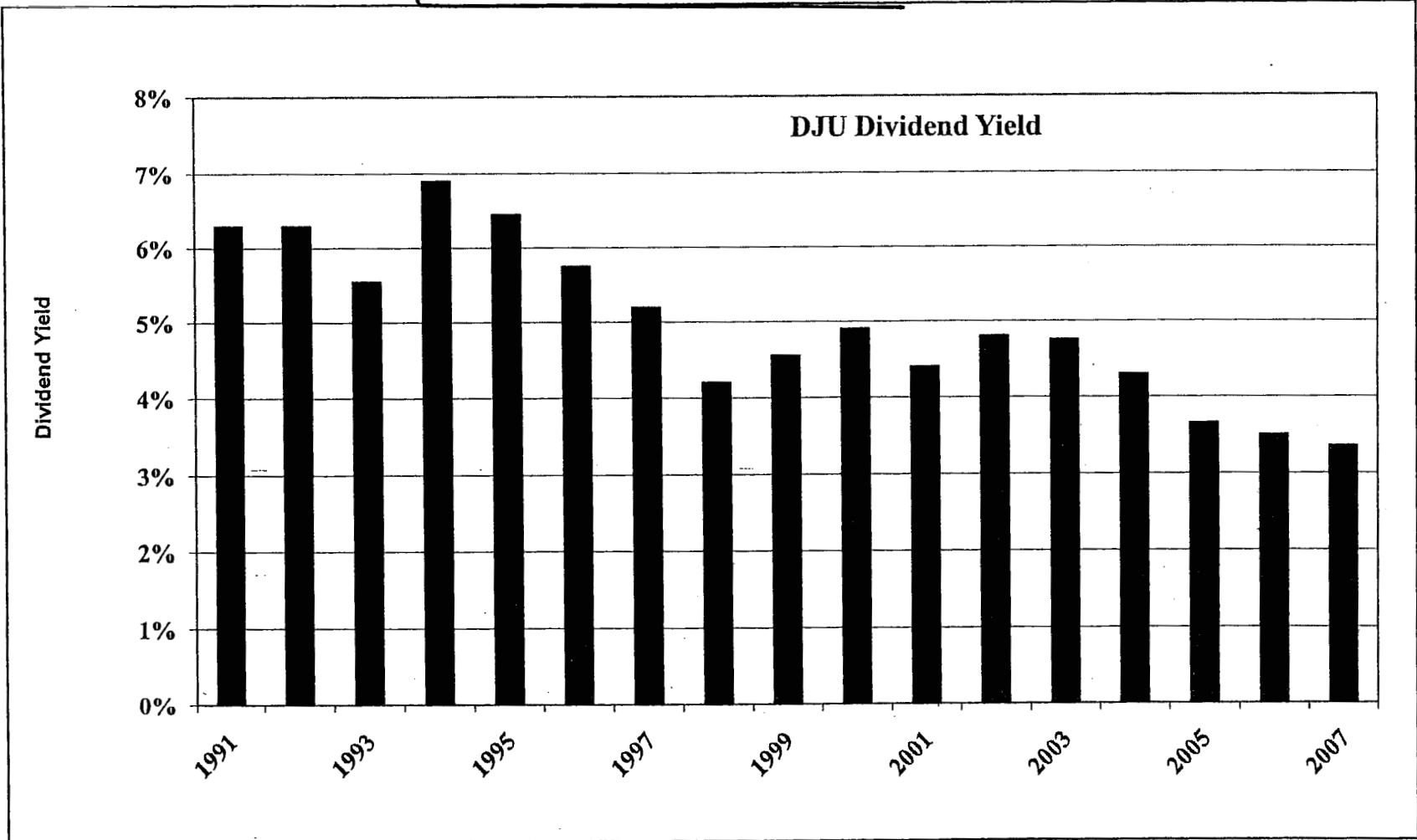
Data Source: Value Line Investment Survey

Exhibit JRW-7
Dow Jones Utilities - Market to Book and ROE
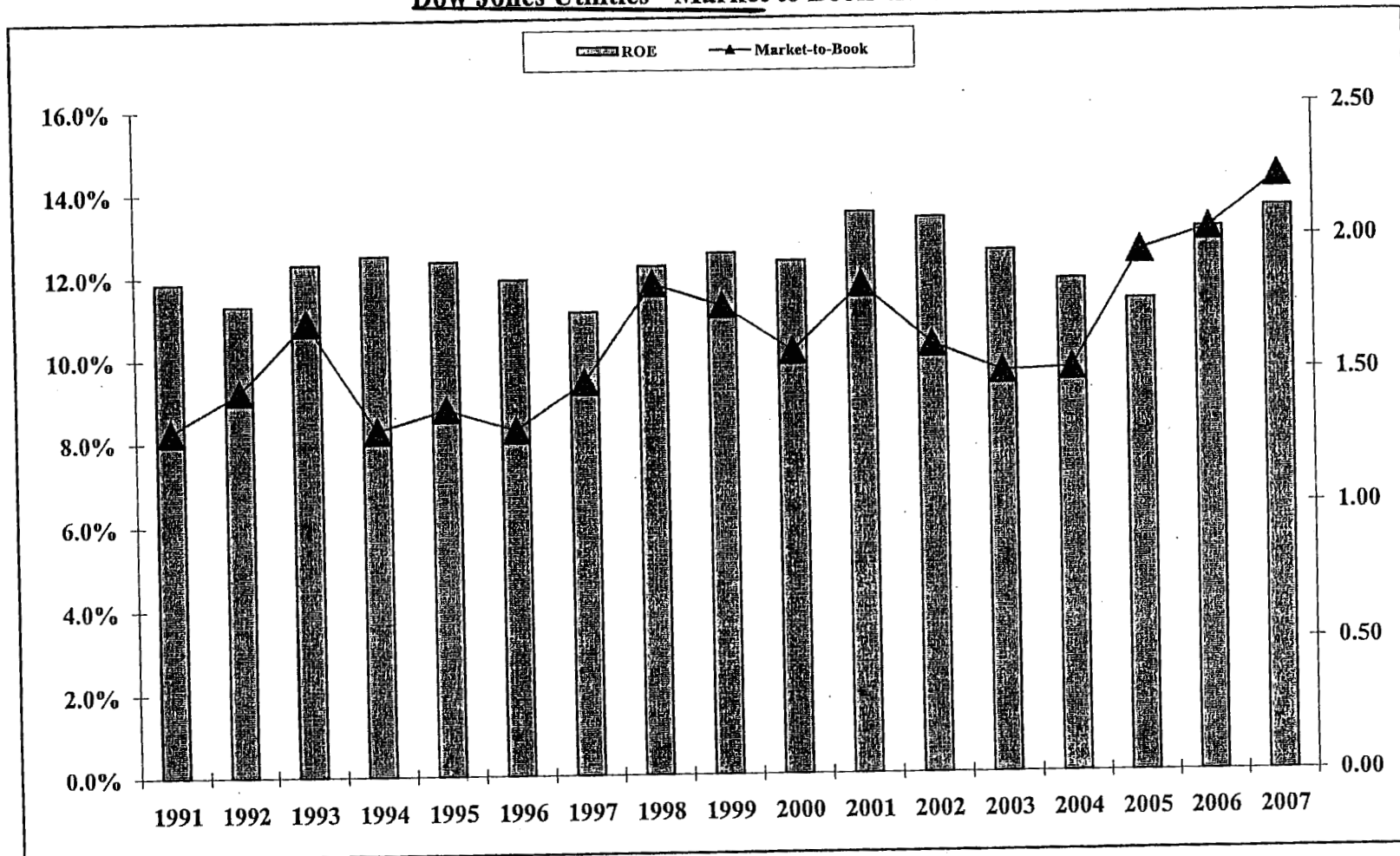
Data Source: Value Line Investment Survey

Exhibit JRW-8

Industry Average Betas

Industry Name	Number of Firms	Beta	Industry Name	Number of Firms	Beta	Industry Name	Number of Firms	Beta
Semiconductor	138	2.59	Telecom. Services	152	1.34	Utility (Foreign)	6	1.01
Semiconductor Equip	16	2.51	Electronics	179	1.32	Petroleum (Producing)	186	1.00
Wireless Networking	74	2.20	Investment Co.(Foreign)	15	1.31	Environmental	89	1.00
E-Commerce	56	2.08	Educational Services	39	1.27	Grocery	15	0.99
Entertainment Tech	38	2.06	Retail (Special Lines)	164	1.26	Home Appliance	11	0.95
Telecom. Equipment	124	1.98	Hotel/Gaming	75	1.25	Insurance (Life)	40	0.94
Steel (Integrated)	14	1.97	Heavy Construction	12	1.25	Electric Util. (Central)	25	0.93
Internet	266	1.97	Retail Building Supply	9	1.23	Paper/Forest Products	39	0.93
Manuf. Housing/RV	18	1.92	Railroad	16	1.23	Restaurant	75	0.93
Power	58	1.87	Industrial Services	196	1.22	Natural Gas (Div.)	31	0.93
Computers/Peripherals	144	1.86	Newspaper	18	1.21	Healthcare Information	38	0.91
Drug	368	1.78	Aerospace/Defense	69	1.19	Property Management	12	0.91
Coal	18	1.71	Metal Fabricating	37	1.19	R.E.I.T.	147	0.90
Steel (General)	26	1.71	Machinery	126	1.19	Household Products	28	0.89
Securities Brokerage	31	1.66	Chemical (Diversified)	37	1.16	Insurance (Prop/Cas.)	87	0.89
Precision Instrument	103	1.66	Financial Svcs. (Div.)	294	1.14	Beverage	44	0.89
Homebuilding	36	1.64	Office Equip/Supplies	25	1.13	Electric Utility (West)	17	0.88
Advertising	40	1.60	Packaging & Container	35	1.12	Maritime	52	0.87
Retail Automotive	16	1.58	Precious Metals	84	1.11	Apparel	57	0.87
Cable TV	23	1.56	Retail Store	42	1.11	Bank (Midwest)	38	0.85
Computer Software/Svcs	376	1.56	Furn/Home Furnishings	39	1.10	Toiletries/Cosmetics	21	0.85
Auto & Truck	28	1.54	Oilfield Svcs/Equip.	113	1.10	Electric Utility (East)	27	0.84
Recreation	73	1.54	Medical Services	178	1.10	Canadian Energy	13	0.80
Entertainment	93	1.53	Foreign Electronics	10	1.08	Food Wholesalers	19	0.79
Chemical (Basic)	19	1.52	Building Materials	49	1.07	Water Utility	16	0.78
Biotechnology	103	1.51	Pharmacy Services	19	1.07	Natural Gas Utility	26	0.78
Shoe	20	1.47	Chemical (Specialty)	90	1.06	Food Processing	123	0.77
Auto Parts	56	1.45	Metals & Mining (Div.)	78	1.05	Oil/Gas Distribution	15	0.72
Medical Supplies	274	1.43	Information Services	38	1.05	Investment Co.	18	0.71
Air Transport	49	1.40	Trucking	32	1.04	Tobacco	11	0.70
Human Resources	35	1.38	Diversified Co.	107	1.03	Bank (Canadian)	8	0.67
Publishing	40	1.35	Petroleum (Integrated)	26	1.02	Bank	504	0.63
Electrical Equipment	86	1.35	Reinsurance	11	1.01	Thrift	234	0.59
						Total/Average	7364	1.24

Data Source: http://pages.stern.nyu.edu/~adamodar/

Exhibit JRW-9
Three-Stage DCF Model

Growth Stage — Earnings Grow Faster Than Dividends — **Earnings**

Transition Stage — Dividends Grow Faster Than Earnings — **Dividends**

Maturity Stage — Dividends and Earnings Grow At Same Rate

$ — Time
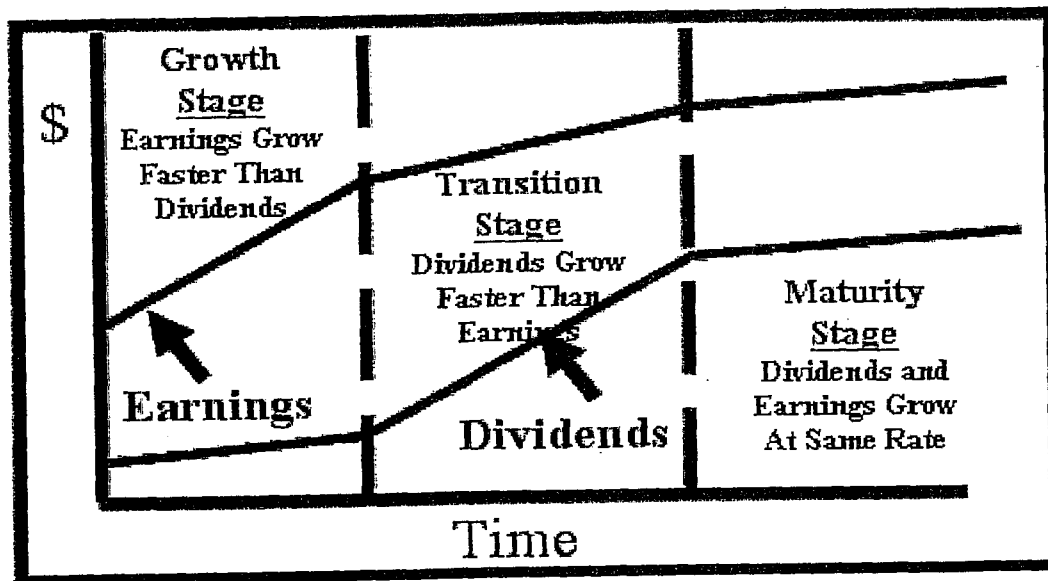
Source: William F. Sharpe, Gordon J. Alexander, and Jeffrey V. Bailey, Investments (Prentice-Hall, 1995), pp. 590-91.

Exhibit JRW-10

Tampa Electric Company
Discounted Cash Flow Analysis

Electric Proxy Group

Dividend Yield*	5.2%
Adjustment Factor	1.0225
Adjusted Dividend Yield	5.3%
Growth Rate**	4.5%
Equity Cost Rate	9.8%

* Page 2 of Exhibit JRW-6

** Based on data provided on pages 3, 4, and 5 of Exhibit JRW-6

Exhibit JRW-10

Tampa Electric Company
Monthly Dividend Yields
April-November 2008

Electric Proxy Group

Company	June	July	Aug	Sep	Oct	Nov	Mean
ALLETE, Inc. (NYSE-ALE)	4.0%	3.8%	4.2%	4.0%	3.8%	4.6%	4.1%
Ameren Corporation (NYSE-AEE)	5.5%	5.9%	6.3%	6.0%	6.1%	8.4%	6.4%
Central Vermont Public Serv. Corp. (NYSE-CV)	4.1%	4.7%	4.4%	3.7%	3.7%	4.4%	4.2%
Cleco Corporation (NYSE-CNL)	3.6%	3.7%	3.8%	3.5%	3.4%	4.2%	3.7%
DPL Inc.(NYSE-DPL)	3.9%	3.9%	4.1%	4.5%	4.2%	4.9%	4.3%
Empire District Electric Co. (NYSE-EDE)	6.1%	6.4%	6.7%	5.9%	5.6%	7.0%	6.3%
Hawaiian Electric Industries, Inc. (NYSE-HE)	4.7%	4.7%	5.2%	4.9%	4.4%	5.1%	4.8%
IDACORP, Inc. (NYSE-IDA)	3.8%	3.8%	4.1%	3.9%	3.8%	4.7%	4.0%
Northeast Utilities (NYSE-NU)	3.0%	3.2%	3.5%	3.1%	3.2%	4.1%	3.4%
NSTAR (NYSE-NST)	4.2%	4.1%	4.4%	4.2%	3.9%	4.8%	4.3%
Pinnacle West Capital Corp. (NYSE-PNW)	6.2%	6.5%	6.7%	6.0%	6.0%	6.9%	6.4%
Progress Energy Inc. (NYSE-PGN)	5.8%	5.8%	6.0%	5.6%	5.5%	6.8%	5.9%
UIL Holdings Corporation (NYSE-UIL)	5.5%	5.4%	5.9%	5.1%	4.9%	5.3%	5.4%
Mean	4.6%	4.8%	5.0%	4.6%	4.5%	5.5%	4.8%

Source: *AUS Utility Reports*, monthly issues

Exhibit JRW-10

Tampa Electric Company
DCF Equity Cost Growth Rate Measures
Value Line Historic Growth Rates

Electric Proxy Group

Company	*Value Line* Historic Growth					
	Past 10 Years			Past 5 Years		
	Earnings	Dividends	Book Value	Earnings	Dividends	Book Value
ALLETE, Inc. (NYSE-ALE)	NA	NA	NA	NA	NA	NA
Ameren Corporation (NYSE-AEE)	1.0%	0.0%	3.5%	-0.5%	0.0%	5.5%
Central Vermont Public Serv. Corp. (NYSE-CV)	-2.5%	1.0%	1.0%	-2.5%	1.0%	2.0%
Cleco Corporation (NYSE-CNL)	2.5%	1.5%	6.5%	-2.0%	0.5%	7.0%
DPL Inc.(NYSE-DPL)	1.0%	1.5%	-0.5%	-1.0%	1.0%	2.5%
Empire District Electric Co. (NYSE-EDE)	-1.0%	0.0%	2.0%	2.0%	0.0%	2.0%
Hawaiian Electric Industries, Inc. (NYSE-HE)	-0.5%	0.5%	1.5%	-3.0%	0.0%	2.0%
IDACORP, Inc. (NYSE-IDA)	-1.0%	-4.5%	3.5%	-7.0%	-8.5%	2.5%
Northeast Utilities (NYSE-NU)	11.0%	-4.5%	0.5%	8.5%	10.0%	2.5%
NSTAR (NYSE-NST)	4.5%	3.0%	3.5%	3.5%	3.5%	4.0%
Pinnacle West Capital Corp. (NYSE-PNW)	1.0%	7.0%	4.5%	-2.5%	5.5%	3.5%
Progress Energy Inc. (NYSE-PGN)	0.0%	3.0%	6.0%	-4.5%	2.5%	3.0%
UIL Holdings Corporation (NYSE-UIL)	-2.0%	0.0%	0.5%	-6.0%	0.0%	-1.0%
Mean	1.2%	0.7%	2.7%	-1.3%	1.3%	3.0%
Median	0.5%	0.8%	2.8%	-2.3%	0.8%	2.5%

Data Source: *Value Line Investment Survey, 2008.* Average of Mean and Median F 1.0%

Exhibit JRW-10

Tampa Electric Company
DCF Equity Cost Growth Rate Measures
Value Line Projected Growth Rates

Electric Proxy Group

Company	*Value Line* Projected Growth Est'd. '05-'07 to '11-'13			*Value Line* Internal Growth		
	Earnings	Dividends	Book Value	Return on Equity	Retention Rate	Internal Growth
ALLETE, Inc. (NYSE-ALE)	2.5%	5.5%	6.5%	9.5%	36.0%	3.4%
Ameren Corporation (NYSE-AEE)	3.5%	0.0%	3.0%	9.5%	28.0%	2.7%
Central Vermont Public Serv. Corp. (NYSE-CV)	7.5%	0.0%	3.5%	7.5%	43.0%	3.2%
Cleco Corporation (NYSE-CNL)	10.5%	9.5%	6.0%	11.0%	37.0%	4.1%
DPL Inc.(NYSE-DPL)	11.0%	5.0%	9.0%	19.0%	43.0%	8.2%
Empire District Electric Co. (NYSE-EDE)	10.0%	1.5%	3.5%	10.5%	29.0%	3.0%
Hawaiian Electric Industries, Inc. (NYSE-HE)	5.0%	1.0%	2.5%	11.0%	31.0%	3.4%
IDACORP, Inc. (NYSE-IDA)	2.0%	0.0%	2.0%	7.5%	47.0%	3.5%
Northeast Utilities (NYSE-NU)	11.5%	6.0%	5.5%	8.5%	52.0%	4.4%
NSTAR (NYSE-NST)	7.5%	7.0%	5.5%	14.5%	38.0%	5.5%
Pinnacle West Capital Corp. (NYSE-PNW)	2.0%	1.0%	2.0%	8.0%	29.0%	2.3%
Progress Energy Inc. (NYSE-PGN)	5.0%	1.0%	1.5%	9.5%	25.0%	2.4%
UIL Holdings Corporation (NYSE-UIL)	4.5%	0.0%	1.0%	10.5%	20.0%	2.1%
Mean	6.3%	2.9%	4.0%	10.5%	35.2%	3.7%
Median	5.0%	1.0%	3.5%	9.5%	36.0%	3.4%
Average of Mean and Median Figures =		3.8%			Average =	3.6%

