BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

PETITION FOR INCREASE IN RATES BY PROGRESS ENERGY FLORIDA, INC.	DOCKET NO. 090079-EI
PETITION FOR LIMITED PROCEEDING TO INCLUDE BARTOW REPOWERING PROJECT IN BASE RATES, BY PROGRESS ENERGY FLORIDA, INC.	DOCKET NO. 090144-EI
PETITION FOR EXPEDITED APPROVAL OF THE DEFERRAL OF PENSION EXPENSES, AUTHORIZATION TO CHARGE STORM HARDENING EXPENSES TO THE STORM DAMAGE RESERVE, AND VARIANCE FROM OR WAIVER OF RULE 25-6.0143(1)(C), (D), AND (F), F.A.C., BY PROGRESS ENERGY FLORIDA, INC.	DOCKET NO. 090145-EU

VOLUME 10

Pages 1297 through 1464

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A CONVENIENCE COPY ONLY AND ARE NOT
THE OFFICIAL TRANSCRIPT OF THE HEARING.
THE .PDF VERSION INCLUDES PREFILED TESTIMONY.

PROCEEDINGS:	HEARING
COMMISSIONERS PARTICIPATING:	CHAIRMAN MATTHEW M. CARTER, II COMMISSIONER LISA POLAK EDGAR COMMISSIONER KATRINA J. McMURRIAN COMMISSIONER NANCY ARGENZIANO COMMISSIONER NATHAN A. SKOP
DATE:	Wednesday, September 23, 2009
TIME:	Recommenced at 9:39 a.m. Recessed at 7:47 p.m.

PLACE: Betty Easley Conference Center
Room 148
4075 Esplanade Way
Tallahassee, Florida

REPORTED BY: MARY ALLEN NEEL, RPR, FPR

PARTICIPATING: (As heretofore stated.)

I N D E X

WITNESSES

EXHIBITS

NUMBER		ID.	ADMTD.
40	Staff's Composite Exhibit for Vander Weide	1450	1450
86			1306
87			1306
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92			1306
93			1306
94			1306
95			1306
96			1306
97			1306
98	JVW-1	1460	1460
99	JVW-2	1460	1460
100	JVW-3	1460	1460
101	JVW-4	1460	1460
102	JVW-5	1460	1460
103	JVW-6	1460	1460
104	JVW-7	1460	1460
105	JVW-8	1460	1460
106	JVW-9	1460	1460
107	JVW-10	1460	1460
108	JVW-11	1460	1460
109	JVW-12	1460	1460
110	JVW-13	1460	1460
276			1306
277	CBOE VIX, 9/11/09	1425	1461
278	Value Line Report for Proxy Group	1457	1462

P R O C E E D I N G S

(Transcript continues in sequence from Volume 9.)

Thereupon,

THOMAS R. SULLIVAN

a witness on behalf of Progress Energy Florida, Inc., continues his sworn testimony as follows:

COMMISSIONER SKOP: So I guess empirically, do you believe that's what they're speaking to in that clause where they talk about the increased deferred fuel costs?

THE WITNESS: Well, again, I think it was an order of magnitude, given the significant increase in costs that we saw, that they knew that we were having to pay for that, or most of it anyway, that wasn't hedged. And again, depending upon when those payments were, while the process may be favorable for to us recover it, it will still take time to do that.

COMMISSIONER SKOP: Okay. And just a little bit further down on that same paragraph, they talk about adjusted funds from operations, or FFO, and relate adjusted funds from operations to interest coverage of 3.2 times X. Do you see that?

THE WITNESS: Yes. Those are two of their, probably three, primary credit metrics.

COMMISSIONER SKOP: Very well. Now, this report was issued in February of 2009; correct?

THE WITNESS: I believe this was for the period ended September 30, 2008, as identified in the beginning of that paragraph, I believe.

COMMISSIONER SKOP: Okay. But this report itself, though, the report that that paragraph encompasses, was issued, I believe, February 4, 2009, as shown at the bottom of page 2.

THE WITNESS: Yes, that's correct.

COMMISSIONER SKOP: Moving down to the bottom of page 3, they speak to the need or concern with respect to the adjusted FFO to interest coverage ratio, and I guess they're looking for that metric to improve. Would you agree with that, in that last paragraph?

THE WITNESS: Yes. This is a feature they've started adding to the reports the last couple of years. I mentioned their increased efforts for transparency and getting away from the black box that they've been accused of. So, yes, this is the type of thing that they've tried to put out to allow people to know what has to happen to maintain or change the rating.

COMMISSIONER SKOP: Okay. And the next -- right below there in the next line, they speak to some of the potential revisions to ratings or outlooks that

might occur if that coverage ratio does not increase; is that correct?

THE WITNESS: Yes.

COMMISSIONER SKOP: And they also in the last sentence speak that a higher rating is not currently under consideration; is that correct?

THE WITNESS: That is correct.

COMMISSIONER SKOP: Okay. Since the time this report was issued, Progress has come before the Commission to seek relief based on the settlement agreement that the Commission has provided, amongst other things. So based on that, and the time in which this report has been issued, has Progress's adjusted FFO to interest coverage ratio improved at all from what was stated in this report?

THE WITNESS: They calculate their numbers on an annual basis, so I have not looked at the most recent quarter or 12-month trailing. But I know anecdotally from the revenue decrease which caused the interim rate filing that you referred to, certainly the cash flow of the utility has declined over the last 12 to 15 months.

COMMISSIONER SKOP: Okay. Now if I can refer you briefly back to your prefiled testimony, I think I just have a few remaining questions. On page 17 of your prefiled testimony, lines 6 through 12 --

THE WITNESS: Yes.

COMMISSIONER SKOP: Okay. It talks about again the rating agencies and the imputation of debt and doing the adjustment as a result of power purchase agreements and other off-balance-sheet obligations; is that correct?

THE WITNESS: Yes.

COMMISSIONER SKOP: And moving to page 18, on line 8, it's indicated that the risk factor that Standard & Poor's applies is 25 percent; correct?

THE WITNESS: Yes, it is. For these specific contracts, yes.

COMMISSIONER SKOP: And then continuing on lines 9 through 13, it has been previously explained that applying that imputation as suggested by Standard & Poor's actually results in the numbers listed there, which is the adjustment that Progress is seeking; correct?

THE WITNESS: Yes, it is.

COMMISSIONER SKOP: Okay. Now, if I could turn your attention to page 20, lines 18 through 24, and then continuing on the next page, it speaks to has the Commission ever recognized the effect of off-balance-sheet obligations like PPAs on the utility's capital structure. Do you see that?

THE WITNESS: Yes, I do.

COMMISSIONER SKOP: Okay. And they cite Commission orders and the rule. Is it your understanding that the ability for Progress to have made that imputed debt adjustment previously was based upon a specific negotiated term in the settlement agreement amongst the parties as opposed to individual action taken by the Commission?

THE WITNESS: As I said before, I was not a party to the last stipulated agreement. I don't know if that was specifically addressed or not.

COMMISSIONER SKOP: All right. And I believe that's all the questions I have. I need to go back and review that agreement specifically. I have not done so, but I'm just trying to flesh out your testimony and the questions I had. So thank you for your time.

THE WITNESS: Thank you.

COMMISSIONER EDGAR: Mr. Walls, redirect?

MR. WALLS: No redirect.

COMMISSIONER EDGAR: Okay. Exhibits?

MR. WALLS: Yes. We have Exhibits TRS-1 to TRS-12, which are identified as Exhibits 86 to 97, that we would move in at this time.