Data Source: *Value Line Investment Survey, 2008.*

Exhibit JRW-10

DCF Equity Cost Growth Rate Measures
Analysts Projected EPS Growth Rate Estimates

Electric Proxy Group

Company	Zacks		Bloomberg			Average
	# Estimates	Mean	# Estimates	Mean	St. Dev	
ALLETE, Inc. (NYSE-ALE)	1	5.00%	2	7.50%	3.54%	6.25%
Ameren Corporation (NYSE-AEE)	5	5.00%	2	6.50%	2.12%	5.75%
Central Vermont Public Serv. Corp. (NYSE-CV)	0	-	0	-	-	
Cleco Corporation (NYSE-CNL)	1	14.00%	2	14.14%	4.05%	14.07%
DPL Inc.(NYSE-DPL)	3	10.67%	2	13.90%	5.52%	12.29%
Empire District Electric Co. (NYSE-EDE)	0	-	1	34.00%	-	34.00%
Hawaiian Electric Industries, Inc. (NYSE-HE)	3	4.17%	2	2.75%	0.35%	3.46%
IDACORP, Inc. (NYSE-IDA)	2	6.00%	2	6.00%	1.41%	6.00%
Northeast Utilities (NYSE-NU)	3	10.00%	5	7.02%	2.80%	8.51%
NSTAR (NYSE-NST)	4	6.75%	2	6.50%	2.12%	6.63%
Pinnacle West Capital Corp. (NYSE-PNW)	3	3.67%	3	4.67%	1.53%	4.17%
Progress Energy Inc. (NYSE-PGN)	6	5.00%	5	4.82%	1.12%	4.91%
UIL Holdings Corporation (NYSE-UIL)	1	6.00%	1	6.00%	-	6.00%
Median						6.13%

Data Sources: Bloomberg , http://quote.yahoo.com, 2008

Exhibit JRW-10

Tampa Electric Company
DCf Growth Rate Indicators

Electric Proxy Group

Growth Rate Indicator	
Historic Value Line Growth in EPS, DPS, and BVPS	1.00%
Projected *Value Line* Growth in EPS, DPS, and BVPS	3.80%
Internal Growth ROE * Retention Rate	3.60%
Projected EPS Growth from Bloomberg and Zacks	6.13%

Exhibit JRW-11

Capital Asset Pricing Model

Electric Proxy Group

Risk-Free Interest Rate	4.50%
Beta*	0.82
Ex Ante Equity Risk Premium**	4.56%
CAPM Cost of Equity	8.2%

* See page 2 of Exhibit JRW-7

** See page 3 of Exhibit JRW-7

Exhibit JRW-11
Ten-Year U.S. Treasury Yields
January 2000-September 2008

http://research.stlouisfed.org/fred2/series/GS10?cid=115
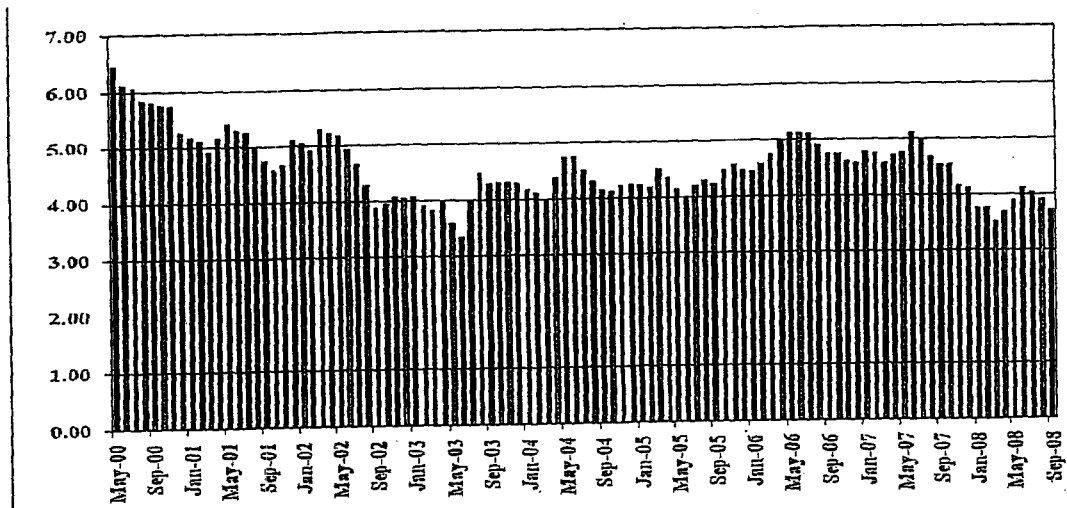
U.S. Treasury Yields
3-Nov-08

U.S. Treasuries			
	COUPON	DATE	PRICE/YIELD
3-MONTH	0.000	01/29/2009	0.44 / .45
6-MONTH	0.000	04/30/2009	0.91 / .93
12-MONTH	0.000	10/22/2009	1.26 / 1.29
2-YEAR	1.500	10/31/2010	100-00 / 1.49
3-YEAR	4.625	10/31/2011	108-15+ / 1.70
5-YEAR	2.750	10/31/2013	100-00 / 2.74
10-YEAR	4.000	08/15/2018	100-19 / 3.93
30-YEAR	4.500	05/15/2038	102-15 / 4.35

Source: www.bloomberg.com

Exhibit JRW-11

Calculation of Beta
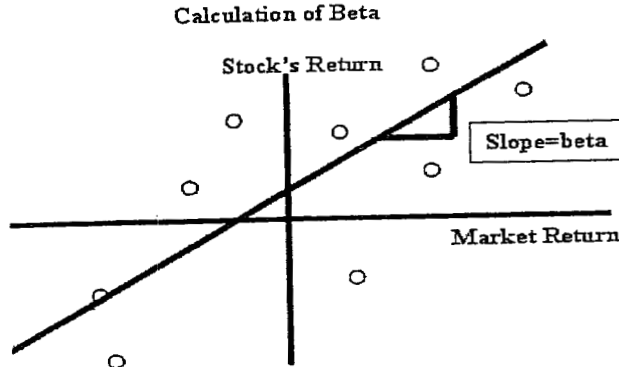
Electric Proxy Group

Company	Beta
ALLETE, Inc. (NYSE-ALE)	0.85
Ameren Corporation (NYSE-AEE)	0.80
Central Vermont Public Serv. Corp. (NYSE-CV)	1.05
Cleco Corporation (NYSE-CNL)	0.90
DPL Inc.(NYSE-DPL)	0.75
Empire District Electric Co. (NYSE-EDE)	0.80
Hawaiian Electric Industries, Inc. (NYSE-HE)	0.75
IDACORP, Inc. (NYSE-IDA)	0.85
Northeast Utilities (NYSE-NU)	0.75
NSTAR (NYSE-NST)	0.80
Pinnacle West Capital Corp. (NYSE-PNW)	0.75
Progress Energy Inc. (NYSE-PGN)	0.75
UIL Holdings Corporation (NYSE-UIL)	0.80
Mean	0.82

Data Source: *Value Line Investment Survey*, 2008.

Exhibit JRW-11

Tampa Electric Company
Risk Premium Approaches

	Historical Ex Post Excess Returns	Surveys	Ex Ante Models and Market Data
Means of Assessing the Equity-Bond Risk Premium	Historical average is a popular proxy for the ex ante premium – but likely to be misleading	Investor and expert surveys can provide direct estimates of prevailing expected returns/premiums	Current financial market prices (simple valuation ratios or DCF-based measures) can give most objective estimates of feasible ex ante equity-bond risk premium
Problems/Debated Issues	Time variation in required returns and systematic selection and other biases have boosted valuations over time, and have exaggerated realized excess equity returns compared with ex ante expected premiums	Limited survey histories and questions of survey representativeness. Surveys may tell more about hoped-for expected returns than about objective required premiums due to irrational biases such as extrapolation.	Assumptions needed for DCF inputs, notably the trend earnings growth rate, make even these models' outputs subjective. The range of views on the growth rate, as well as the debate on the relevant stock and bond yields, leads to a range of premium estimates.

Source: Antti Ilmanen, Expected Returns on Stocks and Bonds,"
Journal of Portfolio Management, (Winter 2003).

Exhibit JRW-11

Tampa Electric Company
Capital Asset Pricing Model
Equity Risk Premium

Category	Study Authors	Publication Date	Time Period Of Study	Methodology	Return Measure	Range Low	Range High	Midpoint of Range	Mean	Average
Historical Risk Premium										
	Ibbotson	2008	1926-2007	Historical Stock Returns - Bond Returns	Arithmetic				6.50%	
					Geometric				4.90%	
	Bate	2008	1900-2007	Historical Stock Returns - Bond Returns	Geometric				4.50%	
	Shiller	2006	1926-2005	Historical Stock Returns - Bond Returns	Arithmetic				7.00%	
					Geometric				5.50%	
	Damodaran	2006	1926-2005	Historical Stock Returns - Bond Returns	Arithmetic				6.70%	
					Geometric				5.10%	
	Siegel	2005	1926-2005	Historical Stock Returns - Bond Returns	Arithmetic				6.10%	
					Geometric				4.60%	
	Dimson, Marsh, and Staunton	2006	1900-2005	Historical Stock Returns - Bond Returns	Arithmetic				5.50%	
	Goyal & Welch	2006	1872-2004	Historical Stock Returns - Bond Returns					4.77%	
	AVERAGE									5.56%
Ex Ante Models (Puzzle Research)										
	Claus Thomas	2001	1985-1998	Abnormal Earnings Model					3.00%	
	Arnott and Bernstein	2002	1810-2001	Fundamentals - Div Yld + Growth					2.40%	
	Constantinides	2002	1872-2000	Historical Returns & Fundamentals - P/D & P/E					6.90%	
	Cornell	1999	1926-1997	Historical Returns & Fundamental GDP/Earnings		3.50%	5.50%	4.50%	4.50%	
	Easton, Taylor, et al	2002	1981-1998	Residual Income Model					5.30%	
	Fama French	2002	1951-2000	Fundamental DCF with EPS and DPS Growth		2.55%	4.32%		3.44%	
	Harris & Marston	2001	1982-1998	Fundamental DCF with Analysts' EPS Growth					7.14%	
	Best & Byrne	2001								
	McKinsey	2002	1962-2002	Fundamental (P/E, D/P, & Earnings Growth)		3.50%	4.00%		3.75%	
	Siegel	2005	1802-2001	Historical Earnings Yield	Geometric				2.50%	
	Grabowski	2006	1926-2005	Historical and Projected		3.50%	6.00%	4.75%	4.75%	
	Maheu & McCurdy	2006	1885-2003	Historical Excess Returns, Structural Breaks,		4.02%	5.10%	4.56%	4.56%	
	Bostock	2004	1960-2002	Bond Yields, Credit Risk, and Income Volatility		3.90%	1.30%	2.60%	2.60%	
	Bakshi & Chen	2005	1982-1998	Fundamentals - Interest Rates					7.31%	
	Donaldson, Kamstra, & Kramer	2006	1952-2004	Fundamental, Dividend yld., Returns,, & Volatility		3.00%	4.00%	3.50%	3.50%	
	Campbell	2008	1982-2007	Historical & Projections (D/P & Earnings Growth)		4.10%	5.40%		4.75%	
	Best & Byrne	2001	Projection	Fundamentals - Div Yld + Growth					2.00%	
	Fernandez	2007	Projection	Required Equity Risk Premium					4.00%	
	DeLong & Magin	2008	Projection	Earnings Yield - TIPS					3.22%	
	Damodaran	2008	Projection	Fundamentals - Implied from FCF to Equity Model					4.37%	
	Social Security Office of Chief Actuary		1900-1995							
	John Campbell	2001	1860-2000	Historical & Projections (D/P & Earnings Growth)	Arithmetic	3.00%	4.00%	3.50%	3.50%	
			Projected for 75 Years		Geometric	1.50%	2.50%	2.00%	2.00%	
	Peter Diamond	2001	Projected for 75 Years	Fundamentals (D/P, GDP Growth)		3.00%	4.80%	3.90%	3.90%	
	John Shoven	2001	Projected for 75 Years	Fundamentals (D/P, P/E, GDP Growth)		3.00%	3.50%	3.25%	3.25%	
	AVERAGE									4.03%
Surveys										
	Survey of Financial Forecasters	2008	10-Year Projection	About 50 Financial Forecastsers					1.96%	
	Duke - CFO Magazine Survey	2008	10-Year Projection	Approximately 500 CFOs					3.99%	
	Welch - Academics	2008	30-Year Projection	Random Academics		5.00%	5.74%		5.37%	
	AVERAGE									3.77%
Building Block										
	Ibbotson and Chen	2008	1926-2007	Historical Supply Model (D/P & Earnings Growth)	Arithmetic			6.23%	5.24%	
					Geometric			4.24%		
	Woolridge		2008	Current Supply Model (D/P & Earnings Growth)					4.55%	
	AVERAGE									4.89%
OVERALL AVERAGE										4.56%

Exhibit JRW-11

Tampa Electric Company
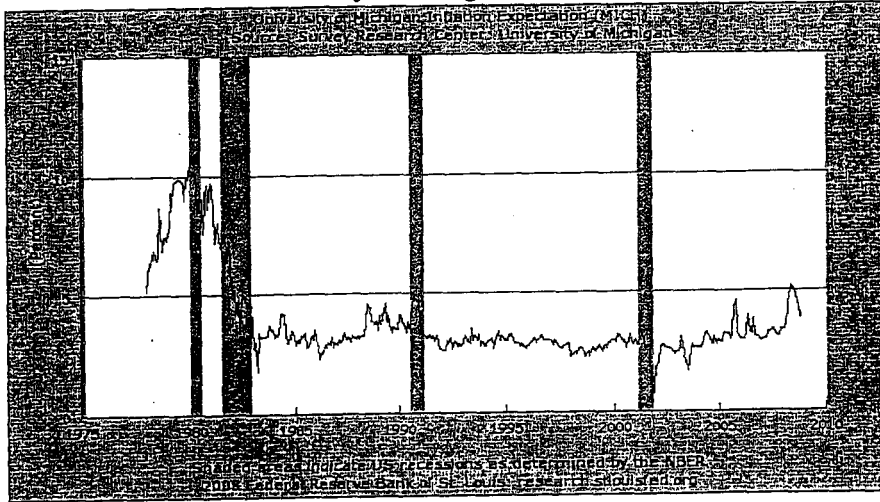### Decomposing Equity Market Returns

Source: Antti Ilmanen, Expected Returns on Stocks and Bonds,"
Journal of Portfolio Management, (Winter 2003).

Exhibit JRW-11

**Tampa Electric Company
Decomposing Equity Market Returns
The Building Blocks Methodology**

**Expected Inflation Rate
University of Michigan Consumer Research**

(Data Source: http://research.stlouisfed.org/fred2/series/MICH/98)

Exhibit JRW-11

Tampa Electric Company

Survey of Professional Forecasters
Philadelphia Federal Reserve Bank
Long-Term Forecasts

Table Seven
LONG-TERM (10 YEAR) FORECASTS

SERIES: CPI INFLATION RATE		SERIES: REAL GDP GROWTH RATE	
STATISTIC		STATISTIC	
MINIMUM	1.600	MINIMUM	2.200
LOWER QUARTILE	2.200	LOWER QUARTILE	2.500
MEDIAN	2.500	MEDIAN	2.750
UPPER QUARTILE	2.750	UPPER QUARTILE	2.800
MAXIMUM	4.200	MAXIMUM	3.100
MEAN	2.520	MEAN	2.700
STD. DEV.	0.520	STD. DEV.	0.230
N	45	N	43
MISSING	5	MISSING	7

SERIES: PRODUCTIVITY GROWTH		SERIES: STOCK RETURNS (S&P 500)	
STATISTIC		STATISTIC	
MINIMUM	0.900	MINIMUM	2.700
LOWER QUARTILE	1.800	LOWER QUARTILE	6.000
MEDIAN	2.000	MEDIAN	6.500
UPPER QUARTILE	2.200	UPPER QUARTILE	8.000
MAXIMUM	3.000	MAXIMUM	9.000
MEAN	2.000	MEAN	6.800
STD. DEV.	0.390	STD. DEV.	1.300
N	39	N	31
MISSING	11	MISSING	19

SERIES: BOND RETURNS (10-YEAR)		SERIES: BILL RETURNS (3-MONTH)	
STATISTIC		STATISTIC	
MINIMUM	3.200	MINIMUM	2.400
LOWER QUARTILE	4.500	LOWER QUARTILE	3.000
MEDIAN	5.000	MEDIAN	4.000
UPPER QUARTILE	5.200	UPPER QUARTILE	4.250
MAXIMUM	5.800	MAXIMUM	5.300
MEAN	4.840	MEAN	3.840
STD. DEV.	0.590	STD. DEV.	0.680
N	38	N	38
MISSING	12	MISSING	12

Source: Philadelphia Federal Reserve Bank, Survey of Professional Forecasters, February 12, 2008.
http://www.phil.frb.org/files/spf/spfq107.pdf

Exhibit JRW-11

Tampa Electric Company
Decomposing Equity Market Returns
The Building Blocks Methodology

S&P 500 Dividend Yield
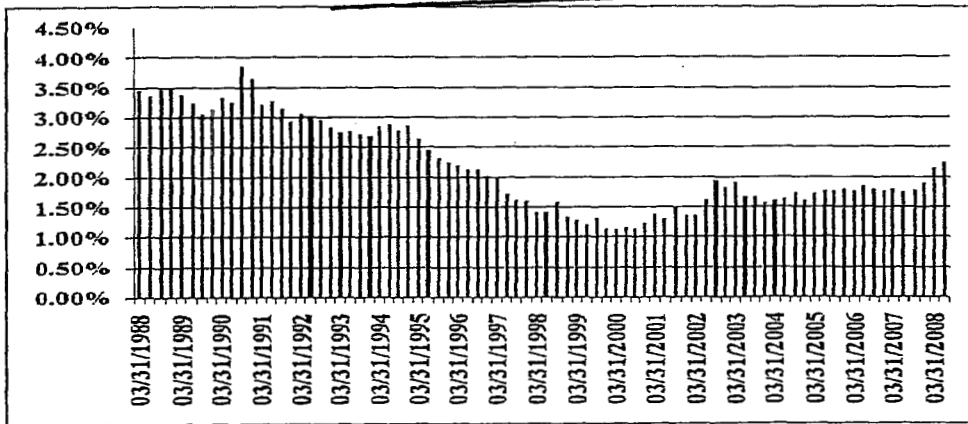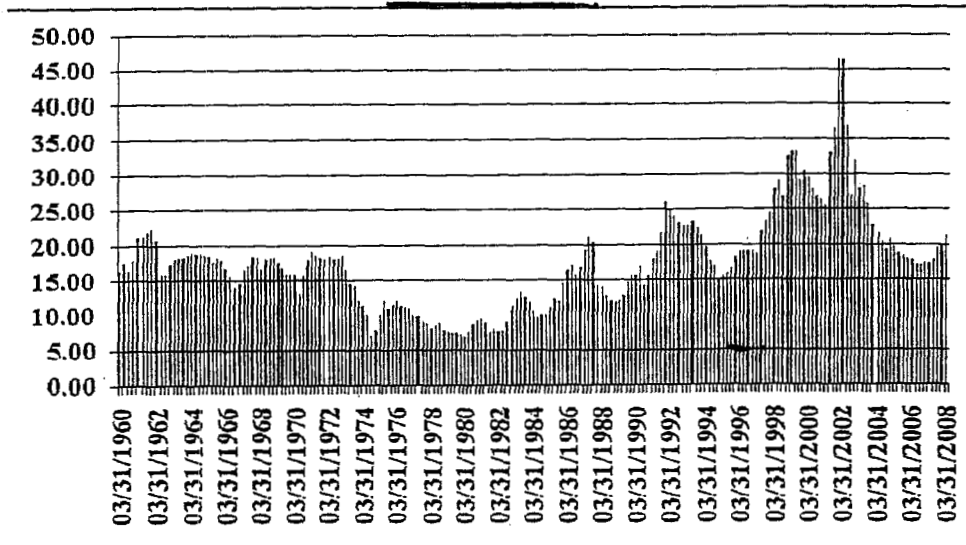

S&P 500 PE Ratios

Exhibit JRW-11

Tampa Electric Company
CAPM
Real S&P 500 EPS Growth Rate

Year	S&P 500 EPS	Annual Inflation CPI	Inflation Adjustment Factor	Real S&P 500 EPS		
1960	3.10	1.48		3.10		
1961	3.37	0.07	1.01	3.35		
1962	3.67	1.22	1.02	3.59		
1963	4.13	1.65	1.04	3.99		
1964	4.76	1.19	1.05	4.55		
1965	5.30	1.92	1.07	4.97		
1966	5.41	3.35	1.10	4.90		
1967	5.46	3.04	1.14	4.80		
1968	5.72	4.72	1.19	4.81		
1969	6.10	6.11	1.26	4.83	10-Year	2.89%
1970	5.51	5.49	1.34	4.13		
1971	5.57	3.36	1.38	4.04		
1972	6.17	3.41	1.43	4.33		
1973	7.96	8.80	1.55	5.13		
1974	9.35	12.20	1.74	5.37		
1975	7.71	7.01	1.86	4.14		
1976	9.75	4.81	1.95	4.99		
1977	10.87	6.77	2.08	5.22		
1978	11.64	9.03	2.27	5.13		
1979	14.55	13.31	2.57	5.66	10-Year	2.30%
1980	14.99	12.40	2.89	5.18		
1981	15.18	8.94	3.15	4.82		
1982	13.82	3.87	3.27	4.23		
1983	13.29	3.80	3.40	3.91		
1984	16.84	3.95	3.53	4.77		
1985	15.68	3.77	3.66	4.28		
1986	14.43	1.13	3.70	3.90		
1987	16.04	4.41	3.87	4.15		
1988	22.77	4.42	4.04	5.64		
1989	24.03	4.65	4.22	5.69	10-Year	-0.65%
1990	21.73	6.11	4.48	4.85		
1991	19.10	3.06	4.62	4.14		
1992	18.13	2.90	4.75	3.81		
1993	19.82	2.75	4.88	4.06		
1994	27.05	2.67	5.01	5.40		
1995	35.35	2.54	5.14	6.88		
1996	35.78	3.32	5.31	6.74		
1997	39.56	1.70	5.40	7.33		
1998	38.23	1.61	5.48	6.97		
1999	45.17	2.68	5.63	8.02	10-Year	6.29%
2000	52.00	3.39	5.82	8.93		
2001	44.23	1.55	5.92	7.48		
2002	47.24	2.38	6.06	7.80		
2003	54.15	1.88	6.17	8.77		
2004	67.01	3.26	6.37	10.51	5-Year	3.00%
2005	68.32	3.42	6.60	10.35		
2006	81.96	2.54	6.77	12.11		
2007	87.51	4.08	7.04	12.43		
Data Source: http://pages.stern.nyu.edu/~adamodar/				Real EPS Growth	3.0%	

Panel A
Summary of Dr. Murry's Equity Cost Rate Approaches and Results

	TECO Energy, Inc.		Comparable Electric Companies	
Approach	Low	High	Low	High
CAPM	12.27%	13.65%	11.24%	12.42%
Earnings Growth DCF	10.08%	11.90%	10.05%	11.12%
Projected Growth DCF	8.21%	11.40%	10.38%	13.27%

Panel B
Summary of Dr. Murry's DCF Results

	TECO Energy, Inc.		Comparable Electric Companies	
Approach	Low	High	Low	High
52 Week DCF				
Using DPS Growth	2.19%	4.00%	9.14%	10.21%
Using VL EPS Growth	10.08%	11.90%	10.05%	11.12%
Using VL-Yahoo Growth	8.21%	11.40%	10.38%	13.27%
Current DCF				
Using DPS Growth	2.32%	2.44%	9.67%	9.73%
Using VL EPS Growth	10.22%	10.34%	10.58%	10.64%
Using VL- Yahoo Growth	8.34%	9.84%	10.90%	12.80%

Panel C
Summary of Dr. Murry's CAPM Results

Size Adjusted CAPM

	TECO Energy	Comparable Electric Companies
Risk-Free Rate	4.60%	4.60%
Beta	0.95	0.81
Equity Risk Premium	7.10%	7.10%
CAPM Equity Cost Rate	11.35%	10.32%
Size Adjustment Premium	0.92%	0.92%
CAPM Equity Cost Rate	12.27%	11.24%

Historical CAPM

	TECO Energy	Comparable Electric Companies
Market Return	14.70%	14.70%
L-T Bond Return	6.20%	6.20%
Risk Premium	8.50%	8.50%
Weighting	0.95	0.81
Adjusted Risk Premium	8.08%	6.85%
Aaa Corporate Bond Return	5.57%	5.57%
CAPM Equity Cost Rate	13.65%	12.42%

Panel A
Long-Term Forecasted Versus Actual EPS Growth Rates
1988-2007

Mean Actual Long-term EPS Growth Rate
Mean Forecasted Long-term EPS Growth Rate
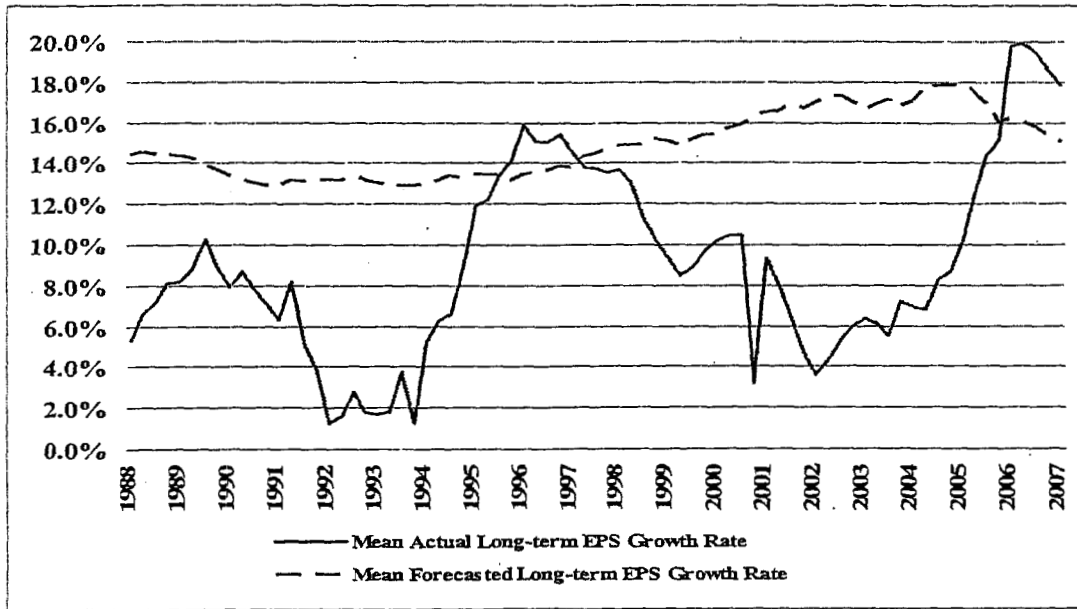
Panel B
Long-Term Forecasted EPS Growth Rates
1988-2007

Mean and Median Long-term EPS Forecast

Mean Forecast   Median Forecast
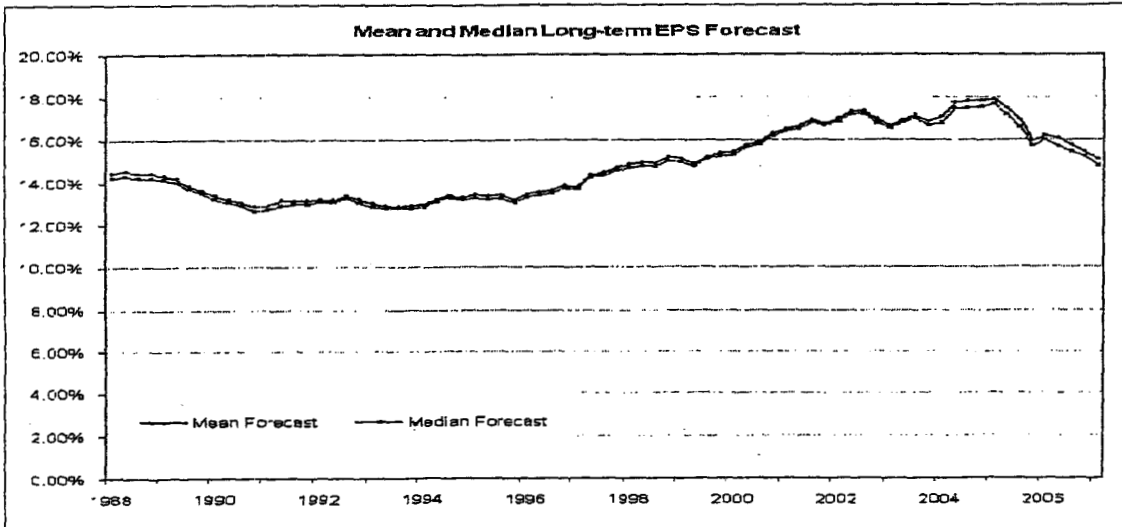
Source: Patrick J. Cusatis and J. Randall Woolridge, "The Accuracy of Analysts' Long-Term Earnings Per Share Growth Rate Forecasts," (July, 2008).

THE WALL STREET JOURNAL.

Study Suggests Bias in Analysts' Rosy Forecasts

By ANDREW EDWARDS
March 21, 2008; Page C6

Despite an economy teetering on the brink of a recession -- if not already in one -- analysts are still painting a rosy picture of earnings growth, according to a study done by Penn State's Smeal College of Business.

The report questions analysts' impartiality five years after then-New York Attorney General Eliot Spitzer forced analysts to pay $1.5 billion in damages after finding evidence of bias.

"Wall Street analysts basically do two things: recommend stocks to buy and forecast earnings," said J. Randall Woolridge, professor of finance. "Previous studies suggest their stock recommendations do not perform well, and now we show that their long-term earnings-per-share growth-rate forecasts are excessive and upwardly biased."

The report, which examined analysts' long-term (three to five years) and one-year per-share earnings expectations from 1984 through 2006 found that companies' long-term earnings growth surpassed analysts' expectations in only two instances, and those came right after recessions.

Over the entire time period, analysts' long-term forecast earnings-per-share growth averaged 14.7%, compared with actual growth of 9.1%. One-year per-share earnings expectations were slightly more accurate: The average forecast was for 13.8% growth and the average actual growth rate was 9.8%.
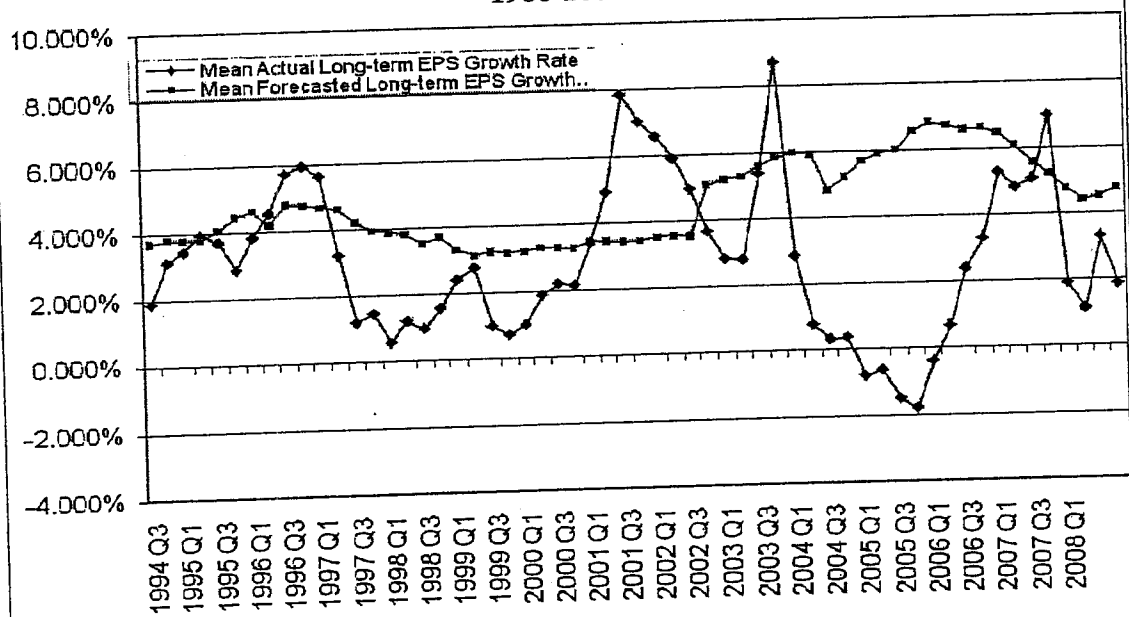
"A significant factor in the upward bias in long-term earnings-rate forecasts is the reluctance of analysts to forecast" profit declines, Mr. Woolridge said. The study found that nearly one-third of all companies experienced profit drops over successive three-to-five-year periods, but analysts projected drops less than 1% of the time.

The study's authors said, "Analysts are rewarded for biased forecasts by their employers, who want them to hype stocks so that the brokerage house can garner trading commissions and win underwriting deals."

They also concluded that analysts are under pressure to hype stocks to generate trading commissions, and they often don't follow stocks they don't like.

Write to Andrew Edwards at andrew.edwards@dowjones.com

Panel C
Long-Term Forecasted Versus Actual EPS Growth Rates
Electric Utility Companies
1988-2007

Line chart titled with legend entries "Mean Actual Long-term EPS Growth Rate" and "Mean Forecasted Long-term EPS Growth.." The vertical axis ranges from -4.000% to 10.000% and the horizontal axis spans quarterly labels from 1994 Q3 to 2008 Q1.

Panel A
Value Line 3-5 year EPS Growth Rate Forecasts

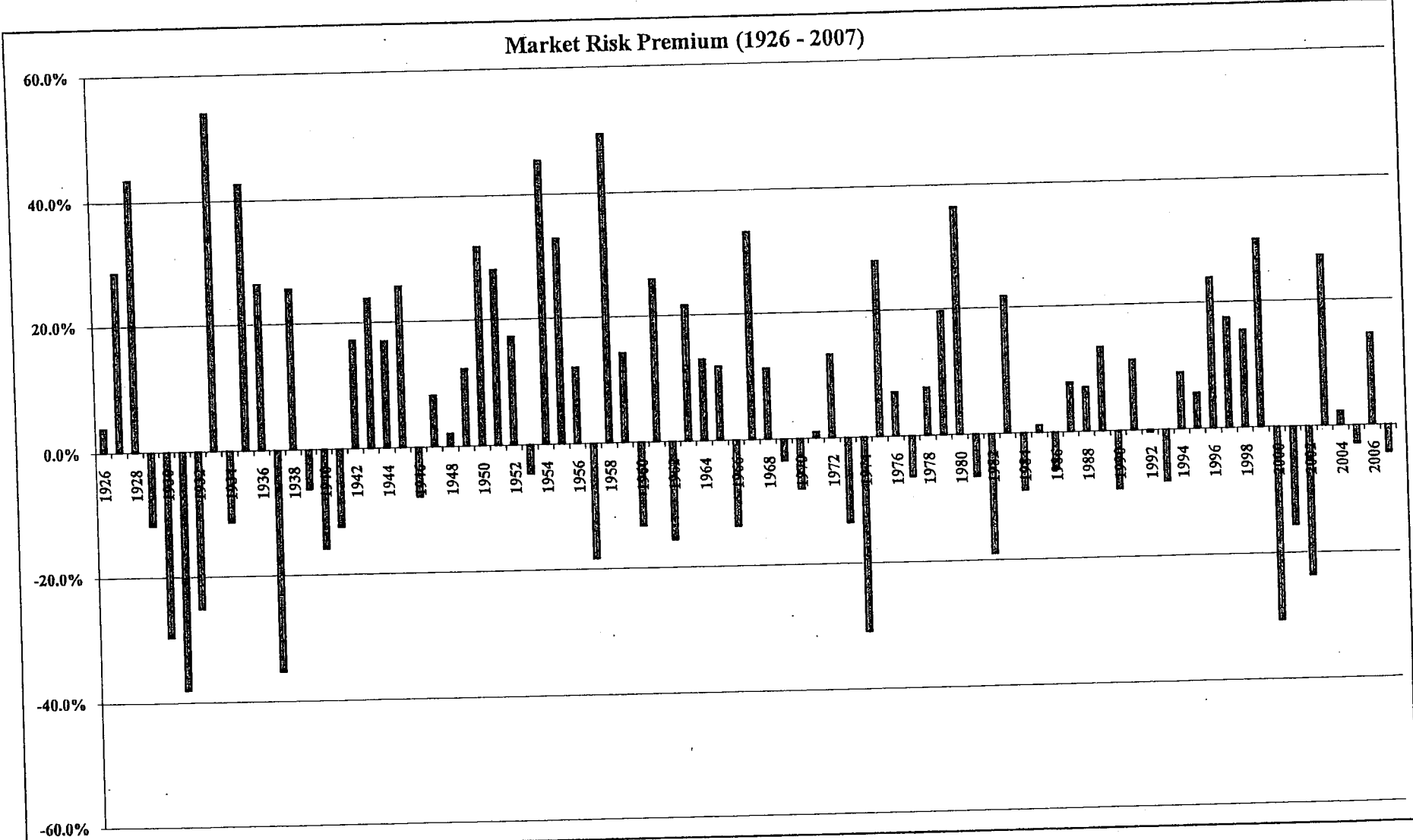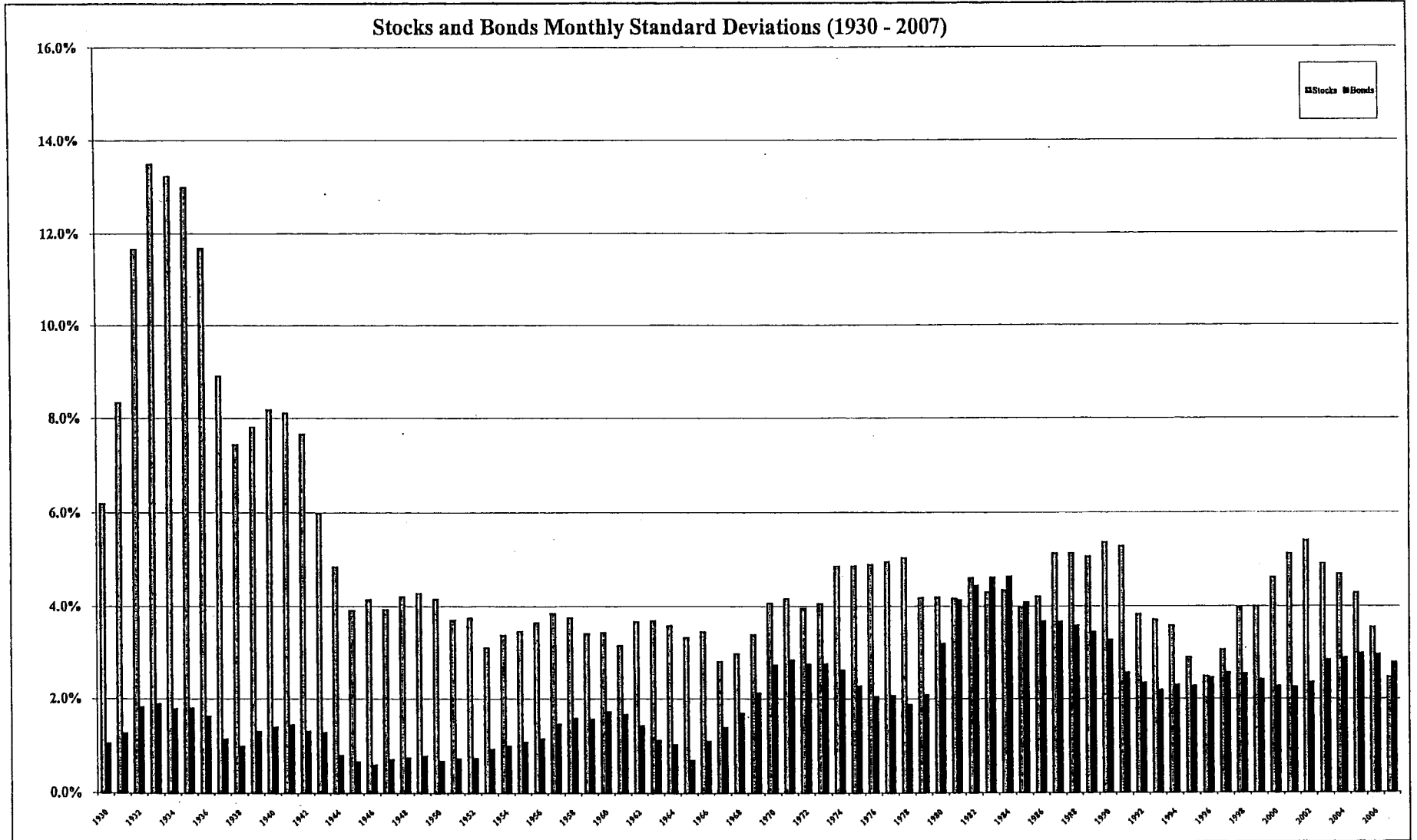|	Average Projected EPS Growth rate	Number of Negative EPS Growth Projections	Percent of Negative EPS Growth Projections
2,453 Companies	14.60%	47	1.90%