COMMISSIONER EDGAR: Any objection? Hearing none, Exhibits 86 through 97 are admitted into the

record at this time.

(Exhibits Number 86 through 97 were admitted into the record.)

COMMISSIONER EDGAR: I think that brings us to staff.

MS. FLEMING: Staff would ask that Exhibit 276 be moved into the record.

COMMISSIONER EDGAR: Any objection?

MR. WALLS: No objection.

COMMISSIONER EDGAR: Hearing none, Exhibit 276 is entered into the record.

(Exhibit Number 276 was admitted into the record.)

COMMISSIONER EDGAR: Mr. Sullivan, you are back on rebuttal, I believe.

THE WITNESS: Yes, I believe next week.

COMMISSIONER EDGAR: Okay. Well, then you are excused for the time being.

THE WITNESS: Thank you.

COMMISSIONER EDGAR: Thank you very much.

Mr. Walls, your next witness.

MR. WALLS: We call Dr. Vander Weide.

COMMISSIONER EDGAR: One more time?

MR. WALLS: We call Dr. Jim Vander Weide.

COMMISSIONER EDGAR: Okay.

Thereupon,

JAMES H. VANDER WEIDE, Ph.D.

was called as a witness on behalf of Progress Energy Florida, Inc. and was examined and testified as follows:

DIRECT EXAMINATION

BY MR. WALLS:

Q. Good afternoon Dr. Vander Weide. Will you please introduce yourself to the Commission and provide your business address?

A. Yes. Good day, Commissioners. I am Research Professor of Finance and Economics at Duke University, the Fuqua School of Business. I'm also president of Financial Strategy Associates, a firm that provides strategic and financial consulting services to business clients. My business address is 3606 Stoneybrook Drive, Durham, Nort Carolina. I graduated from Cornell University with a bachelor's degree in economics and from Northwestern University with a Ph.D. in finance.

Q. Dr. Vander Weide, have you been sworn as a witness?

A. No, I have not.

COMMISSIONER EDGAR: Okay. We will do that now. If you would stand with me and raise your right hand.

(Witness sworn.)

BY MR. WALLS:

Q. Dr. Vander Weide, have you filed direct testimony and exhibits in this proceeding?

A. Yes, I have.

Q. And do you have that prefiled direct testimony and exhibits with you today?

A. Yes, I do.

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

A. I have one change on page 48, line 1. The number 4.93 percent should be 4.87 percent. This change does not affect any of my recommendations or calculations in my testimony.

Q. And with that change, Dr. Vander Weide, if I asked you the same questions in your prefiled direct testimony today, would you give the same answers?

A. Yes, I would.

MR. WALLS: We request that the prefiled direct testimony be entered in the record as read.

COMMISSIONER EDGAR: The prefiled direct testimony of the witness will be entered into the record as though read, with the change noted by the witness.

DIRECT TESTIMONY OF
JAMES H. VANDER WEIDE, Ph.D.

I. Introduction and Summary

Q. Please state your name, title, and business address for the record.

A. My name is James H. Vander Weide. I am Research Professor of Finance and Economics at Duke University, the Fuqua School of Business. I am also President of Financial Strategy Associates, a firm that provides strategic and financial consulting services to business clients. My business address is 3606 Stoneybrook Drive, Durham, North Carolina 27705.

Q. Would you please describe your educational background and prior academic experience?

A. I graduated from Cornell University with a Bachelor's Degree in Economics and from Northwestern University with a Ph.D. in Finance. After joining the faculty of the School of Business at Duke University, I was named Assistant Professor, Associate Professor, and then Professor.

Since joining the faculty I have taught courses in corporate finance, investment management, and management of financial institutions. I have taught a graduate seminar on the theory of public utility pricing and lectured in executive development seminars on the cost of capital, financial analysis, capital budgeting, mergers and acquisitions, cash management, short-run financial planning, and competitive strategy. I have also served as Academic Program Director of

executive education programs at the Fuqua School of Business, including the Duke Advanced Management Program, the Duke Executive Program in Telecommunications, the Duke Competitive Strategies in Telecommunications Program, and the Duke Program for Manager Development for managers from the former Soviet Union.

I have conducted seminars and training sessions on financial analysis, financial strategy, cost of capital, cash management, depreciation policies, and short-run financial planning for a wide variety of U.S. and international companies. In addition to my teaching and executive education activities, I have written research papers on such topics as portfolio management, the cost of capital, capital budgeting, the effect of regulation on the performance of public utilities, the economics of universal service requirements, and cash management. My research papers have been published in *American Economic Review, Financial Management, International Journal of Industrial Organization, Journal of Finance, Journal of Financial and Quantitative Analysis, Journal of Bank Research, Journal of Portfolio Management, Journal of Accounting Research, Journal of Cash Management, Management Science, Atlantic Economic Journal, Journal of Economics and Business,* and *Computers and Operations Research.*

Q. Have you previously testified on financial or economic issues?

A. Yes. As an expert on financial and economic theory, I have testified on the cost of capital, competition, risk, incentive regulation, forward-looking economic cost, economic pricing guidelines, depreciation, accounting, valuation, and other financial and economic issues in approximately 400 cases before numerous

federal, state, and international regulatory and judicial bodies. My resume is appended as Exhibit___(JVW-9, Appendix 1).

Q. What is the purpose of your testimony?

A. I have been asked by Florida Power Corporation d/b/a Progress Energy Florida (PEF) to prepare an independent appraisal of PEF's cost of equity, and to recommend a rate of return on equity that is fair, that allows PEF to attract capital on reasonable terms, and that allows PEF to maintain its financial integrity.

Q. How do you estimate PEF's cost of equity?

A. I estimate PEF's cost of equity in two steps. First, I apply several standard cost of equity methods to market data for a large group of companies of comparable risk. Second, I adjust the average cost of equity for my comparable companies for the difference between the financial risk of those companies in the marketplace and the financial risk implied by PEF's rate making capital structure.

Q. Why do you apply your cost of equity methods to a large group of comparable risk companies rather than solely to PEF?

A. I apply my cost of equity methods to a large group of comparable risk companies because standard cost of equity methodologies such as the discounted cash flow ("DCF"), risk premium, and capital asset pricing model ("CAPM") require inputs of quantities that are not easily measured.[1] Since these inputs can only be

[1] The problem of difficult-to-measure inputs applies especially to PEF because, as a subsidiary of Progress Energy, its stock is not publicly traded.

estimated, there is naturally some degree of uncertainty surrounding the estimate of the cost of equity for each company. However, the uncertainty in the estimate of the cost of equity for an individual company can be greatly reduced by applying cost of equity methodologies to a large sample of comparable companies. Intuitively, unusually high estimates for some individual companies are offset by unusually low estimates for other individual companies. Thus, financial economists invariably apply cost of equity methodologies to a group of comparable companies. In utility regulation, the practice of using a group of comparable companies, called the comparable company approach, is further supported by the United States Supreme Court standard that the utility should be allowed to earn a return on its investment that is commensurate with returns being earned on other investments of the same risk.[2]

Q. What cost of equity do you find for your comparable companies in this proceeding?

A. On the basis of my studies, and as summarized in the table below, I find that the cost of equity for my comparable companies is equal to 11.5 percent. This conclusion is based on my application of three standard cost of equity estimation techniques, the DCF model, the risk premium approach, and the CAPM, to a broad group of companies of comparable risk. As noted below, the cost of equity for these comparable companies must be adjusted to reflect the higher financial

[2] See *Bluefield Water Works and Improvement Co. v. Public Service Comm'n.* 262 U.S. 679, 692 (1923) and *Hope Natural Gas Co.*, 320 U.S. at 603.

risk associated with PEF's rate making capital structure, which produces a cost of equity equal to 12.54 percent for PEF.