Panel B
Historical Five-Year EPS Growth Rates for Value Line Companies

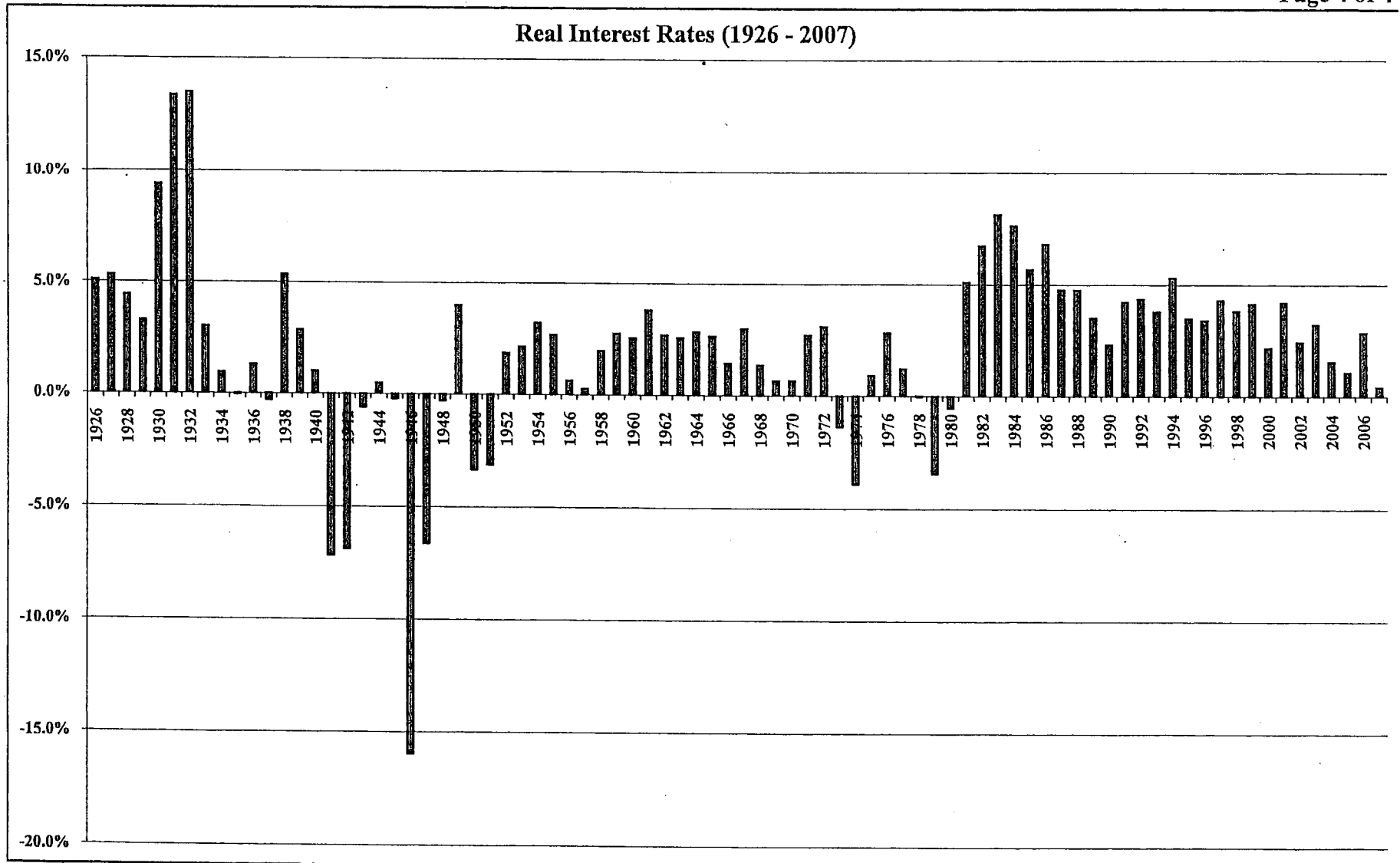|	Average Historical EPS Growth rate	Number with Negative Historical EPS Growth	Percent with Negative Historical EPS Growth
2,371 Companies	12.90%	476	20.10%

Long-Term U.S. Treasury Yields (1926 - 2007)

Data Source: Morningstar. *SBBI Yearbook, 2008*.

Market Risk Premium (1926 - 2007)

Data Source: Morningstar, *SBBI Yearbook*, 2008.

Stocks and Bonds Monthly Standard Deviations (1930 - 2007)

Data Source: Morningstar, *SBBI Yearbook, 2008*.
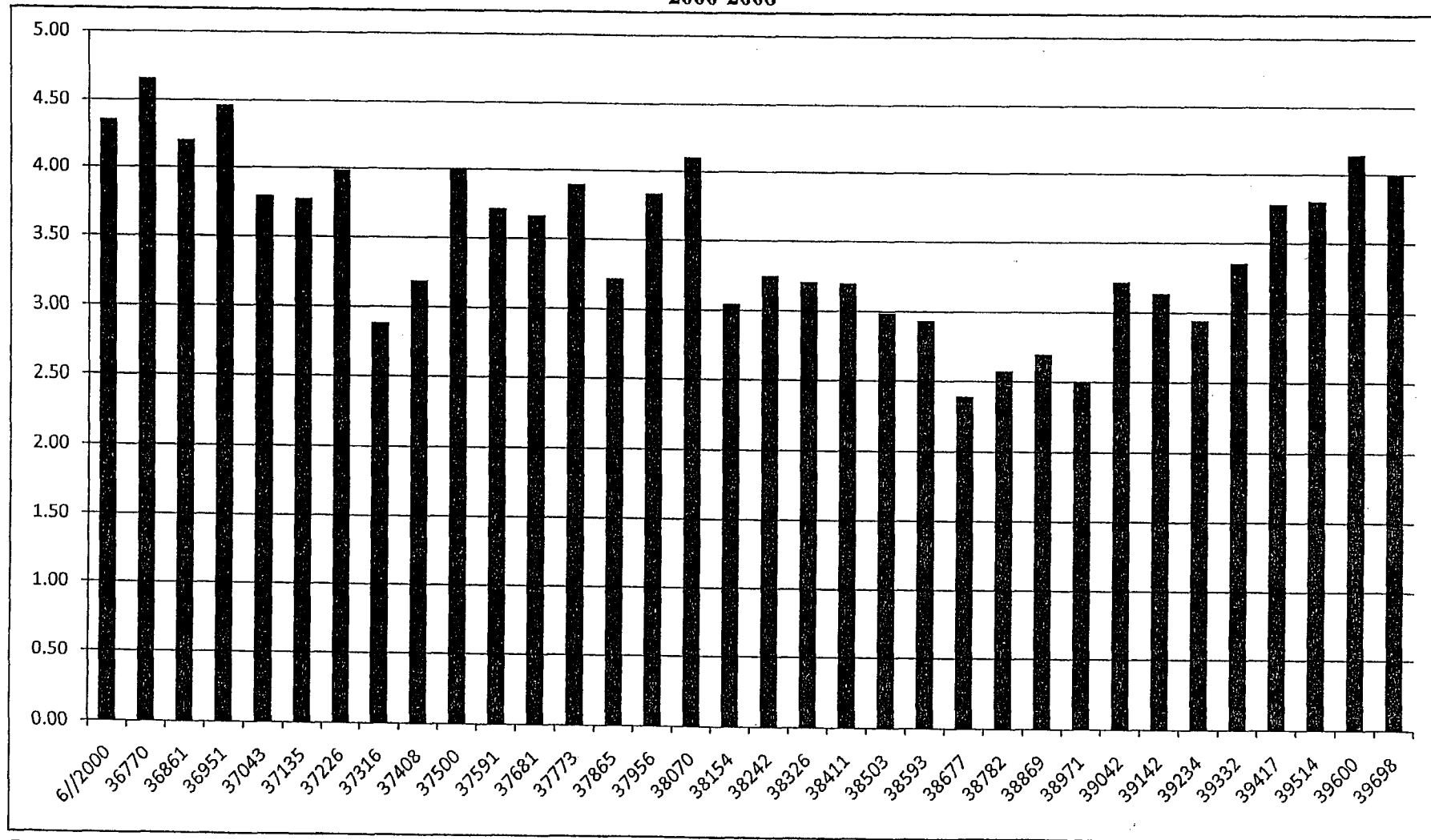
Real Interest Rates (1926 - 2007)
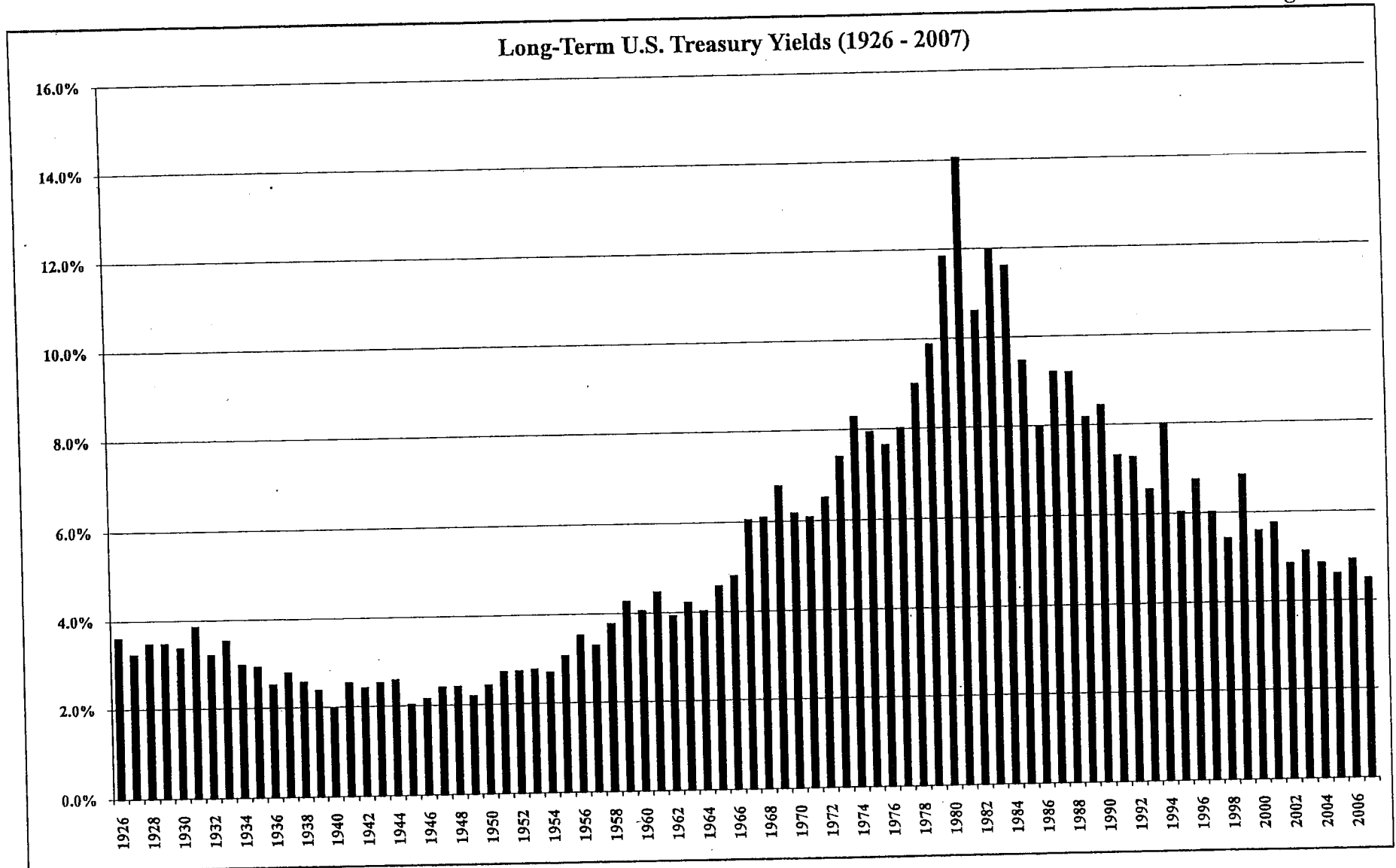
Data Source: Morningstar, *SBBI Yearbook*, 2008.
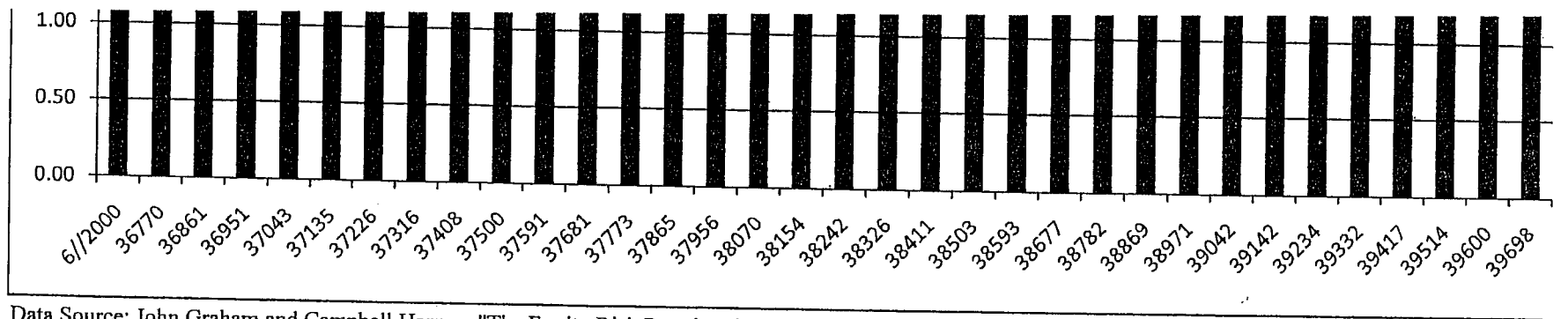
Data Source: John Graham and Campbell Harvey, "The Equity Risk Premium in 2008: Evidence from the Global CFO Outlook Survey."

CFO's Equity Risk Premium
2000-2008

Data Source: John Graham and Campbell Harvey, "The Equity Risk Premium in 2008: Evidence from the Global CFO Outlook Survey."

State of Florida

Before the

Florida Public Service Commission

In Re: Petition for Rate Increase   )
by Tampa Electric Company   )   Docket No. 080317-EI

Prepared Direct Testimony

of

Kevin W. O'Donnell, CFA

On Behalf of the

Florida Retail Federation

November 26, 2008

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 080317-EI, TAMPA ELECTRIC RATE PETITION

DIRECT TESTIMONY OF KEVIN W. O'DONNELL

1 **Q.** **PLEASE STATE YOUR NAME, POSITION, AND BUSINESS**
2 **ADDRESS FOR THE RECORD.**
3 A. My name is Kevin W. O'Donnell. I am President of Nova Energy
4 Consultants, Inc. My business address is 1350 Maynard Rd., Suite 101, Cary,
5 North Carolina 27511.
6
7 **Q.** **ON WHOSE BEHALF ARE YOU PRESENTING TESTIMONY IN**
8 **THIS PROCEEDING?**
9 A. I am testifying on behalf of the Florida Retail Federation (FRF) an association
10 of retail merchants active in many proceedings before the Florida Public
11 Service Commission (the PSC or the Commission). Many of FRF's members
12 take service from Tampa Electric Company (Tampa Electric or the Company).
13
14 **Q.** **PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND**
15 **RELEVANT EMPLOYMENT EXPERIENCE.**
16 A. I have a Bachelor of Science in Civil Engineering from North Carolina State
17 University and a Master of Business Administration from the Florida State
18 University. I have worked in utility regulation since September 1984, when I
19 joined the Public Staff of the North Carolina Utilities Commission. I left the
20 NCUC Public Staff in 1991 and have worked continuously in utility
21 consulting since that time, first with Booth & Associates, Inc. (until 1994),
22 then as Director of Retail Rates for the North Carolina Electric Membership
23 Corporation (1994-1995), and since then in my own consulting firm. I have
24 been accepted as an expert witness on rate of return, cost of capital, capital

1		structure, and other regulatory issues in general rate cases, fuel cost
2		proceedings, and other proceedings before the North Carolina Utilities
3		Commission and the South Carolina Public Service Commission. In 1996, I
4		testified before the U.S. House of Representatives, Committee on Commerce
5		and Subcommittee on Energy and Power, concerning competition within the
6		electric utility industry. Additional details regarding my education and work
7		experience are set forth in Appendix A to my direct testimony.
8		
9	Q.	**WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS**
10		**PROCEEDING?**
11	A.	The purposes of my testimony are to recommend a reasonable rate of return
12		on common equity that Tampa Electric should be allowed in this proceeding,
13		to provide analysis and recommendations regarding the correct capital
14		structure to be used in setting Tampa Electric's rates, and to comment on the
15		testimony of Tampa Electric's witnesses Murry and Abbott. In particular, I
16		believe that Ms. Abbott's testimony provides no value to Tampa Electric's
17		customers and accordingly, Tampa Electric should not be allowed to recover
18		any of the $290,000 in proposed fees and costs for her testimony. I also
19		recommend that the $116,000 in rate case expenses for the services of JM
20		Cannell be denied as Ms. Cannell offers no testimony at all in this proceeding.
21		
22	Q.	**WHAT IS YOUR OPINION OF THE COMPANY'S REQUESTED**
23		**REVENUE INCREASE IN THIS CASE?**
24	A.	I believe that Tampa Electric's requested revenue increase in this case is
25		excessive and cannot be supported by the evidence put forward by the
26		Company in its application or by the realities of relevant capital markets. To
27		be specific, the Company's requested after-tax return on equity, which is a
28		measure of its profitability, of 12.00% is excessive and not at all
29		representative of current market conditions This conclusion is strongly
30		confirmed by the fact that Tampa Electric faces very low risk as a regulated

1   monopoly company providing a product that is truly a necessity, with the very

2   great degree of revenue certainty that Tampa Electric enjoys. Similarly, the

3   Company's requested capital structure is not representative of the manner in

4   which Tampa Electric finances its rate base investment and is therefore

5   improper for use in this proceeding.

6

7   **Q.   PLEASE SUMMARIZE YOUR RECOMMENDATIONS IN THIS**

8   **CASE.**

9   A.   My recommendations in this case are as follows:

10   1.   the return on equity that Tampa Electric should be granted in this case

11   is in the range of 9.25% to 10.25% with a specific recommendation of 9.75%;

12   2.   the capital structure that best reflects Tampa Electric's actual rate base

13   investment is the Company's 13-month average capital structure adjusted for

14   the proportionate use of the parent company's debt as equity in the

15   subsidiary's capital structure;

16   3.   Tampa Electric's request to recover the rate case expenses associated

17   with Susan Abbott's testimony should be denied because Ms. Abbott's

18   testimony provides no value whatsoever to Tampa Electric's customers.

19   4.   the requested rate case expenses of $116,000 for JM Cannell should

20   also be denied as Ms. Cannell provides no recommendations in this case nor

21   even provides basic testimony.

22

23   **Q.   HOW IS YOUR TESTIMONY STRUCTURED?**

24   A.   The remainder of my testimony is divided into nine sections as follows:

25   I. Economic and Legal Guidelines for Fair Rate of Return

26   II. Cost of Common Equity

27   A.   DCF Analysis

28   B.   Comparable Earnings Analysis

29   C.   Return on Equity Recommendation

30   III. Capital Structure and Overall Rate of Return

1   IV. Review of Company Witness Murry's Testimony

2   V. Review of Company Witness Abbott's Testimony and Related Rate Case

3   Expenses

4   VI. Summary

5

6

I. **ECONOMIC AND REGULATORY POLICY GUIDELINES**

FOR A FAIR RATE OF RETURN

Q. PLEASE BRIEFLY DESCRIBE THE ECONOMIC AND REGULATORY POLICY CONSIDERATIONS YOU HAVE TAKEN INTO ACCOUNT IN DEVELOPING YOUR RECOMMENDATION CONCERNING THE FAIR RATE OF RETURN THAT TAMPA ELECTRIC SHOULD BE ALLOWED THE OPPORTUNITY TO EARN.