TABLE 1
COST OF EQUITY MODEL RESULTS

METHOD	COST OF EQUITY
Discounted Cash Flow	12.3%
Ex Ante Risk Premium	11.2%
Ex Post Risk Premium	11.4%
Historical CAPM	10.7%
DCF CAPM	11.8%
Average All Cost of Equity Methods	11.5%
Cost of Equity Reflecting Higher Financial Risk of PEF's Rate Making Capital Structure	12.54%

Q. You note that the cost of equity of your comparable companies needs to be adjusted for financial risk. Why is that adjustment needed?

A. The cost of equity for my comparable companies depends on their financial risk, which is measured by the market values of debt and equity in their capital structures. The financial risk of my comparable companies differs from the financial risk associated with PEF's rate making capital structure. It is both logically and economically inconsistent to apply a cost of equity developed for a sample of companies with a specific degree of financial risk to a capital structure with a different financial risk. One must adjust the cost of equity for my comparable companies upward in order for investors in PEF to have an opportunity to earn a return on their investment in PEF that is commensurate with returns they could earn on other investments of comparable risk.

Q. How does PEF's financial risk, as reflected in its recommended rate making capital structure, compare to the financial risk of your comparable companies?

A. PEF's recommended rate making capital structure in this proceeding contains 50 percent common equity. The five-year average market value capital structure for my comparable group of companies contains approximately 58 percent equity. Thus, the financial risk of PEF as reflected in its rate making capital structure is greater than the financial risk embodied in the cost of equity estimates for my comparable companies.

Q. What is the fair rate of return on equity for PEF indicated by your cost of equity analysis?

A. My analysis indicates that PEF would require a fair rate of return on equity equal to 12.54 percent in order to have the same weighted average cost of capital as my comparable companies.

Q. Do you have exhibits accompanying your testimony?

A. Yes. I have prepared or supervised the preparation of the following exhibits to my testimony:

- Exhibit No. ___ (JVW-1), Summary of Discounted Cash Flow Analysis for Electric Energy Companies;

- Exhibit No. ___ (JVW-2), Comparison of the DCF Expected Return on an Investment in Electric Companies to the Interest Rate on Moody's A-Rated Utility Bonds;
- Exhibit No. ___ (JVW-3), Comparative Returns on S&P 500 Stock Index and Moody's A-Rated Utility Bonds 1937—2008;
- Exhibit No. ___ (JVW-4), Comparative Returns on S&P Utility Stock Index and Moody's A-Rated Utility Bonds 1937—2008;
- Exhibit No. ___ (JVW-5), Using the Arithmetic Mean to Estimate the Cost of Equity Capital;
- Exhibit No. ___ (JVW-6), Calculation of Capital Asset Pricing Model Cost of Equity Using the Ibbotson® SBBI® 7.1 Percent Risk Premium;
- Exhibit No. ___ (JVW-7), Calculation of Capital Asset Pricing Model Cost of Equity Using DCF Estimate of the Expected Rate of Return on the Market Portfolio;
- Exhibit No. ___ (JVW-8) Illustration of Calculation of Cost of Equity Required for Company to Have the Same Weighted Average Cost of Capital as the Comparable Group;
- Exhibit No. ___ (JVW-9); Appendix 1, Vander Weide Resume
- Exhibit No. ___ (JVW-10), Appendix 2, Derivation of the Quarterly DCF Model;
- Exhibit No. ___ (JVW-11), Appendix 3, Adjusting for Flotation Costs in Determining a Public Utility's Allowed Rate of Return on Equity;
- Exhibit No. ___ (JVW-12), Appendix 4, Ex Ante Risk Premium Method; and

- Exhibit No. ___ (JVW-13), Appendix 5, Ex Post Premium Method.

These exhibits are true and accurate.

II. Economic and Legal Principles

Q. How do economists define the required rate of return, or cost of capital, associated with particular investment decisions such as the decision to invest in electric generation, transmission, and distribution facilities?

A. Economists define the cost of capital as the return investors expect to receive on alternative investments of comparable risk.

Q. How does the cost of capital affect a firm's investment decisions?

A. The goal of a firm is to maximize the value of the firm. This goal can be accomplished by accepting all investments in plant and equipment with an expected rate of return greater than the cost of capital. Thus, a firm should continue to invest in plant and equipment only so long as the return on its investment is greater than or equal to its cost of capital.

Q. How does the cost of capital affect investors' willingness to invest in a company?

A. The cost of capital measures the return investors can expect on investments of comparable risk. The cost of capital also measures the investor's required rate of return on investment because rational investors will not invest in a particular investment opportunity if the expected return on that opportunity is less than the

cost of capital. Thus, the cost of capital is a hurdle rate for both investors and the firm.

Q. Do all investors have the same position in the firm?

A. No. Debt investors have a fixed claim on a firm's assets and income that must be paid prior to any payment to the firm's equity investors. Since the firm's equity investors have a residual claim on the firm's assets and income, equity investments are riskier than debt investments. Thus, the cost of equity exceeds the cost of debt.

Q. What is the overall or average cost of capital?

A. The overall or average cost of capital is a weighted average of the cost of debt and cost of equity, where the weights are the percentages of debt and equity in a firm's capital structure.

Q. Can you illustrate the calculation of the overall or weighted average cost of capital?

A. Yes. Assume that the cost of debt is 7 percent, the cost of equity is 13 percent, and the percentages of debt and equity in the firm's capital structure are 50 percent and 50 percent, respectively. Then the weighted average cost of capital is expressed by .50 times 7 percent plus .50 times 13 percent, or 10.0 percent.

Q. How do economists define the cost of equity?

A. Economists define the cost of equity as the return investors expect to receive on alternative equity investments of comparable risk. Since the return on an equity investment of comparable risk is not a contractual return, the cost of equity is more difficult to measure than the cost of debt. However, as I have already noted, there is agreement among economists that the cost of equity is greater than the cost of debt. There is also agreement among economists that the cost of equity, like the cost of debt, is both forward looking and market based.

Q. How do economists measure the percentages of debt and equity in a firm's capital structure?

A. Economists measure the percentages of debt and equity in a firm's capital structure by first calculating the market value of the firm's debt and the market value of its equity. Economists then calculate the percentage of debt by the ratio of the market value of debt to the combined market value of debt and equity, and the percentage of equity by the ratio of the market value of equity to the combined market values of debt and equity. For example, if a firm's debt has a market value of $25 million and its equity has a market value of $75 million, then its total market capitalization is $100 million, and its capital structure contains 25 percent debt and 75 percent equity.

Q. Why do economists measure a firm's capital structure in terms of the market values of its debt and equity?

A. Economists measure a firm's capital structure in terms of the market values of its debt and equity because: (1) the weighted average cost of capital is defined as the return investors expect to earn on a portfolio of the company's debt and equity securities; (2) investors measure the expected return and risk on their portfolios using market value weights, not book value weights; and (3) market values are the best measures of the amounts of debt and equity investors have invested in the company on a going forward basis.

Q. Why do investors measure the return on their investment portfolios using market value weights rather than book value weights?

A. Investors measure the return on their investment portfolios using market value weights because market value weights are the best measure of the amounts the investors currently have invested in each security in the portfolio. From the point of view of investors, the historical cost or book value of their investment is entirely irrelevant to the current risk and return on their portfolios because if they were to sell their investments, they would receive market value, not historical cost. Thus, the return can only be measured in terms of market values.

Q. Is the economic definition of the weighted average cost of capital consistent with regulators' traditional definition of the average cost of capital?

A. No. The economic definition of the weighted average cost of capital is based on the market costs of debt and equity, the market value percentages of debt and equity in a company's capital structure, and the future expected risk of investing

in the company. In contrast, regulators have traditionally defined the weighted average cost of capital using the embedded cost of debt and the book values of debt and equity in a company's capital structure.

Q. Does the required rate of return on an investment vary with the risk of that investment?

A. Yes. Since investors are averse to risk, they require a higher rate of return on investments with greater risk.

Q. Do economists and investors consider future industry changes when they estimate the risk of a particular investment?

A. Yes. Economists and investors consider all the risks that a firm might incur over the future life of the company.

Q. Are these economic principles regarding the fair return for capital recognized in any Supreme Court cases?

A. Yes. These economic principles, relating to the supply of and demand for capital, are recognized in two United States Supreme Court cases: (1) *Bluefield Water Works and Improvement Co. v. Public Service Comm'n.*; and (2) *Federal Power Comm'n v. Hope Natural Gas Co.* In the *Bluefield Water Works* case, the Court states:

> A public utility is entitled to such rates as will permit it to earn a return upon the value of the property which it employs for the convenience of the public equal to that generally being made at the same time and in the same general part of the country on investments in other business

> undertakings which are attended by corresponding risks and uncertainties; but it has no constitutional right to profits such as are realized or anticipated in highly profitable enterprises or speculative ventures. The return should be reasonably sufficient to assure confidence in the financial soundness of the utility, and should be adequate, under efficient and economical management, to maintain and support its credit, and enable it to raise the money necessary for the proper discharge of its public duties. [*Bluefield Water Works and Improvement Co. v. Public Service Comm'n.* 262 U.S. 679, 692 (1923)].

The Court clearly recognizes here that: (1) a regulated firm cannot remain financially sound unless the return it is allowed to earn on the value of its property is at least equal to the cost of capital (the principle relating to the demand for capital); and (2) a regulated firm will not be able to attract capital if it does not offer investors an opportunity to earn a return on their investment equal to the return they expect to earn on other investments of the same risk (the principle relating to the supply of capital).

In the *Hope Natural Gas* case, the Court reiterates the financial soundness and capital attraction principles of the *Bluefield* case:

> From the investor or company point of view it is important that there be enough revenue not only for operating expenses but also for the capital costs of the business. These include service on the debt and dividends on the stock... By that standard the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks. That return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital. [*Federal Power Comm'n v. Hope Natural Gas Co.*, 320 U.S. 591, 603 (1944)].

Q. What practical difficulties arise when one attempts to apply the economic principles noted above to a regulated firm?

A. The application of these principles to the debt and preferred stock components of a regulated firm's capital structure is straightforward. Several problems arise, however, when the principles are applied to common equity. These problems stem from the fact that the cash flows to the equity investors, over any period of time, are not fixed by contract, and thus are not known with certainty. To induce equity investors to part with their money, a firm must offer them an expected return that is commensurate with expected returns on equity investments of similar risk. The need to measure expected returns makes the application of the above principles difficult. These difficulties are especially pronounced today for a firm like PEF, which is part of an industry that faces increased demand uncertainty, increased operating cost uncertainty, and increased uncertainty regarding the investments required to provide safe and reliable service.

Q. How do you address these difficulties in your testimony?

A. I address these difficulties by employing the comparable company approach to estimate PEF's cost of equity.

Q. What is the comparable company approach?

A. The comparable company approach estimates PEF's cost of equity by identifying a group of companies of similar risk. The cost of equity is then estimated for the companies in the proxy group.

III. Business and Financial Risks

Q. What business and financial risks did you consider in your assessment of PEF's cost of equity?

A. I considered both the general business and financial risks associated with the state of the U.S. economy ("macroeconomic risks") and the specific business and financial risks associated with investing in PEF's electric energy business.

A. Macroeconomic Risks

Q. How do you describe the current U.S. economic environment?

A. The U. S. economy is in the midst of the largest housing, employment, credit, and financial crisis since World War II. During the last year, housing construction has virtually halted, housing prices have collapsed, foreclosures have increased, banks have either failed or announced multi-billion dollar write-offs, unemployment has increased, and investor confidence in the health of the economy is at record lows.

Q. Has the recently-passed Congressional stimulus package reduced investor uncertainty about the U.S. economic environment?

A. No. Because the problems in the U.S. economy are so widespread and the stimulus package will greatly increase the Federal deficit, investors are uncertain whether the stimulus package will be effective in resolving economic problems.

Q. How have investors responded to the deteriorating U.S. economic conditions?

A. Investors have responded by increasing their aversion to risk, reducing their leverage, increasing their demand for liquidity, and increasing their required rates of return on risky investments.

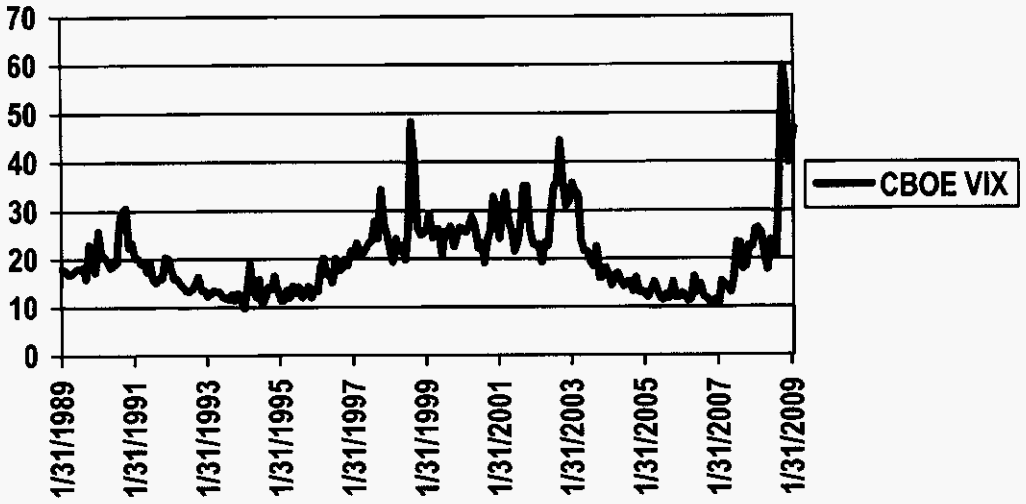
Q. What effect has the increased aversion to risk, reduction in leverage, increased demand for liquidity, and increased required rates of return on risky stock and bond investments had on stock prices and interest rates?

A. These factors have caused stock prices to decline by the highest percentage since The Great Depression and caused interest rates on all but the safest bond investments to increase. The S&P 500 has declined by approximately 40 percent in the past year and by approximately 50 percent since mid-2007. The stock market has not experienced declines of this magnitude since the early 1930s. Interest rates on Baa-rated utility bonds have increased from approximately 6 percent in early 2007 to approximately 8 percent in January 2009, while interest rates on high yield corporate bonds have been at double digit levels since September 2008.