A. The theory of utility regulation assumes that public utilities are natural monopolies. Historically, it was believed or assumed that it was more efficient for a single firm to provide a particular utility service than multiple firms. Even though deregulation for the procurement of natural gas and electric utility supplies is rapidly spreading, the delivery of these products to end-use customers will continue to be considered a natural monopoly for the foreseeable future. When it is deemed that a perceived natural monopoly does in fact exist, regulatory authorities regulate the service areas in which regulated utilities provide service, e.g. by assigning exclusive franchised territories to public utilities or by determining territorial boundaries where disputes arise (as in Florida), in order for these utilities to provide services more efficiently and at the lowest possible cost. In exchange for the protection of its monopoly service area, the utility is obligated to provide adequate service at a fair, regulated price.

This naturally raises the question - what constitutes a fair price? The generally accepted answer is that a prudently managed utility should be allowed to charge prices that allow the utility the opportunity to recover the reasonable and prudent costs of providing utility service and the opportunity to earn a fair rate of return on invested capital. This fair rate of return on

1   capital should allow the utility, under prudent management, to provide

2   adequate service and attract capital to meet future expansion needs in its

3   service area. Obviously, since public utilities are capital-intensive businesses,

4   the cost of capital is a crucial issue for utility companies, their customers, and

5   regulators. If the allowed rate of return is set too high, then consumers are

6   burdened with excessive costs, current investors receive a windfall, and the

7   utility has an incentive to overinvest. If the return is set too low, adequate

8   service is jeopardized because the utility will not be able to raise new capital

9   on reasonable terms.

10

11   Since every equity investor faces a risk-return tradeoff, the issue of risk is an

12   important element in determining the fair rate of return for a utility.

13

14   Regulatory law and policy recognize that utilities compete with other forms in

15   the market for investor capital. In the case of <u>Federal Power Commission v.</u>

16   <u>Hope Natural Gas Company</u>, 320 U.S. 591 (1944), the U.S. Supreme Court

17   recognized that utilities compete with other firms in the market for investor

18   capital. Historically, this case has provided legal and policy guidance

19   concerning the return which public utilities should be allowed to earn:

20

21   In that case, the U.S. Supreme Court specifically stated that:

22   "...the return to the equity owner should be commensurate
23   with returns on investments in other enterprises having
24   corresponding risks. That return, moreover, should be
25   sufficient to assure confidence in the financial integrity of the
26   enterprise so as to maintain credit and attract capital." (320
27   U.S. at 603)

1

II.   COST OF COMMON EQUITY

2

3

4 Q. PLEASE EXPLAIN HOW THE ISSUE OF DETERMINING AN

5   APPROPRIATE RETURN ON A UTILITY'S COMMON EQUITY

6   INVESTMENT FITS INTO A REGULATORY AUTHORITY'S

7   DETERMINATION OF FAIR, JUST, AND REASONABLE RATES

8   FOR THE UTILITY.

9 A. In Florida and in all regulatory jurisdictions, a utility's rates must be "fair, just,

10   and reasonable."   As noted above, regulation recognizes that utilities are

11   entitled to an opportunity to recover the reasonable and prudent costs of

12   providing service, and the opportunity to earn a fair rate of return on the

13   capital invested in the utility's facilities, such as power plants, transmission

14   lines, distribution lines, buildings, vehicles, and similar long-lived capital

15   assets.   Utilities obtain capital funding through a combination of borrowing

16   (debt financing) and issuing stock. The allowed return on equity (ROE) is the

17   amount that is appropriate for the utility's common stockholders to earn a fair

18   return on the capital that they contribute to the utility when they buy its stock.

19   If the regulatory authority sets the ROE too low, the stockholders will not

20   have the opportunity to earn a fair return; if the regulatory authority sets the

21   ROE too high, the customers will pay too much, and the resulting rates will be

22   unfair and unreasonable

23

24 Q. HOW   DO   REGULATORY   AUTHORITIES   GO   ABOUT

25   DETERMINING WHAT IS A FAIR RATE OF RETURN ON EQUITY?

26 A. Regulatory commissions and boards, as well as financial industry analysts,

27   institutional investors, and individual investors, use different analytical

28   models and methodologies to estimate/calculate reasonable rates of return on

29   equity.   Among the measures used are "Discounted Cash Flow" or "DCF"

30   analysis and "Comparable Earnings Analysis." Sometimes a technique called

the "Capital Asset Pricing Model" or "CAPM" method is used. I believe that the two most useful methodologies are DCF Analysis and the Comparable Earnings Analysis.

A. Discounted Cash Flow (DCF) Analysis

Q. CAN YOU PLEASE EXPLAIN THE DISCOUNTED CASH FLOW METHOD?

A. Yes. The DCF method is a widely used method for estimating an investor's required return on a firm's common equity. In my twenty-four years of experience with the Public Staff of the North Carolina Utilities Commission and as a consultant, I have seen the DCF method used much more often than any other method for estimating the appropriate return on common equity. Consumer advocate witnesses, utility witnesses and other intervenor witnesses have used the DCF method, either by itself or in conjunction with other methods such as the Comparable Earnings Method or the Capital Asset Pricing Model (CAPM), in their analyses.

The DCF method is based on the concept that the price which the investor is willing to pay for a stock is the discounted present value or present worth of what the investor expects to receive as a result of purchasing that stock. This return to the investor is in the form of future dividends and price appreciation. However, price appreciation can be ignored since appreciation in price is only realized when the investor sells the stock. Therefore, the only income that the investor will receive from the company in which it invests is the dividend stream. Mathematically, the relationship is:

Let D = dividends per share in the initial future period
g = expected growth rate in dividends
k = cost of equity capital

1   P = price of asset (or present value of a future stream of
2   dividends)
3

4
5 $$\text{then } P = \frac{D}{(1+k)} + \frac{D(1+g)}{(1+k)^2} + \frac{D(1+g)}{(1+k)^3} + \frac{D(1+g)}{(1+k)^t}$$
6

7 This equation represents the amount (P) an investor will be willing to pay for

8 a share of common equity with a given dividend stream over (t) periods.

9

10 Reducing the formula to an infinite geometric series, we have:

11
12 $$P = \frac{D}{k-g}$$
13

14 Solving for k yields:

15
16 $$k = \frac{D}{P} + g$$
17
18

19

20 **Q.** **MR. O'DONNELL, DO INVESTORS IN UTILITY COMMON STOCKS**

21   **REALLY USE THE DCF MODEL IN MAKING INVESTMENT**

22   **TAMPA ELECTRIC DECISIONS?**

23 **A.** Absolutely. Utility investors tend to be individuals or institutions interested in

24   current income. The average stock investor interested in income will use the

25   DCF to calculate how much funds he/she will receive relative to the initial

26   investment, which is defined as the current dividend yield and the amount of

27   funds that the investor can expect in the future from the growth in the

28   dividend. Both of these components are central to the basic tenet of the DCF

29   model that combines a dividend yield and a growth rate for dividends to

30   derive the overall rate of return.

31

32 **Q.** **HAVE YOU USED THE DCF MODEL IN ANALYZING COMMON**

33   **STOCKS FOR INVESTMENT PURPOSES?**

1 A.   Yes.   I have used and continue to use the DCF method extensively in

2   analyzing common stocks for potential personal purchases as well as for

3   purchases contemplated for money management clients.

4

5   Although the DCF formula stated above may appear complicated, the DCF

6   method is intuitively a very simple model to understand. To determine the

7   total rate of return one expects from investing in a particular equity security,

8   the investor adds the dividend yield which he or she expects to receive in the

9   future to the expected growth in dividends over time. If the regulatory

10   authority sets the rate at a fair level, the utility will be able to attract capital at

11   a reasonable cost, without forcing the utility's customers to pay more than

12   necessary to attract needed capital.

13

14   Unlike models such as the Capital Asset Pricing Model (CAPM) that are more

15   theoretical and academic in nature, the DCF is grounded in solid practicality

16   that is used by money managers and individual investors throughout the world

17   on a daily basis.

18

19 Q. **CAN YOU GIVE AN EXAMPLE?**

20 A.   Of course. If investors expect a current dividend yield of 6%, and also expect

21   that dividends will grow at 4%, then the DCF model indicates that investors

22   would buy the utility's common stock if it provided a return on equity of 10%.

23

24 Q. **HAVE YOU PREPARED ANY ANALYSES USING THE DCF**

25   **METHOD TO EVALUATE A FAIR RATE OF RETURN FOR TAMPA**

26   **ELECTRIC COMPANY?**

27 A.   Yes, I have. First, I identified a group of 24 comparable companies and then

28   proceeded to evaluate their current and projected dividend yields and growth.

29   The following discussion explains how I selected this population of

1   comparable companies and how I calculated what I believe to be the

2   appropriate rate of return on equity for the Florida PSC to use in determining

3   allowed revenues (revenue requirements) and consumer rates for Tampa

4   Electric.

5

6   I developed this group of comparable companies to ensure that the return on

7   equity for Tampa Electric developed in this analysis is consistent with the

8   returns which can be obtained from similar equity investments in the open

9   market.

10

11   I was not able to perform a DCF analysis directly on Tampa Electric

12   Company since it is a subsidiary of TECO Energy, Inc. However, since TECO

13   Energy is publicly traded, I was able to perform a rate of return analysis on the

14   parent company.

15

16   Q.   **PLEASE EXPLAIN HOW YOU SELECTED THESE 24 COMPANIES**

17   **FOR YOUR COMPARABLE GROUP**

18   A.   All of the companies in my comparable group are listed in The Value Line

19   Investment Survey "Electric Utility Industry" group.

20

21   A further screen I used in developing my comparable group was to include

22   only those companies in the comparable group that have an S&P Quality

23   Rating of a B. This quality rating is an appropriate screening method because

24   the S&P Quality Rating measures stability of earnings and dividends. The

25   parent company of Tampa Electric, TECO Energy, Inc., has an S&P Stock

26   Rating of B, so I chose to include only those companies that had S&P Stock

27   ratings of B.

28

1   I also chose to exclude companies that either paid no dividend, had recently

2   reinstated their dividends, had recently purchased another company, or were

3   the subject of takeover discussions.

4

5 Q.   **WHAT DIVIDEND YIELD DO YOU THINK IS APPROPRIATE FOR**

6   **USE IN THE DCF MODEL?**

7 A.   I have calculated the appropriate dividend yield by averaging the dividend

8   yield expected over the next 12 months for each company, as reported by the

9   Value Line Investment Survey. The period covered is from August 29, 2008,

10   through November 21, 2008. To study the short-term as well as long-term

11   movements in dividend yields, I examined the 13-week, 4-week, and 1-week

12   dividend yields for the comparable group as well as TECO Energy. My

13   results appear in O'Donnell Exhibit No. KWO-1 and show a dividend yield

14   range of 4.9% to 5.4% for the comparable group and 5.4% to 6.7% for TECO

15   Energy for the same 3 time periods that I examined.

16

17   As I am sure the Commission is aware, the stock market has been extremely

18   volatile since the beginning of October. The reason for the wide range in the

19   above-stated dividend yields is that the stock market has dropped rather

20   dramatically thereby increasing the current, otherwise known as spot market,

21   yields on utility investments. The good news is that utility investors are now

22   recognizing higher dividend yields. The bad news is that the drop in the stock

23   market is a sign that our economy is headed for tough economic times thereby

24   putting a damper on future corporate earnings.

25

26 Q   **PLEASE EXPLAIN HOW YOU DEVELOPED THE DIVIDEND YIELD**

27   **RANGES DISCUSSED ABOVE?**

28 A.   I developed the dividend yield range for the comparable group by averaging

29   each Company's dividend yield over the above-stated 13-week and 4-week

1   periods as well as examining the most recent dividend yield reported by Value

2   Line for each company.

3

4   **Q.**   **HOW DID YOU DERIVE THE EXPECTED GROWTH RATE?**

5   A.   I used several methods in determining the growth in dividends that investors

6   expect. The first method I used was an analysis commonly referred to as the

7   "plowback ratio" method. If a company is earning a rate of return (r) on its

8   common equity, and it retains a percentage of these earnings (b), then each

9   year the earnings per share (EPS) are expected to increase by the product (br)

10   of its earnings per share in the previous year. Therefore, br is a good measure

11   of growth in dividends per share. For example, if a company earns 10% on its

12   equity and retains 50% (the other 50% being paid out in dividends), then the

13   expected growth rate in earnings and dividends is 5% (50% of 10%). To

14   calculate a plowback for the comparable group, I used the following formula:

15

16

$$g = \frac{br\ (2007)\ +\ br\ (2008E)\ +\ br\ (2009E)\ +\ br\ (2011E\text{-}2013E\ Avg)}{4}$$

18

19   The plowback estimates for all companies in the comparable group can be

20   obtained from The Value Line Investment Survey under the title "percent

21   retained to common equity." O'Donnell Exhibit No. 3 lists the plowback

22   ratios for each company in the comparable group. This exhibit contains one

23   reference to "NMF" which is the abbreviation for "no meaningful figure".

24   When "NMF" appears, a company's earnings were less than the dividend paid

25   out, which means that the Company did not reinvest or "plowback" any

26   earnings from that year's operations. For purposes of being conservative, I

27   treated the "NMF" entries as a 0 for purposes of my analysis. The plowback

28   method is a very useful tool for comparing the comparable group's growth

29   rates on a recent historical basis as well as a short-term forecasted basis.

30

1   A key component in the DCF Method is the expected growth in dividends. In

2   analyzing the proper dividend growth rate to use in the DCF Method, the

3   analyst must consider how dividends are created. Since dividends cannot be

4   paid out without the company first earning the paid out funds, earnings growth

5   is a key element in analyzing the expected growth in dividends. Similarly,

6   what remains in a company after it pays its dividend is reinvested, or "plowed

7   back", into the company in order to generate future growth. As a result, book

8   value growth is another element that, in my opinion, must be considered in

9   analyzing a company's expected dividend growth. To analyze the expected

10 growth in dividends, I believe the analyst should first examine the historical

11 record of past earnings, dividends, and book value. Hence, the second method

12 I used to estimate the expected growth rate was to analyze the historical 10-

13 year and 5-year historical compound annual rates of change for earnings per

14 share (EPS), dividends per share (DPS), and book value per share (BPS) as

15 reported by Value Line.

16

17 Value Line is the most recognized investment publication in the industry and,

18 as such, is used by professional money managers, financial analysts, and

19 individual investors worldwide. A prudent investor examines all aspects of a

20 Company's performance when making a capital investment decision. As such,

21 it is only practical to examine historical growth rates for the company for

22 which the analysis is being performed. The historical growth rates for the

23 comparable group as well as TECO Energy can be seen in O'Donnell Exhibit

24 No. KWO-1.

25

26 The third method I used was the Value Line forecasted compound annual rates

27 of change for earnings per share, dividends per share, and book value per

28 share.

29

1   The fourth method I used was the forecasted rate of change for earnings per

2   share that analysts supplied to Charles Schwab & Co. This forecasted rate of

3   change is not a forecast supplied by Charles Schwab & Co. but is, instead, a

4   compilation of forecasts by industry analysts.

5

6   The details of my DCF results can be seen in O'Donnell Exhibit No. KWO-1

7   and a summary of these results can be found in O'Donnell Exhibit No. KWO-

8   2.

9

10   Once I gathered all the above data, I examined the results as found in Exhibit

11   Nos. KWO-1 and KWO-2. It is important, in my view, to attempt to

12   understand the reasons why the various data results appear. For example, in

13   the early 1980s, utilities were undergoing expansion of base load plants that

14   caused earnings growth to slow substantially. However, in the early 1990s,

15   most baseload plant construction had ended and utilities were flush with a

16   good bit of cash thereby creating, for the most part, solid earnings growth. It is

17   important, therefore, to understand current and past market conditions so the

18   analyst can use his/her best judgment in determining the market expected

19   dividend growth rate in the future.

20

21   Q. **WHAT IS THE INVESTOR RETURN REQUIREMENT FROM THE**

22   **DCF ANALYSIS?**

23   A. As can be seen on O'Donnell Exhibit No. 2, the dividend yield for the three

24   time frames studied ranges from 4.9% to 5.4% for the comparable group and

25   5.4% to 6.7% for TECO Energy. Given the recent drop in the stock market, I

26   believe the dividend yield range should incorporate the recent price changes

27   as well as the realization that fear has taken over strong fundamentals in

28   today's marketplace.

29

1   To be specific, the most representative dividend yield for the comparable
2   group is in the range of 4.9% to 5.4%. For TECO Energy, I believe the proper
3   dividend yield to use in the DCF analysis is in the range of 6.00%to 6.50%.
4   This dividend yield range represents the upper end of the wide range of
5   dividend yields experienced by TECO Energy over the 13-week period of
6   August 29, 2008 through November 21, 2008. The reason for the wide range
7   in the TECO Energy dividend yields goes beyond the recent downturn in the
8   stock market. On Oct. 30, 2008, TECO Energy announced third quarter results
9   that were down from $0.44 per share in 2007 to $0.28 per share in 2008.
10   These weak results were due to lower results in TECO Energy's non-regulated
11   operations as well as a relatively mild summer season that depressed Tampa
12   Electric's expected air conditioning load.

13

14   The TECO Energy stock price has fluctuated dramatically over the past year,
15   from a high this summer near $22 per share to a low of less than $11 per share
16   in mid-November. I believe investors are indicating that, on a longer term
17   basis, TECO Energy must recover its earnings fundamentals. For this reason,
18   investors have bid down the stock price thereby driving the dividend yield
19   upward. Corresponding to the higher dividend yield is the realization that
20   future dividend growth will be very constrained while TECO Energy solidifies
21   its financial footing.

22

23   In terms of the proper dividend growth rate to employ in this analysis, I
24   believe that it is appropriate to examine the recent history of earnings and
25   dividend growth to assess and provide the best estimate of the dividend
26   growth that investors expect in the future. A quick examination of the 10-year
27   and 5-year historical growth rates for the comparable group and TECO
28   Energy show very vividly the problems in the electric industry over the past
29   decade.

30

1   The future of the utility industry can, in my opinion, be described as "back to

2   the future" in which utilities will expand their earnings by expanding and

3   growing their rate base investments through large capital projects. Throughout

4   the 1990s and earlier this decade, it was rare to see a general rate case for any

5   utility in the southeastern U.S. Today, however, utilities across the country are

6   coming in for rate cases at an increasing pace. The future holds much the

7   same as numerous large power plant investments are currently being planned.

8   Thus, it is reasonable to expect that the next ten years should look somewhat

9   like the 1980s when utilities were involved in large generation construction

10   projects.

11

12   Due in large part to the future expected capital expenditures of utilities

13   throughout the country, I believe that investors have recognized, and

14   embedded in their stock prices, that dividend growth in the short-term,

15   meaning in the next ten years or less, must be less than earnings growth. As

16   can be seen in O'Donnell Exhibit No. KWO-1, the comparable group's

17   forecasted dividend growth rates are slightly less than the forecasted earnings

18   growth rates, but the earnings growth rate for TECO Energy is more than

19   double its expected dividend growth rate. On a long-term basis, however,

20   earnings and dividends will grow more in-line with one another.

21

22   Due to the effects of fundamental changes that have occurred in the utility

23   industry over the past ten years, I believe that it is proper to place more weight

24   on forecasted figures than historical figures in estimating the cost of equity for

25   TECO Energy and the comparable group. However, it is important to note that

26   most of the forecasted Value Line figures contained in the attached O'Donnell

27   Exhibit No. KWO-1 and O'Donnell Exhibit No. KWO-2 were published prior

28   to the stock market meltdown that occurred in October, 2008. Since the stock

29   market fall, the general conclusion is that our country is headed for a severe

30   economic recession that may last for an extended time. As a result, I believe

1   that it is proper to use a lower growth rate in the DCF analysis to account for

2   the expected drop in economic activity for TECO Energy as well as the

3   comparable group and the entire United States economy. As we get closer to

4   hearing in this case, I will update the entire analysis so as to give the

5   Commission an up-to-date view of current investor return requirements.

6

7   I believe that the proper growth rate range for the comparable group of

8   companies to use in the DCF analysis is 4.0% to 4.5%. The 4.0% is

9   particularly appropriate for the lower end of this range since it is

10 approximately equal to the plowback ratio, which is a mix of near-term

11 historical and forecasted earnings retention ratios, of the comparable group. I

12 also believe that 4.5% is appropriate for the high end of the range as it is

13 slightly lower than the group's Value Line average forecasted dividend

14 growth rate thereby accounting for the slowdown in the US economy.