Q. Have increased risk aversion, reduced demand for leverage, increased demand for liquidity, and increased required rates of return on risky stock and bond investments also increased stock market volatility?

A. Yes. Economists generally use the Chicago Board of Exchange ("CBOE") volatility index to measure stock market volatility. The CBOE volatility index is at its highest levels since the late 1980s.

Figure 1
CBOE Volatility Index 1989 2009



B. Business and Financial Risks of Investing in Electric Energy Companies

Q. What are the primary factors that affect the business and financial risks of electric energy companies such as PEF?

A. The business and financial risks of investing in electric energy companies such as PEF include:

1. Demand Uncertainty. Demand uncertainty is one of the primary business risks of investing in electric energy companies such as PEF. Demand uncertainty is caused by: (a) the strong dependence of electric demand on the state of the economy and weather patterns; (b) sensitivity of demand to changes in rates; (c) the ability of customers to choose alternative forms of energy, such as natural gas or oil; (d) the ability of some customers to locate facilities in the service areas of competitors; (e) the ability of some customers to conserve energy or produce their own electricity under cogeneration or self-generation arrangements; and (f) the ability of

municipalities to go into the energy business rather than renew the company's franchise. Demand uncertainty is a problem for electric companies because of the need to plan for infrastructure additions many years in advance of demand.

2. Operating Expense Uncertainty. The business risk of electric energy companies is also increased by the inherent uncertainty in the typical electric energy company's operating expenses. Operating expense uncertainty arises as a result of: (a) the prospect of increasing employee health care and pension expenses; (b) uncertainty over plant outages, the cost of purchased power, and the revenues achieved from off system sales; (c) variability in maintenance costs and the costs of other materials, (d) uncertainty over outages of the transmission and distribution systems, as well as storm-related expenses; (e) the prospect of increased expenses for security; and (f) high volatility in fuel prices or interruptions in fuel supply.

3. Investment Cost Uncertainty. The electric energy business requires very large investments in the generation, transmission, and distribution facilities required to deliver energy to customers. The future amounts of required investments in these facilities are highly uncertain as a result of: (a) demand uncertainty; (b) the changing economics of alternative generation technologies; (c) uncertainty in environmental regulations and clean air requirements; (d) uncertainty in the costs of construction materials and labor; (e) uncertainty in the amount of additional

investments to insure the reliability of the company's transmission and distribution networks; (f) uncertainty regarding the regulatory and management structure of the electric transmission network; and (g) uncertainty regarding future decommissioning and dismantlement costs. Furthermore, the risk of investing in electric energy facilities is increased by the irreversible nature of the company's investments in generation, transmission, and distribution facilities. For example, if an electric energy company decides to invest in building a new coal-fired generation plant, and, as a result of new environmental regulations, energy produced by the plant becomes uneconomic, the company may not be able to recover its investment.

4. High Operating Leverage. The electric energy business requires a large commitment to fixed costs in relation to the operating margin on sales, a situation known as high operating leverage. The relatively high degree of fixed costs in the electric energy business arises from the average electric energy company's large investment in fixed generation, transmission, and distribution facilities. High operating leverage causes the average electric energy company's operating income to be highly sensitive to revenue fluctuations.

5. High Degree of Financial Leverage. The large capital requirements for building economically efficient electric generation, transmission, and distribution facilities, along with the traditional regulatory preference for the use of debt, have encouraged electric utilities to maintain highly debt-

leveraged capital structures as compared to non-utility companies. High debt leverage is a source of additional risk to utility stock investors because it increases the percentage of the company's costs that are fixed, and the presence of higher fixed costs increases the sensitivity of a company's earnings to variations in revenues.

6. Regulatory Uncertainty. Investors' perceptions of the business and financial risks of electric energy companies are strongly influenced by their views of the quality of regulation. Investors are painfully aware that regulators in some jurisdictions have been unwilling at times to set rates that allow companies an opportunity to recover their cost of service and earn a fair and reasonable return on investment. As a result of the perceived increase in regulatory risk, investors will demand a higher rate of return for electric energy companies operating in those states. On the other hand, if investors perceive that regulators will provide a reasonable opportunity for the company to maintain its financial integrity and earn a fair rate of return on its investment, investors will view regulatory risk as minimal.

Q. Have any of these risk factors changed in recent years?

A. Yes. In recent years, the risk of investing in electric energy companies has increased as a result of significantly greater macroeconomic uncertainty, projected electric energy company capital expenditures; volatility in fuel prices; greater uncertainty in the cost of satisfying environmental requirements; more volatile

purchased power and off system sales prices; greater uncertainty in employee health care and pension expenses; and greater uncertainty in the expenses associated with system outages, storm damage, and security. Each of these factors puts pressure on customer rates and therefore increase regulatory risk. The Commission should recognize these higher risks and the correspondingly higher returns required by investors in setting PEF's allowed rate of return in this proceeding.

Q. How does greater macroeconomic uncertainty affect the business and financial risks of investing in electric energy companies such as PEF?

A. Greater macroeconomic uncertainty increases the business and financial risks of investing in electric energy companies such as PEF by fundamentally increasing demand uncertainty, investment uncertainty, and regulatory uncertainty.

Q. Why does macroeconomic uncertainty increase demand uncertainty?

A. Macroeconomic uncertainty increases demand uncertainty because the demand for electric energy services depends on the state of the economy. The greater the uncertainty regarding the state of the economy, the greater the uncertainty regarding the demand for energy services.

Q. How does increased demand uncertainty affect the uncertainty of PEF's future return on investment?

A. Increased demand uncertainty greatly increases the uncertainty of PEFs future return on investment because most of PEF's costs are fixed, while its revenues are variable. Thus, greater volatility in revenues produces greater volatility in return on investment.

Q. Why does macroeconomic uncertainty increase investment cost uncertainty?

A. Increased macroeconomic uncertainty greatly increases the uncertainty of investment costs for electric companies like PEF because it increases the uncertainty regarding: the demand for electric energy; the economics of alternative generating technologies; the cost of environmental regulations; the cost of construction materials and labor; and the amount of additional investment required to ensure the reliability of the company's transmission and distribution networks.

Q. Why does macroeconomic uncertainty increase regulatory uncertainty?

A. Regulatory uncertainty arises because investors are not certain that regulators will be willing to set rates that allow companies an opportunity to recover their costs of service and earn a fair and reasonable return on investment. Regulatory uncertainty increases in difficult economic times because investors recognize that regulators are likely to face greater pressure to restrain rate increases in difficult economic times than in good economic times.

Q. How do greater projected capital expenditures affect the business and financial risks of investing in electric energy companies such as PEF?

A. Greater projected capital expenditures increase the business and financial risks of investing in electric energy companies such as PEF by increasing investment cost uncertainty, operating leverage, and regulatory uncertainty.

Q. Why do greater projected capital expenditures increase an electric energy company's investment cost uncertainty?

A. Greater projected capital expenditures increase investment cost uncertainty because investments in new generation, transmission, and distribution facilities take many years to complete. As investors found during the last electric energy investment boom of the 1980s, actual costs of building new generation, transmission, and distribution facilities can differ from forecasted costs as a result of changes in environmental regulations, materials costs, capital costs, and unexpected delays.

Q. Why do greater projected capital expenditures increase operating leverage?

A. As noted above, operating leverage increases when a firm's commitment to fixed costs rises in relation to its operating margin on sales. Increased capital expenditures increase operating leverage because investment costs are fixed, the investment period is long, and revenues do not generally increase in line with investment costs until the investment is entirely included in rate base. Thus, the

ratio of fixed costs to operating margin increases when capital expenditures increase.