15

16 Combining the comparable group's dividend yield range of 4.9% to 5.4% with

17 the growth rate range of 4.0% to 4.5% produces a DCF range of 8.9% to

18 9.9%.

19

20 Based on the results shown in O'Donnell Exhibits No. KWO-1 and KWO-2, I

21 believe that investors are expecting TECO Energy's dividends to grow in the

22 range of 3.25% to 3.75%. The 3.25% low end of the dividend growth rate

23 range is close to the Value Line forecasted dividend growth rate. I believe

24 that 3.75% is appropriate for the high-end of the growth rate range because it

25 is approximately halfway between the Value line forecasted dividend growth

26 rate and the plowback growth rate of TECO Energy.

27

28 Combining the TECO Energy current dividend yield range of 6.00%% to

29 6.50% with the above-stated dividend growth rate range of 3.25% to 3.75%

30 produces a DCF cost of equity range of 9.25% to 10.25%.

1

2   The above-stated comparable group and TECO Energy cost of equity ranges

3   represent only one analysis I used in the examination of the proper cost of

4   equity to apply in the current rate case.

5

6   **B.**   **Comparable Earnings Analysis**

7

8 **Q.**   **MR. O'DONNELL, WOULD YOU PLEASE EXPLAIN WHY YOU**

9   **PERFORMED A COMPARABLE EARNINGS ANALYSIS IN**

10   **ADDITION TO YOUR DCF ANALYSIS?**

11 **A.**   Yes. The comparable earnings method provides investors with actual

12   historical earned returns on common equity. Investors use this information as

13   a guide to assess an investment's current required rate of return. I used the

14   comparable earnings method in my analysis in this case to assess the

15   reasonableness of my DCF results and to provide an independent

16   methodological estimate of the return that investors would consider

17   reasonable for Tampa Electric as the regulated electric company subsidiary of

18   TECO Energy. It obviously makes economic common sense that the common

19   stock shares of companies with comparable risks should yield very close to

20   the same returns.

21

22 **Q.**   **WOULD YOU PLEASE EXPLAIN HOW YOU PERFORMED THE**

23   **COMPARABLE EARNINGS ANALYSIS?**

24 **A.**   O'Donnell Exhibit No. KWO-4 presents a list of the earned returns on equity

25   of the comparable group over the period of 2004 through 2007. As can be

26   seen in this exhibit, the comparable companies' earned returns on equity have

27   ranged from 8.3% in 2004 to a high of 9.7% in 2006. For TECO the highest

28   return on equity over this four-year period was 14.1% in 2006 whereas the

29   lowest return on equity, which was 10.7%, occurred in 2004. For the four-

1   year period of 2002 through 2006, the average return on equity was 9.0% for

2   the comparable group and 12.8% for TECO.

3

4   In addition to the above analysis of market earned returns on equity, I also

5   examined recently allowed returns on equity granted by utility state regulators

6   from around the country. Table 1 below shows what other states have granted

7   for allowed returns on equity for electric utilities from the period of July, 2007

8   through August, 2008.

9

1

Table 1: **Authorized Returns**

Company	Jurisdiction	Authorized		Date of Order
		ROE	Overall	
Entergy Arkansas,Inc.	AR	9.90%	N/A	06/15/2007
Arizona Public Service Company	AZ	10.75%	8.32%	06/28/2007
Potomac Electric Power Company	MD	10.00%	7.68%	07/19/2007
Georgia Power Company	GA	11.25%	N/A	12/18/2007
Duke Energy Carolinas	NC	11.00%	8.57%	12/20/2007
Wisconsin Electric Power Company	WI	10.75%	8.33%	01/17/2008
Potomac Electric Power Company	DC	10.00%	7.96%	01/30/2008
Fitchburg Gas & Electric (Unitil)	MA	10.25%	8.38%	02/29/2008
Northern States Power Company	WI	10.75%	8.60%	01/08/2008
Central Vermont Public Service Co.	VT	10.71%	N/A	01/31/2008
Consolidated Edison of NY	NY	9.10%	7.30%	03/25/2008
Montana-Dakota Utilities Company	MT	10.25%	8.58%	04/23/2008
Hawaiian Electric Company	HI	10.70%	8.66%	05/01/2008
Consumers Energy	NY	10.70%	6.93%	06/10/2008
Orange and Rockland Utilities, Inc.	NY	9.10%	N/A	07/23/2008
Average		10.35%		

2

3

4   Source: Public Utilities Reports, Volume Nos. 258-266 as provided by the NC
5   Utilities Commission in its "Quarterly Review" for the quarter ending March 31, 2008

6

7   As can be seen from the information above, the average allowed return on

8   equity granted by state regulators for utilities operating in regulated states

9   was, on average, 10.35%. Even more striking is that in only two of the

10 fourteen cases were the utilities allowed a return of equal to or greater than

11 11%. Dr. Murry, however, recommends the Commission approve a 12.0%

12 return on equity for Tampa Electric. When compared to returns approved in

13 other states, Dr. Murry's recommendation of 12.0% is clearly and

14 unequivocally excessive and unreasonable.

15

16 **Q.   WHAT   CONCLUSIONS   DO   YOU   DRAW   FROM   THE**

17 **COMPARABLE EARNINGS ANALYSIS?**

1   A.   Given the slowdown in the Florida economy, the housing market decline, and

2   the credit crunch, I believe that it is unrealistic to expect TECO's historical

3   returns of-late to continue unabated in the future. In addition, state regulatory

4   orders over the past year have granted vertically integrated electric utilities

5   returns on equity of approximately 10.35%. Based on these findings, I believe

6   the proper rate of return using a comparable earnings analysis is in the range

7   of 9.5% to 10.5%. This rate of return range is very close to the return on

8   equity range found appropriate through use of the DCF model.

9

1

C. Return on Equity Recommendation

3

4   Q.   **WHAT IS YOUR ESTIMATE OF THE COST OF EQUITY CAPITAL**

5   **FORTAMPA ELECTRIC?**

6   A.   As I mentioned earlier, the results from my DCF Analysis resulted in an

7   investor return requirement range of 8.9% to 9.9% for the comparable group

8   and 9.25% to 10.25% for TECO Energy. The comparable earnings method

9   produces a return on equity in the range of 9.5% to 10.5%. Based on these

10   results, I believe the investor requirement range for TECO Energy is in the

11   range of 9.25%, which is the middle of the comparable group DCF range, to

12   10.25%, which is the high-end of the range for the TECO Energy DCF

13   analysis as well as the comparable earnings range.

14

15   In determining the proper return on equity to recommend in this proceeding, it

16   is critical, in my opinion, to acknowledge that the utility industry is on a track

17   to return to its regulated roots and, hence, investors expect more modest future

18   growth rates. As a result of this return-to-the-basics mentality, I believe that

19   the proper return on equity to use for determining Tampa Electric's revenue

20   requirements and for setting Tampa Electric's rates in this proceeding is

21   9.75%, which is approximately in the middle of all the above-stated ranges.

22   This recommended return on equity of 9.75% is also very close to the average

23   return on equity granted by state utility commissions across the country from

24   July, 2007 through August, 2008.

25

26 Q.   **HOW DOES THIS 9.75% RATE OF RETURN COMPARE TO THE**

27   **RETURNS THAT MONEY MANAGERS NOW EXPECT TO EARN**

28   **ON LONG-TERM STOCK INVESTMENTS?**

1   A.   In my opinion, a 9.75% rate of return on an investment in a electric utility

2   would be deemed fair and appropriate by most money managers and that

3   determining Tampa Electric's revenue requirements and setting its rates on

4   this basis would provide more than adequate incentives to investors to

5   purchase TECO Energy's common stock at reasonable prices, thereby

6   enabling Tampa Electric to obtain needed capital. As noted in my resumé, I

7   also work as a senior financial analyst for a money management firm in New

8   Jersey. In that role, I am often asked to examine market returns and risks. As a

9   money manager, I can assure the Commission that most professional investors

10   would be very pleased if their managed portfolios produced overall annual

11   returns of 9.75% in todays investment climate. The stock market is down

12   over 40% from its peak in late 2007. Investors are, naturally, very nervous

13   about their stock investments. Of all the investment opportunities available,

14   utility investments are considered some of the safest. In fact, Tampa Electric

15   is an incredibly safe investment that, at the present time, can and does recover

16   60% to 70%% of its total expenses through pass-through clauses. The

17   remaining costs are Tampa Electric's fixed costs, including debt service and

18   return, and operating costs that are recovered through base rates, and the

19   recovery of these costs is very secure and low-risk because of Tampa

20   Electric's monopoly position as a provider of a necessity. If the remaining

21   base-rate operating expenses were to get sufficiently high such that the

22   Company needs more revenue to cover them, Tampa Electric also has the

23   option of filing for a rate case to increase rates to cover these higher operating

24   costs. As a result, earning 9.75% on a relatively risk-free investment in a

25   solid utility such as Tampa Electric is a very attractive investment for anyone

26   looking to maximize his or her returns while keeping risk at a minimum.

27

III. CAPITAL STRUCTURE AND OVERALL RATE OF RETURN

Q. **WHAT IS A CAPITAL STRUCTURE AND HOW WILL IT IMPACT THE REVENUES THAT TAMPA ELECTRIC OR ANY OTHER UTILITY IS SEEKING IN A RATE CASE?**

A. The term "capital structure" refers to the relative percentage of debt, equity, and other financial components that are used to finance a company's investments.

For simplicity purposes, there are basically three financing methods. The first method is to finance an investment with common equity, which essentially represents ownership in a company and its investments. Common equity returns, which take the form of dividends to stockholders, are not tax deductible which, on a pre-tax basis alone, makes this form of financing about 40% more expensive than debt financing, for which interest is a tax-deductible expense of the company. The second form of corporate financing is preferred stock, which is normally used to a much smaller degree in capital structures. Dividend payments associated with preferred stock are not tax deductible. Corporate debt is the other major form of financing used in the corporate world. There are two basic types of corporate debt: long-term and short-term. Long-term debt is generally understood to be debt that matures in a period of more than one year. Short-term debt is debt that matures in less that one-year. Both long-term debt and short-term debt represents liabilities on the company's books that must be repaid prior to any common stockholders or preferred stockholders receiving a return on their investment.

1   In the current Tampa Electric case, the Company has also included other
2   financing means such as deferred income taxes, customer deposits, and tax
3   credit. The concept in including these items in the capital structure is that
4   these funds are used by the Company in the provision of utility electric service
5   and, as such, should be reflected in the utility's regulated capital structure.

6

7   A utility's total return is developed by   multiplying the component
8   percentages of its capital structure represented by the percentage ratios of the
9   various forms of capital financing relative to the total financing on the
10   company's books) by the cost rates associated with each form of capital and
11   then summing the results over all of the capital components. When these
12   percentage ratios are applied to various cost rates, a total after-tax rate of
13   return is developed Since the utility must pay dividends associated with
14   common equity and preferred stock with after-tax funds, the post-tax returns is
15   then converted to a pre-tax return by grossing up the common equity and
16   preferred stock returns for taxes. The final pre-tax return is then multiplied by
17   the Company's rate base in order to develop the amount of money that
18   customers must pay to the utility for its return on investment and tax payments
19   associated with that investment.

20

21   From the above discussion, it is clear to see that costs to consumers are greater
22   when the utility finances a higher proportion of its rate base investment with
23   common equity and preferred stock versus long-term debt. However, long-
24   term debt, which is first in-line for repayment, is more risky to the utility than
25   is common equity due to the fact that debt is a contractual obligation as
26   opposed to common equity where no obligations exist. As a result, regulators
27   and the utility must balance off the needs of consumers, who desire low rates
28   derived from the use of long-term debt, versus the desire of the utility to
29   minimize the use of the more risky long-term debt.

1

2 Q. MR. O'DONNELL, WHAT CAPITAL STRUCTURE IS TAMPA
3   ELECTRIC SEEKING IN THIS CASE?

4 A. According to the testimony of Donald A. Murry and the Company's Minimum
5   Filing Requirements, the Company is seeking approval of the following
6   capital structure in this case:

7

8   Long-Term Debt   38.22%
9   Short-Term Debt   0.22%
10   Customer Deposits   2.84%
11   Tax Credits   0.24%
12   Deferred Income Taxes   8.28%
13   Common Equity   50.21%

14

15 Q. WHAT WOULD BE THE RESULTS OF ALLOWING TAMPA
16   ELECTRIC TO SET ITS RATES ON THE BASIS OF THIS
17   HYPOTHETICAL CAPITAL STRUCTURE?

18 A. Allowing Tampa Electric's rates to be set using this capital structure would
19   cause customers to over-pay for Tampa Electric's true cost of capital by
20   forcing captive customers to pay for a hypothetical, non-existent capital
21   structure that does not, in my opinion, accurately reflect the way the Company
22   finances its rate base investment. The use of the Company proposed capital
23   structure would result in Tampa Electric's rates being grossly unfair, unjust,
24   and unreasonable.

25

26 Q. PLEASE DESCRIBE WHY YOU BELIEVE TAMPA ELECTRIC'S
27   REQUESTED CAPITAL STRUCTURE DOES NOT ACCURATELY
28   REFLECT THE COMPANY'S RATE BASE INVESTMENT?

1   Tampa Electric is a wholly-owned subsidiary of TECO Energy. Due to the

2   parent/subsidiary relationship, there are no market forces that influence the

3   shape of the Tampa Electric capital structure. As a result, TECO Energy can

4   issue long-term debt on its consolidated balance sheet and then invest the

5   funds into Tampa Electric and call it common equity. By doing so, TECO

6   Energy can effectively create whatever capital structure it desires for Tampa

7   Electric and its other subsidiaries.

8

9   Q.   **WHY SHOULD THE FLORIDA PUBLIC SERVICE COMMISSION**

10   **BE CONCERNED ABOUT HOW TAMPA ELECTRIC FINANCES ITS**

11   **RATE BASE INVESTMENT?**

12 A.   There are two reasons that the Commission should be concerned about how

13   Tampa Electric finances its rate base investment. The first reason is that the

14   cost of common equity is higher than the cost of long-term debt, so that a

15   higher equity percentage will translate into higher costs to Tampa Electric's

16   customers with no corresponding improvements in quality of service. Long-

17   term debt is a financial promise made by the company and is carried as a

18   liability on the company's books. Common stock is ownership in the

19   company. Due to the nature of this investment, common stockholders require

20   higher rates of return to compensate them for the extra risk involved in

21   owning part of the company versus having a promissory note from the

22   company.

23

24   The second reason the Commission should be concerned about Tampa

25   Electric's capital structure is due to the tax treatment of debt versus common

26   equity. Public corporations, such as TECO Energy, can write-off interest

27   payments associated with debt financing. Corporations are not, however,

28   allowed to deduct common stock dividend payments for tax purposes. All

29   dividend payments must be made with after-tax funds, which are more

expensive than pre-tax funds. Since the regulatory process allows utilities to recover all expenses, including taxes, rates must be set so that the utility pays all its taxes and has enough left over to pay its common stock dividend. If a utility is allowed to use a capital structure for ratemaking purposes that is top-heavy in common stock, customers will be forced to pay the associated income tax burden, resulting in unfairly, unreasonably, and unnecessarily high rates. This will harm the economy of the utility's service area and violate the fundamental principles of utility regulation that rates must be fair but only high enough to support the utility's provision of safe, adequate, and reliable service at a fair price.

In my opinion, using Tampa Electric's requested capital structure in this proceeding will grant the utility unnecessarily and unreasonably high rates to cover tax payments for common equity that is not, in my view, truly an equity investment. In this particular case, TECO Energy, as the sole upstream owner of Tampa Electric, is attempting to use the regulatory process to force captive customers to pay rates higher than is necessary to support the Company's rate base investment. In utility regulation, a parent company's use of long-term debt as common equity in a regulated subsidiary is called double-leveraging.

On the unregulated side, there is no real problem with this practice because the unregulated subsidiaries are subject to competitive market discipline, but on the regulated side – i.e., for Tampa Electric Company and its customers – this practice is wholly inappropriate manipulation of the claimed capital structure to effectively arbitrage what is debt investment into equity returns, and the Commission should reject and prohibit such manipulation.

Even assuming that the Commission sets Tampa Electric's return on equity at 9.75% as I recommend, allowing the Company's rates to be set using its

1 proposed capital structure will violate principles of fair and reasonable

2 ratemaking by forcing customers to pay for equity capital that really doesn't

3 exist.

4

5 Q. **DO YOU HAVE ANY EVIDENCE THAT TECO ENERGY IS**

6 **DOUBLE-LEVERAGING ITS REGULATED ASSET INVESTMENTS?**

7 A. Yes. Below is a table that list the total common equity that TECO Energy, Inc.

8 had on its books as of Dec. 31, 2007 as well as the per books common equity

9 component for Tampa Electric and the other wholly-owned subsidiaries of

10 TECO Energy.

11

1

Table 2:   Per Books Common Equity Positions

Company	Equity ($)
TECO Energy, Inc.	$2,017,045
Tampa Electric	$1,532,687
Peoples Gas	$268,286
Non-Regulated	$819,265
Total Subsidiary Equity	$2,620,238

As can be seen in the table above, the total common equity investment that TECO Energy **CLAIMS** exists in its subsidiaries, is approximately $600 million GREATER than the total per books common equity of the parent company, TECO Energy, Inc. The above table clearly shows that TECO Energy is attempting to use its debt financing to create an illusion to the Commission that Tampa Electric has more equity in its capital structure than exists in reality. Allowing this illusion to determine Tampa Electric's revenue requirements would result in higher rates for consumers of Tampa Electric who are already struggling to pay high bills in an uncertain economy. Worse still, this burden would be forced upon the utility's captive customers based on purported costs of equity capital that is, at bottom, debt capital provided by TECO Energy bondholders.

Q.   **DOES THE COMPANY EXPLAIN THIS DIFFERENCE IN EQUITY COMPONENTS IN ITS PRE-FILED TESTIMONY?**

A.   Company Witness Gillette does not explicitly address the difference in the equity amounts of all the subsidiaries versus the amount found in the parent company. However, Mr. Gillette does claim that the $404 million in debt found in the parent company capital structure is related to TECO Energy, Inc.'s failed investment in TPS merchant power business and was not infused

31   Testimony of Kevin W. O'Donnell, CFA (FRF)

1   in equity into Tampa Electric. Mr. Gillette does not, however, specifically

2   address why the sum of the subsidiary equity amounts are greater than the

3   parent company equity amount.

4

5 Q. **MR. O'DONNELL, WHAT CAPITAL STRUCTURE DO YOU**

6   **RECOMMEND FOR USE IN THIS PROCEEDING?**

7 A.   In keeping with Commission Rule 25-14.004, I recommend that the

8   Commission adjust the Tampa Electric 13-month average capital structure as

9   of Dec. 31, 2009 to account for a proportionate amount of long-term debt in

10   the parent company capital structure that should be accounted for as long-term

11   debt and not common equity in the Tampa Electric capital structure. That

12   capital structure and associated cost rates are as follows:

13

14   Table 3:   Recommended Capital Structure

15

Component	Ratio (%)	Cost Rate (%)
Long-Term Debt	44.68%	6.81%
Short-Term Debt	0.22%	4.63%
Customer Deposits	2.84%	6.07%
Tax Credits	0.24%	8.28%
Deferred Inc. Taxes	8.27%	0.00%
Common Equity	44.00%	9.75%
	100.00%	

16

17   In my opinion, the TECO Energy capital structure that I recommend in this

18   proceeding is more transparent to investors and to the Commission, reflects

19   the manner in which the utility actually finances its rate base investment,

20   prevents consumers from paying high equity returns on non-existent equity

21   capital, and prevents customers from paying income taxes that are not in

22   reality paid by Tampa Electric in the provision of electric service in Florida.