Q. Why do greater projected capital expenditures increase regulatory uncertainty?

A. As noted above, regulatory uncertainty arises because investors are aware that regulators in some states have been unwilling at times to set rates that allow a company an opportunity to recover its cost of service, including the cost of capital. Regulatory uncertainty is most pronounced when rates are projected to increase. Greater projected capital expenditures increase regulatory uncertainty because they frequently cause rates to increase.

Q. Is PEF projecting greater capital expenditures over the next ten years?

A. Yes. PEF has recently received approval to build nuclear generating facilities that will increase its capital expenditures by approximately $17 billion over the next ten years just for the nuclear plant and related transmission additions. These capital expenditures are especially large in relation to PEF's 2008 year-end rate base, which is approximately $7 billion.

Q. How does PEF's projected $17 billion investment in nuclear generating facilities increase its risk?

A. PEF's projected $17 billion investment in nuclear generating facilities increases its risk because the required investment is large, illiquid, and largely irreversible,

particularly once construction begins; the investment horizon is long; and the investment and financing costs are uncertain. In addition, the investment is projected to more than double the value of PEF's current rate base.

Q. Can the risks facing PEF and other electric energy companies be distinguished from the risks of investing in companies in other industries?

A. Yes. The risks of investing in electric energy companies such as PEF can be distinguished from the risks of investing in companies in many other industries in several ways. First, the risks of investing in electric energy companies are increased because of the greater capital intensity of the electric energy business and the fact that most investments in electric energy facilities are largely irreversible once they are made. Second, unlike returns in competitive industries, the returns from investment in the electric energy business are largely asymmetric. That is, there is little opportunity for electric energy companies to earn more than their required return, and a significant chance that they will earn less than their required return.

V. Cost of Equity Estimation Methods

Q. What methods do you use to estimate the cost of common equity capital for PEF?

A. I use three generally accepted methods for estimating PEF's cost of common equity. These are the Discounted Cash Flow (DCF), risk premium, and CAPM methods. The DCF method assumes that the current market price of a firm's

stock is equal to the discounted value of all expected future cash flows to be received by equity investors. The risk premium method assumes that investors' required return on an equity investment is equal to the interest rate on a long-term bond plus an additional equity risk premium to compensate the investor for the risks of investing in equities compared to bonds. The CAPM assumes that the investors' required rate of return is equal to a risk-free rate of interest plus the product of a company-specific risk factor, beta, and the expected risk premium on the market portfolio.

VI. Discounted Cash Flow (DCF) Method

Q. Please describe the DCF model.

A. The DCF model is based on the assumption that investors value an asset on the basis of the future cash flows they expect to receive from owning the asset. Thus, investors value an investment in a bond because they expect to receive a sequence of semi-annual coupon payments over the life of the bond and a terminal payment equal to the bond's face value at the time the bond matures. Likewise, investors value an investment in a firm's stock because they expect to receive a sequence of dividend payments and, perhaps, expect to sell the stock at a higher price sometime in the future.

A second fundamental principle of the DCF method is that investors value a dollar received in the future less than a dollar received today. A future dollar is valued less than a current dollar because investors could invest a current dollar in an interest earning account and increase their wealth. This principle is called the time value of money.

Applying the two fundamental DCF principles noted above to an investment in a bond leads to the conclusion that investors value their investment in the bond on the basis of the present value of the bond's future cash flows. Thus, the price of the bond should be equal to:

EQUATION 1

$$P_B = \frac{C}{(1+i)} + \frac{C}{(1+i)^2} + \ldots + \frac{C+F}{(1+i)^n}$$

where:

P_B = Bond price;

C = Cash value of the coupon payment (assumed for notational convenience to occur annually rather than semi-annually);

F = Face value of the bond;

i = The rate of interest the investor could earn by investing his money in an alternative bond of equal risk; and

n = The number of periods before the bond matures.

Applying these same principles to an investment in a firm's stock suggests that the price of the stock should be equal to:

EQUATION 2

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

where:

P_S = Current price of the firm's stock;

$D_1, D_2 ... D_n$ = Expected annual dividend per share on the firm's stock;

P_n = Price per share of stock at the time the investor expects to sell the stock; and

k = Return the investor expects to earn on alternative investments of the same risk, i.e., the investor's required rate of return.

Equation (2) is frequently called the annual discounted cash flow model of stock valuation. Assuming that dividends grow at a constant annual rate, *g*, this equation can be solved for *k*, the cost of equity. The resulting cost of equity equation is $k = D_1/P_s + g$, where *k* is the cost of equity, D_1 is the expected next period annual dividend, P_s is the current price of the stock, and *g* is the constant annual growth rate in earnings, dividends, and book value per share. The term D_1/P_s is called the dividend yield component of the annual DCF model, and the term *g* is called the growth component of the annual DCF model.

Q. Are you recommending that the annual DCF model be used to estimate PEF's cost of equity?

A. No. The DCF model assumes that a company's stock price is equal to the present discounted value of all expected future dividends. The annual DCF model is only a correct expression for the present value of future dividends if dividends are paid annually at the end of each year. Since the companies in my proxy group all pay dividends quarterly, the current market price that investors are willing to pay

reflects the expected quarterly receipt of dividends. Therefore, a quarterly DCF model must be used to estimate the cost of equity for these firms. The quarterly DCF model differs from the annual DCF model in that it expresses a company's price as the present value of a quarterly stream of dividend payments. A complete analysis of the implications of the quarterly payment of dividends on the DCF model is provided in Exhibit No. ___ (JVW-10), Appendix 2. For the reasons cited there, I employed the quarterly DCF model throughout my calculations.

Q. Please describe the quarterly DCF model you used.

A. The quarterly DCF model I used is described on Exhibit No. ___ (JVW-1) and in (Exhibit No. ___ (JVW-10), Appendix 2. The quarterly DCF equation shows that the cost of equity is: the sum of the future expected dividend yield and the growth rate, where the dividend in the dividend yield is the equivalent future value of the four quarterly dividends at the end of the year, and the growth rate is the expected growth in dividends or earnings per share.

Q. How do you estimate the quarterly dividend payments in your quarterly DCF model?

A. The quarterly DCF model requires an estimate of the dividends, d_1, d_2, d_3, and d_4, investors expect to receive over the next four quarters. I estimate the next four quarterly dividends by multiplying the previous four quarterly dividends by the factor, (1 + the growth rate, g).

Q. Can you illustrate how you estimate the next four quarterly dividends with data for a specific company?

A. Yes. In the case of American Electric Power, the first company shown in Exhibit No. ___ (JVW-1), the last four quarterly dividends are equal to 0.635. Thus dividends, d_1, d_2, d_3, and d_4 are equal to .654 [0.635 x (1 + .0300) = .654]. (As noted previously, the logic underlying this procedure is described in Exhibit No. ___ (JVW-10), Appendix 2.)

Q. In Exhibit No. ___ (JVW-10), Appendix 2, you demonstrate that the quarterly DCF model provides the theoretically correct valuation of stocks when dividends are paid quarterly. Do investors, in practice, recognize the actual timing and magnitude of cash flows when they value stocks and other securities?

A. Yes. In valuing long-term government or corporate bonds, investors recognize that interest is paid semi-annually. Thus, the price of a long-term government or corporate bond is simply the present value of the semi-annual interest and principal payments on these bonds. Likewise, in valuing mortgages, investors recognize that interest is paid monthly. Thus, the value of a mortgage loan is simply the present value of the monthly interest and principal payments on the loan. In valuing stock investments, stock investors correctly recognize that dividends are paid quarterly. Thus, a firm's stock price is the present value of the stream of quarterly dividends expected from owning the stock.

Q. When valuing bonds, mortgages, or stocks, would investors assume that cash flows are received only at the end of the year, when, in fact, the cash flows are received semi-annually, quarterly, or monthly?

A. No. Assuming that cash flows are received at the end of the year when they are received semi-annually, quarterly, or monthly would lead investors to make serious mistakes in valuing investment opportunities. No rational investor would make the mistake of assuming that dividends or other cash flows are paid annually when, in fact, they are paid more frequently.

Q. How do you estimate the growth component of the quarterly DCF model?

A. I use the analysts' estimates of future earnings per share (EPS) growth reported by I/B/E/S Thomson Reuters.

Q. What are the analysts' estimates of future EPS growth?

A. As part of their research, financial analysts working at Wall Street firms periodically estimate EPS growth for each firm they follow. The EPS forecasts for each firm are then published. Investors who are contemplating purchasing or selling shares in individual companies review the forecasts. These estimates represent five-year forecasts of EPS growth.

Q. What is I/B/E/S?

A. I/B/E/S is a firm that reports analysts' EPS growth forecasts for a broad group of companies. The forecasts are expressed in terms of a mean forecast and a

standard deviation of forecast for each firm. Investors use the mean forecast as a consensus estimate of future firm performance.

Q. Why do you use the I/B/E/S growth estimates?

A. The I/B/E/S growth rates: (1) are widely circulated in the financial community, (2) include the projections of reputable financial analysts who develop estimates of future EPS growth, (3) are reported on a timely basis to investors, and (4) are widely used by institutional and other investors.

Q. Why do you rely on analysts' projections of future EPS growth in estimating the investors' expected growth rate rather than looking at past historical growth rates?

A. I rely on analysts' projections of future EPS growth because there is considerable empirical evidence that investors use analysts' forecasts to estimate future earnings growth.

Q. Have you performed any studies concerning the use of analysts' forecasts as an estimate of investors' expected growth rate, g?

A. Yes, I prepared a study in conjunction with Willard T. Carleton, Professor of Finance Emeritus at the University of Arizona, on why analysts' forecasts are the best estimate of investors' expectation of future long-term growth. This study is described in a paper entitled "Investor Growth Expectations and Stock Prices:

Analysts vs. History," published in the Spring 1988 edition of *The Journal of Portfolio Management*.

Q. Please summarize the results of your study.

A. First, we performed a correlation analysis to identify the historically oriented growth rates which best described a firm's stock price. Then we did a regression study comparing the historical growth rates with the consensus analysts' forecasts. In every case, the regression equations containing the average of analysts' forecasts statistically outperformed the regression equations containing the historical growth estimates. These results are consistent with those found by Cragg and Malkiel, the early major research in this area (John G. Cragg and Burton G. Malkiel, Expectations and the Structure of Share Prices, University of Chicago Press, 1982). These results are also consistent with the hypothesis that investors use analysts' forecasts, rather than historically oriented growth calculations, in making stock buy and sell decisions. They provide overwhelming evidence that the analysts' forecasts of future growth are superior to historically-oriented growth measures in predicting a firm's stock price.

Q. Has your study been updated to include more recent data?

A. Yes. Researchers at State Street Financial Advisors updated my study using data through year-end 2003. Their results continue to confirm that analysts' growth forecasts are superior to historically-oriented growth measures in predicting a firm's stock price.

Q. What price do you use in your DCF model?

A. I use a simple average of the monthly high and low stock prices for each firm for the three-month period ending November 2008. These high and low stock prices were obtained from Thomson Reuters.

Q. Why do you use the three-month average stock price in applying the DCF method?

A. I use the three-month average stock price in applying the DCF method because stock prices fluctuate daily, while financial analysts' forecasts for a given company are generally changed less frequently, often on a quarterly basis. Thus, to match the stock price with an earnings forecast, it is appropriate to average stock prices over a three-month period.

Q. Do you include an allowance for flotation costs in your DCF analysis?

A. Yes. I include a five percent allowance for flotation costs in my DCF calculations.

Q. Please explain your inclusion of flotation costs.

A. All firms that have sold securities in the capital markets have incurred some level of flotation costs, including underwriters' commissions, legal fees, printing expense, etc. These costs are withheld from the proceeds of the stock sale or are paid separately, and must be recovered over the life of the equity issue. Costs vary depending upon the size of the issue, the type of registration method used

and other factors, but in general these costs range between three and five percent of the proceeds from the issue [see Lee, Inmoo, Scott Lochhead, Jay Ritter, and Quanshui Zhao, "The Costs of Raising Capital," *The Journal of Financial Research*, Vol. XIX No 1 (Spring 1996), 59-74, and Clifford W. Smith, "Alternative Methods for Raising Capital," *Journal of Financial Economics* 5 (1977) 273-307]. In addition to these costs, for large equity issues (in relation to outstanding equity shares), there is likely to be a decline in price associated with the sale of shares to the public. On average, the decline due to market pressure has been estimated at two to three percent [see Richard H. Pettway, "The Effects of New Equity Sales upon Utility Share Prices," *Public Utilities Fortnightly*, May 10, 1984, 35—39]. Thus, the total flotation cost, including both issuance expense and market pressure, could range anywhere from five to eight percent of the proceeds of an equity issue. I believe a combined five percent allowance for flotation costs is a conservative estimate that should be used in applying the DCF model in this proceeding.

Q. Is a flotation cost adjustment only appropriate if a company issues stock during the last year?

A. As described in Exhibit No. ___ (JVW-11), Appendix 3, a flotation cost adjustment is required whether or not a company issued new stock during the last year. Previously incurred flotation costs have not been recovered in previous rate cases; rather, they are a permanent cost associated with past issues of common stock. Just as an adjustment is made to the embedded cost of debt to reflect

previously incurred debt issuance costs (regardless of whether additional bond issuances were made in the test year), so should an adjustment be made to the cost of equity regardless of whether additional stock was issued during the last year.

Q. Does an allowance for recovery of flotation costs associated with stock sales in prior years constitute retroactive rate-making?

A. No. An adjustment for flotation costs on equity is not meant to recover any cost that is properly assigned to prior years. In fact, the adjustment allows PEF to recover only the current carrying costs associated with flotation expenses incurred at the time stock sales were made. The original flotation costs themselves will never be recovered, because the stock is assumed to have an infinite life.

Q. How do you apply the DCF approach to obtain the cost of equity capital for PEF?

A. I apply the DCF approach to the Value Line electric companies shown in Exhibit No. ___ (JVW-1).

Q. How do you select your proxy group of electric companies?

A. I select all the companies in Value Line's groups of electric companies that: (1) paid dividends during every quarter of the last two years; (2) did not decrease dividends during any quarter of the past two years; (3) had at least three analysts included in the I/B/E/S mean growth forecast; (4) have an investment grade bond

rating and a Value Line Safety Rank of 1, 2, or 3; and (5) are not the subject of a merger offer that has not been completed.

Q. Why do you eliminate companies that have either decreased or eliminated their dividend in the past two years?

A. The DCF model requires the assumption that dividends will grow at a constant rate into the indefinite future. If a company has either decreased or eliminated its dividend in recent years, an assumption that the company's dividend will grow at the same rate into the indefinite future is questionable.