23

1   My recommended return on equity and capital structure can be seen in Exhibit

2   KWO-5.

3

4 Q.   **WHAT IS THE OVERALL RATE OF RETURN ON INVESTMENT**

5   **THAT THE COMMISSION SHOULD APPLY USING YOUR**

6   **RECOMMENDED RATE OF RETURN ON EQUITY AND YOUR**

7   **RECOMMENDED ADJUSTMENTS TO TAMPA ELECTRIC'S**

8   **CAPITAL STRUCTURE?**

9 A.   My recommended overall rate of return on investment is 7.52%

10

IV.   REVIEW OF COMPANY WITNESS MURRY'S TESTIMONY

1

2

3

4   Q.   **WHAT METHODS DID DR. MURRY USE IN HIS ANALYSIS OF THE**

5   **COST OF EQUITY FOR TAMPA ELECTRIC?**

6   A.   Dr. Murry used the DCF model and the Capital Asset Pricing Model (CAPM)

7   in his return on equity analysis of Tampa Electric.

8

9   Q.   **WHAT ARE THE PRIMARY DIFFERENCES BETWEEN YOUR**

10   **APPLICATION OF THE DCF MODEL AND DR. MURRY'S**

11   **APPLICATION OF THE DCF?**

12 A.   One difference between Dr. Murry and myself is that Dr. Murry uses

13   forecasted earnings growth estimates as the primary source of dividend

14   growth in the DCF model whereas I use a more global approach that examines

15   historical and forecasted growth in earnings, dividends, and book value. In my

16   opinion, investors are competent enough to understand that dividend growth,

17   which is the basis for the DCF model, originates from earnings growth and

18   book value growth. Hence, it is only logical to examine all of these factors in

19   the determination of the proper growth rate to use in the DCF model. By

20   doing so, investors can and do recognize and understand that such a range will

21   include high growth rates and low growth rates. Investors use all this

22   information in determining the price they are willing to pay for the stock and,

23   hence, the underlying investor return requirement using the DCF model.

24

25   The largest single difference, however, between Dr. Murry and myself is how

26   we treat the results from our respective DCF analyses.. In my opinion, Dr.

27   Murry, in his prefiled testimony, indicates a predetermined preference for a

28   higher return on equity than can be justified in this proceeding. Support for

29   my opinion is found on pp. 38-39 of Dr. Murry's testimony when he states:

1

2   If a DCF-based cost of common equity, even if realistically
3   developed, becomes the allowed return for a regulated utility,
4   this will not provide enough cushion as the realized return will
5   be sufficient to attract and maintain capital.
6

7   Given that consumers in Florida must pay higher rates for Dr. Murry's

8   "cushion", I don't believe it would be proper for the Commission to recognize

9   Dr. Murry's application of the DCF model in this case. Put another way, I

10 believe it is simply wrong to ask consumers struggling to stay in their homes

11 with plummeting values to pay higher rates so that Tampa Electric can have a

12 "cushion" built into its profits through the cost of equity granted by this

13 Commission. Many residential customers and families living in the real world

14 do not have such a "cushion." School boards and local governments in Florida

15 do not have a "cushion" and retail merchants operating in today's marketplace

16 certainly do not have the "cushion" to which Dr. Murry argues for Tampa

17 Electric in this case.

18

19 Another difference between Dr. Murry and myself is that Dr. Murry does not

20 perform a rate of return analysis specifically on TECO Energy. Dr. Murry

21 openly admits that he does not think it is appropriate to perform a rate of

22 return analysis on TECO Energy. To be specific, Dr. Murry states:

23

24 The risks associated with the recent financial difficulties of
25 TECO Energy are not relevant to measuring the cost of capital
26 of Tampa Electric. Consequently, I did not use the market-
27 based calculations of the cost of capital of TECO Energy and
28 the financial information of TECO Energy had little bearing on
29 my analysis. (p. 23 of direct testimony)
30

31 Q.   **DO YOU AGREE WITH DR. MURRY THAT THE FINANCIAL**

32   **ASPECTS OF TECO ENERGY ARE NOT RELEVANT IN THIS**

33   **PROCEEDING?**

1   A.   No. Investing in TECO Energy is largely synonymous in investing in Tampa

2   Electric. Dr. Murry would like to ignore the fact that TECO's past financial

3   difficulties are not relevant to Tampa Electric, but the two entities are

4   inextricably linked. Approximately 75% of the common equity found in the

5   TECO Energy, Inc. reported capital structure comes from the common equity

6   of Tampa Electric. One simply cannot invest in TECO Energy without

7   investing in Tampa Electric, and one can only invest in Tampa Electric by

8   investing in TECO Energy.

9

10   Both in terms of the appropriate capital structure and return on equity to use in

11   this proceeding, the Company is attempting to use hypothetical values..

12   Florida electric customers should not be asked to pay higher costs that are

13   based on "theory" when real values are available from the Company.

14

15   Q.   **MR. O'DONNELL, WHY DO YOU NOT USE THE CAPM IN**

16   **DETERMINING RETURNS ON EQUITY IN UTILITY**

17   **REGULATORY PROCEEDINGS?**

18   A.   The CAPM is a model that essentially compares market returns to fixed-

19   income yields to arrive at a forecasted return on equity. The underlying

20   assumption of the CAPM is that calculated risk premiums stay relatively

21   constant over time. Unlike Dr. Murry, I have found such assumptions to be

22   unrealistic and extremely naïve.

23

24   Current economic conditions are vastly different from conditions that existed

25   in the marketplace since 1926, which is the start date of the risk premium

26   analysis used by Dr. Murry. For example, from the end of WWII until the

27   mid-1990s, the United States economy was generally seen as the dominant

28   market in the world. Today, however, China, Japan, and India are all making

29   strong economic strides that are threatening our dominance in world markets.

1   Dr. Murry's risk premium model, by definition and specification, ignores the

2   changing world markets.

3

4   Furthermore, the equity risk premium of 7.1% employed by Dr. Murry

5   incorporates only a subset of historical returns and, in my opinion, is a gross

6   exaggeration of what financial analysts expect in future market returns. In

7   2004, Dr. Jeremy J. Siegel from the University of Pennsylvania published a

8   paper for the Chartered Financial Analysts Institute Conference Proceedings

9   entitled "The Long-Run Equity Risk Premium." In this study, Dr. Siegel

10   examined stock and bond market return returns from 1802 through 2003. Over

11   this extended period of time, the real return on common stocks was 6.8%

12   whereas the real return on long-term government bonds was 3.5% thereby

13   producing a risk-premium of 3.3%. Dr. Siegel summarized his conclusions by

14   stating:

15

16   This is a lower return world because the P/E for equities is
17   justifiably higher than it has been historically, which implies
18   lower long-term real equity returns. Siegel's constant of a 6.5-7
19   percent return equity returns problem will not hold for all
20   future periods. Investors probably will receive closer to 5
21   percent. Nevertheless, the real equity risk premium will still be
22   roughly 3 percent. Investors will certainly seek other higher
23   yielding real assets, but of the three major asset classes –
24   stocks, bonds, and real estate – all are probably going to realize
25   lower return that their historical averages. Consequently,
26   equities still offer an attractive premium for long-term
27   investors.

28

29   Also in 2004, Mr. Robert D. Arnott, editor of the Financial Analysts Journal,

30   wrote an article entitled "The Meaning of a Slender Risk Premium." Mr.

31   Arnott concluded his piece by stating that

32

33   The risk premium rules of thumb we've relied on are shaky.
34   Indeed, the risk premium is a skinny hook to hang our future

1   prosperity on. Should we rely on the risk premium for profit, or
2   should we look more aggressively for other paths to profit? I
3   think the latter is by far the more sensible route.
4

5   As a financial analyst, the use of a risk premium as high as 7.1% is, in my
6   opinion, nonsensical given the current world markets. It might make some
7   simplistic sense to pick a period of time over which to study equity risk
8   premiums, but it is imperative that the analyst performing the study consider
9   current market conditions. The world we live in today is vastly different than
10 the world we have experienced over the past 200 years. Ignoring this fact will
11 lead the analyst to erroneous conclusions that, in the current case, will cause
12 consumers in Florida to overpay for electric service thereby harming the
13 Florida economy.
14

15 Q.   ARE YOU AWARE OF ANY STATE REGULATORY COMMISSION
16   THAT HAS BEEN CRITICAL OF THE USE OF THE CAPM?
17 A.   Yes. In 1991, the North Carolina Utilities Commission made the following
18   statement in Docket No. G-21, Sub 293 and 295:
19

20   The commission is further convinced of the inadvisability of
21   relying on CAPM results due to the same flaw in the traditional
22   risk premium method: the time period over which one
23   calculates an equity risk differential can greatly alter the results
24   for no theoretically explainable reason.
25
26

27 Q.   HOW DOES THE CAPM ATTEMPT TO CAPTURE COMPANY-
28   SPECIFIC RISK?
29 A.   The CAPM uses a beta variable to measure the risk of the company studied
30   relative to the market. In my view, this beta is highly subjective and can only
31   be used with the utmost care. Since the beta is calculated with historical
32   returns relative to market returns, it is very possible, and in fact quite likely,

1   that sudden changes in a company's stock price will not be captured in the

2   beta thereby producing meaningless answers. If, for example, the beta used in

3   the analysis was calculated over an extended time period, such as how Value

4   Line calculates its beta, and then a company suddenly encountered severe

5   financial problems, the CAPM would produce meaningless results as the

6   calculated return on equity would be grossly low.

7

8   An example of the problem with beta can be seen in the situation involving

9   Countrywide Financial, which is the world's largest independent residential

10   mortgage lender and service company, in 2007. Countrywide has symbolically

11   become the poster child for the credit meltdown that has now occurred in the

12   marketplace thereby setting off recession worries for the entire country. The

13   August 24, 2007 edition of Value Line stated that Countrywide's stock price

14   fell 54% since its May, 2007 report. However, even with this price decline,

15   the calculated beta for Countrywide was just 1.15 meaning that Countrywide

16   was only 15% more risky than the overall stock market. Given the collapse of

17   the credit markets due, in large part, to risky mortgages created by companies

18   the likes of Countrywide, it is hard to believe that Countrywide's beta could

19   have been was just 1.15. Of course, this nonsensical financial situation was

20   borne out later when Bank of American acquired Countrywide. Applying the

21   Countrywide beta of 1.15 in a CAPM in the summer of 2007 would have

22   provided a ludicrous answer and very bad investment guidance.

23

24 Q.   **HOW DOES THE DCF CAPTURE SUCH A SUDDEN CHANGE IN**

25   **THE MARKET PRICE OF A STOCK?**

26 A.   Since the DCF can incorporate daily fluctuations in stock prices via the

27   dividend yield, it can capture sudden price movements and ongoing risk

28   changes of a company. The CAPM relies on extensive historical data on

1   which to calculate the beta. As such, it simply cannot capture sudden risk

2   movements.

3

4 Q.   **DO YOU HAVE ANY BASELINE COMPARISON OF DR. MURRY'S**

5   **COST OF EQUITY RECOMMENDATION IN THIS CASE?**

6 A.   Yes, as noted previously, the average return on equity granted by various state

7   commissions across the country was approximately 10.35%over the past year.

8   Dr. Murry's recommendation of a 12.0% return on equity is grossly out-of-

9   line with what state commissions around the United States are granting

10   regulated utilities.

11

12   As another comparison, I urge the Commission to look at other investment

13   opportunities available to conservative investors that are primarily seeking

14   income. As of this writing, on November 24, 2008, 30-year US Treasury

15   bonds, which are widely recognized as the yardstick for long-term risk-free

16   investments, are currently yielding less than 4.0%,. The return on equity that I

17   am recommending in this case is well more than double the yield on these

18   ultra-safe 30-year bonds. Given the fact that Tampa Electric has very little

19   risk, it is easy to see that, relative to fixed income securities, a 9.75% return

20   on equity is very attractive return for investors.

21

V. <u>REVIEW OF COMPANY WITNESS ABBOTT'S TESTIMONY</u>
<u>AND RELATED RATE CASE EXPENSES</u>

Q. **HAVE YOU REVIEWED THE TESTIMONY OF TECO WITNESS ABBOTT?**

A. Yes, I have.

Q. **WHAT IS THE PURPOSE OF MS. ABBOTT'S TESTIMONY IN THIS PROCEEDING?**

A. In her prefiled testimony, Ms. Abbott states that the purpose of her testimony was to describe

> how rating agencies rate companies, the importance of regulation to ratings, and the basis of Tampa Electric Company's ("Tampa Electric" or "company") current and targeted ratings (p. 3 of direct testimony)

When one reads through Ms. Abbott's testimony, it is clear that Ms. Abbott is, essentially testifying in support of the Company's requested return on equity and its requested capital structure, without any independent analysis of these issues and, thus, without any substantive contribution to the case.

Q. **DO YOU AGREE WITH MS. ABBOTT'S CONCLUSIONS IN THIS CASE?**

A. No. I believe that Ms. Abbott has misunderstood the purpose in utility regulation. Ms. Abbott's testimony implies that Tampa Electric needs a certain return on equity and capital structure in order to ensure the utility will have a credit rating that she deems suitable for the Company's credit needs. I do not agree with Ms. Abbott in that the Florida Public Service Commission

1   should set a rate of return based on a credit rating set by investment banks in

2   New York.

3

4   If this Commission, or any other utility commission in the United States, were

5   to ever begin to set returns on equity based on credit standards, it would

6   essentially be ceding its regulatory control to rating agencies which often,

7   have substantial conflicts of interest. Furthermore, setting a return on equity to

8   achieve a predetermined credit rating would, in my view, send a signal to

9   utility executives that it is acceptable to take risks since the Commission is

10   targeting a credit rating as opposed to granting the utility an OPPORTUNITY

11   to earn its allowed rate of return.

12

13   Furthermore, I believe the Commission should examine the concept of exactly

14   what Ms. Abbott is stating in her testimony. Ms. Abbott states that a 12.0%

15   return on equity is needed in order for the utility to achieve a set credit rating

16   in the marketplace. However, the cost of equity, on a pre-tax basis, is more

17   than twice the cost of debt. Hence, Ms. Abbott is advocating that consumers

18   pay higher rates to support an excessive return on equity so that the Company

19   can achieve a lower cost of debt. Such a recommendation is similar to asking

20   consumers to pay $30,000 for a car that is worth $15,000 so they can get a

21     $500 rebate from the manufacturer.

22

23 **Q,** **CAN YOU PROVIDE A NUMERICAL EXAMPLE TO SUPPORT**

24   **YOUR CLAIM THAT CONSUMERS SHOULD NOT PAY FOR AN**

25   **EXCESSIVE RETURN ON EQUITY TO JUSTIFY LOWER DEBT**

26   **COSTS?**

27 A. In the current case, the Company's cost of debt is 6.80%, its requested return

28   on equity is 12.0%, its equity ratio is 50.21%, and its rate base is about $3.66

29   billion. Including income tax effects, for every 100 basis points in a higher

1   return on equity granted Tampa Electric in this case, consumers must pay

2   approximately $30 million more each year. However, if Tampa Electric

3   experienced a decrease in its bond rating, the Company might pay an

4   additional 50 basis point premium associated with a lower credit rating. The

5   cost for an additional 50 basis points on the cost of debt for Tampa Electric

6   would cost consumers an additional $7.1 million. Hence, it is easy to see that

7   Ms. Abbott's recommendation for consumers to pay a higher return on equity

8   to obtain a lower cost of debt is simply illogical and would force Tampa

9   Electric's customers to pay excessive, unjust rates for exactly the same

10   service.

11

12   The reality of Ms. Abbott's recommendation is that the group that would

13   benefit the most from a higher return on equity would be TECO executives

14   and stockholders. Consumers, on the other hand, would suffer with

15   unjustifiably higher rates to pay for an unreasonable return on equity.

16

17 Q. **HOW DO YOU RECOMMEND THE COMMISSION TREAT THE**

18   **TESTIMONY OF MS. ABBOTT?**

19 A. In my opinion, I do not believe that consumers should pay for the testimony of

20   Ms. Abbot. I have no issue at all with Tampa Electric absorbing Ms. Abbott's

21   $290,000 in fees for this case, but I do not agree with the Company seeking

22   rate recovery of her fees. Ms. Abbott does not provide a rate of return nor a

23   capital structure recommendation in this case. Instead, she simply supports the

24   Company's requests. Of the $290,000 in rate case fees requested for Ms.

25   Abbott, the Company is also seeking $20,000 for travel expenses. In my

26   view, asking ratepayers to pay such huge consulting fees in today's dire

27   economic conditions is simply wrong. The high flying days of excessive pay

28   by Wall Street executives is, hopefully, behind us. Such rate case fees should

1   not be recovered from Tampa Electric customers who are struggling to make

2   ends meet in very tough economic times.

3

4   My recommendation is that the fees of Ms. Abbott be deducted from rate case

5   expenses allowed for recovery by Tampa Electric in this proceeding.

6

7 **Q.**   **DO YOU TAKE ISSUE WITH ANY OTHER RATE CASE EXPENSES**

8   **REQUESTED BY TAMPA ELECTRIC IN THIS CASE?**

9 **A.**   Yes. According to item C-10 of the minimum filing requirements (MFRs),

10   Tampa Electric is seeking recovery of $116,000 to pay for

11   "Analysis/Testimony/Discovery" of JM Cannell. According to this same

12   MFR document, Ms. Cannell is to assist on the issue of "financial integrity."

13   However, Ms. Cannell did not file any testimony. Furthermore, Ms. Abbott

14   was retained by Tampa Electric for the same purpose of supporting the utility

15   in regard to "financial integrity." Between Ms. Abbott and Ms. Cannell,

16   Tampa Electric is seeking to recover $406,000 from its customers to pay for

17   its concern regarding "financial integrity." When one adds in the $68,000

18   Tampa Electric is seeking for the testimony of Dr. Murry, the Company is

19   seeking almost a half-million dollars from customers for Tampa Electric's and

20   TECO Energy's chosen witnesses just to support TECO Energy's profit

21   levels.

22

23   I recommend to the Commission that is also disallow the $116,000 in rate case

24   expenses that Tampa Electric is seeking in this case to pay for the services of

25   Ms. Cannell.

26

VI. SUMMARY

Q. **MR. O'DONNELL, PLEASE SUMMARIZE YOUR TESTIMONY IN THIS PROCEEDING.**

A. In the current proceeding, Tampa Electric is requesting this Commission to set rates so that the Company can earn a 12.0% return on equity. In my opinion, this requested return is excessive and cannot be supported by a logical evaluation of current market returns as well as the returns that other state regulators across the country are granting for their regulated utilities.

I performed my cost of equity analysis using the DCF model as well as the comparable earnings model. My conclusion is that 9.75% is the proper return on equity to grant TECO in this proceeding.

In evaluating the Company's requested capital structure, I found evidence of double-leverage in Tampa Electric's capital structure, using parent (TECO Energy) debt to create the appearance that the regulated utility's (Tampa Electric) equity is significantly greater than it is in reality. As a result, I do not believe the Company's requested capital structure is appropriate for use in this proceeding. As an alternative, I recommend the Commission grant Tampa Electric a total rate of return that is based on the capital structure of Tampa Electric adjusted for the parent company's (TECO Energy) use of debt infused as equity into Tampa Electric.

I also recommend that the Commission deduct the fees of Company Witness Abbott from rate case expenses associated in this proceeding. Ms. Abbott does not provide any specific recommendations in this case. The sole purpose of Ms. Abbott's testimony appears to be to support the testimony of other Company witnesses. In my view, it is unconscionable to ask Florida

1   ratepayers to pay $290,000 in fees for Ms. Abbott's testimony that simply

2   supports positions taken by other company witnesses.

3

4   Lastly, I recommend the Commission also disallow the $116,000 in rate case

5   expenses requested by Tampa Electric for the service of JM Cannell. Ms.

6   Cannell does not present any testimony in this proceeding nor does the

7   Company provide any evidence to support this requested rate case expense for

8   Ms. Cannell.

9

10   Q.   DOES THIS COMPLETE YOUR TESTIMONY?

11   A.   Yes, it does.

12

APPENDIX A

Testimony of Kevin W. O'Donnell, CFA (FRF)

Appendix A

Kevin W. O'Donnell, CFA
President
Nova Energy Consultants, Inc.
1350 SE Maynard Rd.
Suite 101
Cary, NC 27511

Education

I received a B.S. degree in Civil Engineering - Construction Option from North Carolina State University in May of 1982 and a Masters of Business Administration in Finance from Florida State University in August of 1984.

Professional Certification

I am a Chartered Financial Analyst (CFA) and a member of the Association of Investment Management and Research.

Work Experience

In September of 1984, I joined the Public Staff of the North Carolina Utilities Commission as a Public Utilities Engineer in the Natural Gas Division. In December of 1984, I transferred to the Public Staff's Economic Research Division and held the position of Public Utility Financial Analyst. In September of 1991, I joined Booth & Associates, Inc., a Raleigh, North Carolina, based electrical engineering firm, as a Senior Financial Analyst. I stayed in this position until June 1994, when I accepted employment as the Director of Retail Rates for the North Carolina Electric Membership Corporation. In January 1995, I formed Nova Utility Services, Inc., an

energy consulting firm. In May of 1999, I changed the name of Nova Utility Services, Inc. to Nova Energy Consultants, Inc.

Along with my work with Nova Energy Consultants, Inc., I am also a senior financial analyst for MAKROD Investment Associates of Verona, NJ. MAKROD is a money management firm that specializes in portfolio management services for high wealth individuals and institutional investors.

Testimonies

North Carolina

I have testified before the North Carolina Utilities Commission in the following general rate case proceedings: Public Service Company of North Carolina, Inc. (Docket No. G-5, Sub 200, Sub 207, Sub 246, Sub 327, and Sub 386); Piedmont Natural Gas Company (Docket No. G-9, Sub 251 and Sub 278); General Telephone of the South (Docket No. P-19, Sub 207); North Carolina Power (Docket No. E-22, Sub 314); Piedmont Natural Gas Company (Docket No. E-7, Sub 487); Pennsylvania & Southern Gas Company (Docket No. G-3, Sub 186); and in several water company rate increase proceedings. I also submitted pre-filed testimony, and/or assisted in the settlement process, in Docket Nos. G-9, Sub 378, Sub 382, Sub 428 and Sub 461, which were general rate cases involving Piedmont Natural Gas Company; in Docket No. G-21, Sub 334, North Carolina Natural Gas' most recent general rate case; in Docket No. G-5, Sub 356, Public Service of North Carolina's 1995 general rate case; and in Docket No. G-39, Sub 0, Cardinal Extension Company's rate case. Furthermore, I testified in the 1995 fuel adjustment proceeding for Carolina Power & Light Company (Docket No. E-2, Sub 680) and submitted pre-filed testimony in Docket No. E-7, Sub 559, which was Duke Power's 1995 fuel adjustment proceeding. I also submitted pre-filed testimony and testified in Duke's 2001 fuel adjustment proceeding, which was Docket No. E-7, Sub 685.

Furthermore, I testified in Docket No. G-21, Sub 306 and 307, in which North Carolina Natural Gas Corporation petitioned the Commission to establish a natural gas expansion fund. I also submitted testimony in the Commission's 1998 study of natural gas transportation rates that was part of Docket No. G-5, Sub 386, which was the 1998 general rate case of Public Service Company of North Carolina. In September of 1999, I testified in Docket Nos. G-5, Sub 400 and G-43, which was the merger case of Public Service Company of North Carolina and SCANA Corp. I also submitted testimony and stood cross-examination in the holding company application of NUI Corporation, a utility holding company located in New Jersey, which was NCUC Docket No. G-3, Sub 224, as well as NUI's merger application with Virginia Gas Company, which was Docket No. G-3, Sub 232. I also submitted pre-filed testimony and stood cross-examination in Docket No. G-3, Sub 235, which involved a tariff change request by NUI Corporation. I testified in another holding company application in Docket No. E-2, Sub 753; G-21, Sub 387; and P-708, Sub 5 which was the holding company application of Carolina Power & Light. In June of 2001, I submitted testimony and stood cross-examination in Docket No. E-2, Sub 778, which was CP&L's application to transfer Certificates of Public Convenience and Necessity (CPCN) from two of the Company's generating units to its non-regulated sister company, Progress Energy Ventures. In November of 2001, I testified in Duke Energy's restructuring application, which was Docket No. E-7, Sub 694. In January 2002, I presented testimony in the merger application of Duke Energy Corp. and Westcoast Energy. In April of 2003, I submitted testimony in Dockets Nos. G-9, Sub 470, Sub 430, and E-2, Sub 825, which was the merger application of Piedmont Natural Gas and North Carolina Natural Gas. In May of 2003, I submitted testimony in the general rate case of Cardinal Pipeline Company, which was Docket No. G-39, Sub 4. In July 2003, I filed testimony in Docket No. E-2, Sub 833, which was CP&L's 2003 fuel case proceeding. I prepared pre-filed testimony and stood cross-examination in the merger application of Piedmont Natural Gas and Eastern North Carolina Natural Gas. In July of 2005, I prepared pre-filed testimony in Carolina

Power & Light's fuel case in North Carolina. In August of 2005 I assisted in the settlement of Piedmont's 2005 general rate case. In June, 2006, I submitted rebuttal testimony in Docket No. E-100, Sub 103, which was the investigation of integrated resource planning (IRP) in North Carolina. Also in the month of June, 2006, I submitted testimony in Docket No. G-9, Sub 519, which was the application of Piedmont Natural Gas to change its tariffs and service regulations. In August, 2006, I assisted in the settlement of the rate case of Public Service of North Carolina in Docket No. G-5, Sub 481. In December of 2006, I prepared direct testimony and stood cross-examination in Docket No. E-7, Sub 751, which was application of Duke Power to share net revenues from certain wholesale power transactions. In January, 2007, I submitted testimony in the application of Duke Energy in Docket No. E-7, Sub 790, which was in regard to the construction of two 800 MW coal fired generation units in Rutherford County, North Carolina. In June, 2008, I filed testimony in Duke Energy's Save-A-Watt energy efficiency filing.

South Carolina

In August of 2002, I submitted pre-filed testimony and stood cross-examination before the South Carolina Public Service Commission in Docket No. 2002-63-G, which was Piedmont's 2002 general rate case. In October of 2004, I submitted pre-filed testimony and stood cross-examination in the general rate case of South Carolina Electric & Gas. In March 2005, I prepared pre-filed testimony and assisted in the settlement involving the fuel application proceeding of South Carolina Electric & Gas. In April of 2005, I prepared pre-filed testimony and assisted in the settlement of Carolina Power & Light's fuel case in South Carolina. In March 2006, I assisted in the settlement involving the fuel application proceeding of South Carolina Electric & Gas. In November of 2007 I assisted in the settlement of the 2007 South Carolina Electric & Gas general rate case proceeding. In October, 2008, I submitted testimony in the 2008 South Carolina Electric & Gas base load review act proceeding.

United States Congress

In May of 1996, I testified before the U.S. House of Representatives, Committee on Commerce and Subcommittee on Energy and Power concerning competition within the electric utility industry.

I have also worked with North Carolina and South Carolina municipalities in presenting comments to the Federal Energy Regulatory Commission regarding the opening of the wholesale power markets in the Carolinas.

Publications

I have also published the following articles: Municipal Aggregation: The Future is Today, *Public Utilities Fortnightly*, October 1, 1995; Small Town, Big Price Cuts, *Energy Buyers Guide*, January 1, 1997; and Worth the Wait, But Still at Risk, *Public Utilities Fortnightly*, May 1, 2000. All of these articles dealt with my firm's experience in working with small towns that purchase their power supplies in the open wholesale power markets.

Tampa Electric Company
Docket No. 080317-EI

Company	13 Wk. Avg. Dividend Yield	4 Wk. Avg. Dividend Yield	Current Dividend Yield	DCF Results — Value Line									Plowback Growth Rate	Schwab Forecasted EPS
				EPS	DPS	BPS	EPS	DPS	BPS	EPS	DPS	BPS		
Alliant Energy	4.7%	5.0%	5.2%	0.5%	-5.0%	1.5%	3.0%	-10.5%	0.5%	6.0%	9.0%	6.0%	5.1%	7.0%
Amer. Elec. Power	5.0%	5.5%	5.8%	-1.0%	-4.5%	—	3.0%	-9.0%	—	7.5%	8.0%	6.5%	5.5%	5.1%
Avista Corp.	3.5%	3.9%	4.1%	-4.0%	-7.5%	2.5%	-3.0%	3.5%	2.0%	9.0%	12.5%	3.5%	3.0%	8.3%
CenterPoint Energy	5.8%	6.7%	6.4%	—	—	—	NMF	NMF	NMF	6.0%	9.0%	10.5%	7.9%	12.5%
DTE Energy	5.5%	5.9%	5.9%	-0.5%	—	3.5%	-2.0%	—	4.0%	5.0%	1.5%	4.0%	2.5%	6.3%
Duke Energy	5.5%	5.7%	5.9%	—	—	—	—	—	—	4.5%	4.5%	2.5%	2.4%	5.3%
Edison Int'l	3.3%	3.7%	3.8%	7.0%	1.0%	4.5%	—	—	17.5%	5.0%	7.0%	9.0%	8.4%	8.1%
Empire Dist. Elec.	6.4%	6.9%	7.0%	-1.0%	—	2.0%	2.0%	—	2.0%	10.0%	1.5%	3.5%	2.0%	6.0%
G't Plains Energy	7.9%	8.9%	9.3%	0.5%	0.5%	1.5%	—	—	4.5%	1.0%	Nil	4.0%	1.2%	7.6%
Hawaiian Elec.	4.7%	4.7%	4.6%	-0.5%	0.5%	1.5%	-3.0%	—	2.0%	5.0%	1.0%	2.5%	2.3%	4.5%
IDACORP, Inc.	4.2%	4.6%	4.4%	-1.0%	-4.5%	3.5%	-7.0%	-8.5%	2.5%	2.0%	Nil	2.0%	3.1%	6.0%
NiSource Inc.	6.4%	7.1%	7.6%	-2.5%	0.5%	7.0%	-5.5%	-2.5%	2.0%	5.0%	1.5%	1.0%	1.8%	3.0%
Northeast Utilities	3.6%	3.9%	3.8%	11.0%	-4.5%	0.5%	8.5%	10.0%	2.5%	11.5%	6.0%	5.5%	4.6%	7.4%
Pepco Holdings	5.0%	5.6%	6.2%	—	—	—	-4.5%	—	1.0%	13.0%	15.0%	3.0%	4.0%	10.3%
PG&E Corp.	4.3%	4.5%	4.4%	1.5%	-3.0%	—	—	—	16.5%	5.0%	9.0%	6.0%	5.7%	7.3%
PNM Resources	4.9%	5.5%	5.8%	2.0%	14.5%	5.5%	-5.0%	9.5%	5.0%	-6.0%	-9.0%	Nil	1.3%	13.5%
Progress Energy	5.9%	6.3%	6.4%	—	3.0%	6.0%	-4.5%	2.5%	3.0%	5.0%	1.0%	1.5%	1.6%	6.2%
SCANA Corp.	5.2%	5.7%	5.7%	3.5%	1.0%	4.5%	4.0%	6.5%	4.0%	4.5%	4.0%	5.5%	4.3%	4.8%
Sierra Pacific Res.	4.6%	4.9%	4.4%	-6.5%	—	-3.5%	—	—	-5.5%	7.5%	NMF	5.5%	4.6%	15.2%
UIL Holdings	5.3%	5.5%	5.5%	-2.0%	—	0.5%	-6.0%	—	-1.0%	4.5%	Nil	1.0%	1.9%	6.0%
UniSource Energy	3.4%	3.7%	3.8%	-5.5%	—	17.5%	3.0%	15.5%	8.5%	nil	3.0%	3.0%	2.1%	NA
Westar Energy	5.6%	6.2%	6.1%	1.0%	-7.0%	-4.0%	32.0%	-5.0%	-4.5%	2.0%	5.5%	4.5%	3.3%	4.4%
Wisconsin Energy	2.7%	2.8%	2.8%	5.5%	-4.5%	4.0%	9.0%	-1.0%	7.0%	8.0%	9.5%	6.5%	6.9%	10.2%
Xcel Energy Inc.	5.0%	5.5%	5.6%	-3.5%	-4.5%	-1.0%	-2.0%	-8.5%	-1.5%	7.5%	3.0%	4.0%	3.8%	6.2%
Average	4.9%	5.3%	5.4%	0.2%	-1.5%	3.0%	1.2%	0.2%	3.4%	5.6%	5.1%	4.4%	3.7%	7.4%
TECO Energy	5.4%	6.1%	6.7%	-3.5%	-3.5%	-2.0%	-11.0%	-11.0%	-9.0%	7.0%	3.0%	6.5%	4.4%	12.8%

Tampa Electric Company
Docket No. 080317-EI

Company	13 Wk. Avg. Dividend Yield	4 Wk. Avg. Dividend Yield	Current Week Dividend Yield	Average Growth Rate	Historical Growth Rate	Plowback Growth Rate	Fore. Growth Rate
Alliant Energy	4.7%	5.0%	5.2%	2.1%	-1.7%	5.1%	7.0%
Amer. Elec. Power	5.0%	5.5%	5.8%	2.3%	-2.9%	5.5%	6.8%
Avista Corp.	3.5%	3.9%	4.1%	2.7%	-1.1%	3.0%	8.3%
CenterPoint Energy	5.8%	6.7%	6.4%	9.2%	---	7.9%	9.5%
DTE Energy	5.5%	5.9%	5.9%	2.7%	1.3%	2.5%	4.2%
Duke Energy	5.5%	5.7%	5.9%	3.8%	---	2.4%	4.2%
Edison Int'l	3.3%	3.7%	3.8%	7.5%	7.5%	8.4%	7.3%
Empire Dist. Elec.	6.4%	6.9%	7.0%	3.1%	1.3%	2.0%	5.3%
G't Plains Energy	7.9%	8.9%	9.3%	2.6%	1.8%	1.2%	3.2%
Hawaiian Elec.	4.7%	4.7%	4.6%	1.6%	0.1%	2.3%	3.3%
IDACORP, Inc.	4.2%	4.6%	4.4%	-0.2%	-2.5%	3.1%	2.5%
NiSource Inc.	6.4%	7.1%	7.6%	1.0%	-0.2%	1.8%	2.6%
Northeast Utilities	3.6%	3.9%	3.8%	5.7%	4.7%	4.6%	7.6%
Pepco Holdings	5.0%	5.6%	6.2%	6.0%	-1.8%	4.0%	10.3%
PG&E Corp.	4.3%	4.5%	4.4%	6.0%	5.0%	5.7%	6.8%
PNM Resources	4.9%	5.5%	5.8%	3.1%	5.3%	1.3%	-0.4%
Progress Energy	5.9%	6.3%	6.4%	2.5%	2.0%	1.6%	3.4%
SCANA Corp.	5.2%	5.7%	5.7%	4.2%	3.9%	4.3%	4.7%
Sierra Pacific Res.	4.6%	4.9%	4.4%	2.5%	-5.2%	4.6%	7.1%
UIL Holdings	5.3%	5.5%	5.5%	0.6%	-2.1%	1.9%	2.9%
UniSource Energy	3.4%	3.7%	3.8%	5.9%	7.8%	2.1%	2.0%
Westar Energy	5.6%	6.2%	6.1%	2.9%	2.1%	3.3%	4.1%
Wisconsin Energy	2.7%	2.8%	2.8%	5.6%	3.3%	6.9%	8.6%
Xcel Energy Inc.	5.0%	5.5%	5.6%	0.3%	-3.5%	3.8%	5.2%
Average	**4.9%**	**5.3%**	**5.4%**	**3.5%**	**1.1%**	**3.7%**	**5.3%**
TECO	**5.4%**	**6.1%**	**6.7%**	**-0.6%**	**-6.7%**	**4.4%**	**7.3%**

Tampa Electric Company
Docket No. 080317-EI

Company	% Retained to Common Equity				
	2007	2008E	2009E	11-'13E	Average
Alliant Energy	5.9%	5.0%	5.0%	4.5%	5.1%
Amer. Elec. Power	5.1%	6.0%	6.0%	5.0%	5.5%
Avista Corp.	0.8%	4.0%	4.0%	3.0%	3.0%
CenterPoint Energy	10.0%	8.0%	7.0%	6.5%	7.9%
DTE Energy	1.5%	2.0%	3.0%	3.5%	2.5%
Duke Energy	2.0%	2.5%	2.5%	2.5%	2.4%
Edison Int'l	9.2%	9.0%	8.5%	7.0%	8.4%
Empire Dist. Elec.	NMF	1.0%	2.0%	3.0%	2.0%
G't Plains Energy	0.9%	NMF	NMF	1.5%	1.2%
Hawaiian Elec.	0.8%	NMF	2.5%	3.5%	2.3%
IDACORP, Inc.	2.4%	3.0%	3.5%	3.5%	3.1%
NiSource Inc.	1.2%	1.5%	2.0%	2.5%	1.8%
Northeast Utilities	4.3%	5.0%	4.5%	4.5%	4.6%
Pepco Holdings	2.3%	4.0%	4.0%	5.5%	4.0%
PG&E Corp.	5.9%	6.0%	6.0%	5.0%	5.7%
PNM Resources	NMF	NMF	0.5%	2.0%	1.3%
Progress Energy	0.7%	1.5%	1.5%	2.5%	1.6%
SCANA Corp.	4.0%	4.5%	4.0%	4.5%	4.3%
Sierra Pacific Res.	5.4%	4.5%	4.5%	4.0%	4.6%
UIL Holdings	3.1%	1.0%	1.5%	2.0%	1.9%
UniSource Energy	3.9%	0.5%	2.0%	2.0%	2.1%
Westar Energy	4.3%	4.0%	2.5%	2.5%	3.3%
Wisconsin Energy	7.1%	6.5%	6.5%	7.5%	6.9%
Xcel Energy Inc.	3.1%	3.5%	3.5%	5.0%	3.8%
Average					3.7%
TECO Energy	5.1%	0.5%	6.0%	6.0%	4.4%

Sources:

The Value Line Investment Survey, August 28, 2008; September26, 2008; and November 7, 2008

Tampa Electric Company
Docket No. 080317-EI

Company	% Return on Common Equity			
	2004	2005	2006	2007
Alliant Energy	8.2%	13.1%	9.1%	11.3%
Amer. Elec. Power	12.2%	11.3%	12.0%	11.4%
Avista Corp.	4.7%	5.9%	8.0%	4.2%
CenterPoint Energy	18.6%	17.4%	27.8%	22.0%
DTE Energy	8.0%	10.0%	7.5%	7.7%
Duke Energy	na	na	4.1%	7.2%
Edison Int'l	3.5%	16.8%	14.0%	13.0%
Empire Dist. Elec.	5.8%	6.0%	8.5%	6.2%
G't Plains Energy	15.5%	13.3%	9.4%	10.1%
Hawaiian Elec.	8.9%	9.7%	9.9%	7.2%
IDACORP, Inc.	7.2%	6.2%	8.9%	6.8%
NiSource Inc.	9.0%	6.0%	6.3%	6.1%
Northeast Utilities	5.1%	5.1%	4.3%	8.4%
Pepco Holdings	7.7%	7.7%	7.0%	7.4%
PG&E Corp.	10.3%	12.3%	12.5%	11.7%
PNM Resources	8.0%	8.2%	7.2%	3.5%
Progress Energy	9.9%	9.0%	6.1%	8.2%
SCANA Corp.	12.2%	11.8%	10.5%	10.8%
Sierra Pacific Res.	4.8%	4.0%	9.0%	6.6%
UIL Holdings	6.7%	5.8%	9.9%	10.1%
UniSource Energy	7.9%	7.5%	10.6%	8.5%
Westar Energy	7.1%	9.5%	10.7%	9.2%
Wisconsin Energy	8.8%	11.3%	10.8%	10.9%
Xcel Energy Inc.	10.0%	9.2%	9.7%	9.1%
Average	**8.3%**	**9.0%**	**9.7%**	**9.1%**
TECO Energy	**10.7%**	**13.3%**	**14.1%**	**13.2%**

Sources:

The Value Line Investment Survey, August 28, 2008; September 26, 2008; and November 7, 2008

Tampa Electric Company
Docket No. 080317-EI

Component	Per Books Acounts (000's)	Adjustments (000's)	Adjusted Amounts (000's)	Ratio (%)	Cost Rate (%)	Wgtd. Cost Rate (%)
Long-Term Debt	$1,397,565	$226,998	$1,624,563	44.43%	6.81%	3.03%
Short-Term Debt	$8,002		$8,002	0.22%	4.63%	0.01%
Customer Deposits	$103,724		$103,724	2.84%	6.07%	0.17%
Tax Credits	$8,780		$8,780	0.24%	8.27%	0.02%
Deferred Inc. Taxes	$302,744		$302,744	8.28%	0.00%	0.00%
Common Equity	$1,835,985	-$226,998	$1,608,987	44.00%	9.75%	4.29%
	$3,656,800		$3,656,800	100.00%		7.52%