Q. Why do you eliminate companies that have fewer than three analysts included in the I/B/E/S mean forecasts?

A. The DCF model also requires a reliable estimate of a company's expected future growth. For most companies, the I/B/E/S mean growth forecast is the best available estimate of the growth term in the DCF model. However, the I/B/E/S estimate may be less reliable if the mean estimate is based on the inputs of very few analysts. On the basis of my professional judgment, I believe that at least three analysts' estimates are a reasonable minimum number.

Q. Why do you eliminate companies that have announced mergers that are not yet completed?

A. A merger announcement can sometimes have a significant impact on a company's stock price because of anticipated merger-related cost savings and new market

opportunities. Analysts' growth forecasts, on the other hand, are necessarily related to companies as they currently exist, and do not reflect investors' views of the potential cost savings and new market opportunities associated with mergers. The use of a stock price that includes the value of potential mergers in conjunction with growth forecasts that do not include the growth enhancing prospects of potential mergers produces DCF results that tend to distort a company's cost of equity.

Q. Please summarize the results of your application of the DCF model to the Value Line electric company proxy group.

A. As shown on Exhibit No. ___ (JVW-1), I obtain a DCF result of 12.3 percent.

VII. Risk Premium Method

Q. Please describe the risk premium method of estimating PEF's cost of equity.

A. The risk premium method is based on the principle that investors expect to earn a return on an equity investment in PEF that reflects a "premium" over and above the return they expect to earn on an investment in a portfolio of bonds. This equity risk premium compensates equity investors for the additional risk they bear in making equity investments versus bond investments.

Q. Does the risk premium approach specify what debt instrument should be used to estimate the interest rate component in the methodology?

A. No. The risk premium approach can be implemented using virtually any debt instrument. However, the risk premium approach does require that the debt instrument used to estimate the risk premium be the same as the debt instrument used to calculate the interest rate component of the risk premium approach. For example, if the risk premium on equity is calculated by comparing the returns on stocks and the returns on A-rated utility bonds, then the interest rate on A-rated utility bonds must be used to estimate the interest rate component of the risk premium approach.

Q. Does the risk premium approach require that the same companies be used to estimate the stock return as are used to estimate the bond return?

A. No. For example, many analysts apply the risk premium approach by comparing the return on a portfolio of stocks to the return on Treasury securities such as long-term Treasury bonds. Clearly, in this widely-accepted application of the risk premium approach, the same companies are not used to estimate the stock return as are used to estimate the bond return, since the U.S. government is not a company.

Q. How do you measure the required risk premium on an equity investment in PEF?

A. I use two methods to estimate the required risk premium on an equity investment in PEF. The first is called the ex ante risk premium method and the second is called the ex post risk premium method.

1. Ex Ante Risk Premium Method

Q. Please describe your ex ante risk premium approach for measuring the required risk premium on an equity investment in PEF.

A. My ex ante risk premium method is based on my study of the DCF expected return on a proxy group of electric companies compared to the interest rate on Moody's A-rated utility bonds. Specifically, for each month in my study period, I calculated the risk premium using the equation,

$$RP_{PROXY} = DCF_{PROXY} - I_A$$

where:

RP_{PROXY} = the required risk premium on an equity investment in the proxy group of companies,

DCF_{PROXY} = average DCF estimated cost of equity on a portfolio of proxy companies; and

I_A = the yield to maturity on an investment in A-rated utility bonds.

I then perform a regression analysis to determine if there is a relationship between the calculated risk premium and interest rates. Finally, I used the results of the regression analysis to estimate the investors' required risk premium. To estimate the cost of equity, I then added the required risk premium to the forecasted interest rate on A-rated utility bonds. A detailed description of my ex ante risk premium studies is contained in Exhibit No. ___ (JVW-12), Appendix 4, and the underlying DCF results and interest rates are displayed in Exhibit No. ___ (JVW-2).

Q. What cost of equity do you obtain from your ex ante risk premium method using the proxy group of electric companies?

A. To estimate the cost of equity using the ex ante risk premium method, one may add the estimated risk premium over the yield on A-rated utility bonds to the forecasted yield to maturity on A-rated utility bonds. At December 1, 2008, the forecasted yield to maturity on A-rated utility bonds is 6.33 percent.[3] My analyses produce an estimated risk premium over the yield on A-rated utility bonds equal to 4.9 percent. Adding an estimated risk premium of 4.9 percent to the forecasted 6.3 percent yield to maturity on A-rated utility bonds produces a cost of equity estimate of 11.2 percent using the ex ante risk premium method.

2. Ex Post Risk Premium Method

Q. Please describe your ex post risk premium method for measuring the required risk premium on an equity investment in PEF.

A. I first perform a study of the comparable returns received by bond and stock investors over the last 71 years. I estimate the returns on stock and bond portfolios, using stock price and dividend yield data on the S&P 500 and bond yield data on Moody's A-rated Utility Bonds. My study consists of making an investment of one dollar in the S&P 500 and Moody's A-rated utility bonds at the

[3]Forecasted A-rated utility bond yield from Blue Chip December 1, 2008, using Blue Chip forecast for Baa-rated corporate bond plus current difference between A-rated utility and Baa-rated corporate bonds. The average A-rated utility bond yield November 2008 is 7.65 percent; the average Baa-rated corporate bond yield November 2008 is 9.22 percent. The difference between the two yields is 157 basis points. The forecast Baa-rated corporate bond yield Q1 2010 is 7.9 percent; subtracting 157 basis points from 7.9 percent equals 6.33 percent.

beginning of 1937 and reinvesting the principal plus return each year to 2008. The return associated with each stock portfolio is the sum of the annual dividend yield and capital gain (or loss) which accrues to this portfolio during the year(s) in which it is held. The return associated with the bond portfolio, on the other hand, is the sum of the annual coupon yield and capital gain (or loss) which accrued to the bond portfolio during the year(s) in which it is held. The resulting annual returns on the stock and bond portfolios purchased in each year between 1937 and 2008 are shown on Exhibit No. ___ (JVW-3). The average annual return on an investment in the S&P 500 stock portfolio is 11.4 percent, while the average annual return on an investment in the Moody's A-rated utility bond portfolio was 6.4 percent. The risk premium on the S&P 500 stock portfolio is, therefore, 5.0 percent.

I also conduct a second study using stock data on the S&P Utilities rather than the S&P 500. As shown on Exhibit No. ___ (JVW-4), the S&P Utility stock portfolio shows an average annual return of 11.0 percent per year. Thus, the return on the S&P Utility stock portfolio exceeds the return on the Moody's A-rated utility bond portfolio by 4.6 percent.

Q. Why is it appropriate to perform your ex post risk premium analysis using both the S&P 500 and the S&P Utility Stock indices?

A. I perform my ex post risk premium analysis on both the S&P 500 and the S&P Utilities as upper and lower bounds for the required risk premium on an equity investment in PEF because I believe electric energy companies today face risks

that are somewhere in between the average risk of the S&P Utilities and the S&P 500 over the years 1937 to 2008. Specifically, the risk premium on the S&P Utilities, 4.6 percent, represents a lower bound for the required risk premium on an equity investment in PEF because PEF is currently more risky than an investment in the average utility in the S&P Utilities index over the entire period 1937 to the present. On the other hand, the risk premium on the S&P 500, 5.0 percent, represents an upper bound because an investment in PEF is less risky than an investment in the S&P 500 over the period 1937 to the present. I use the average of the two risk premiums as my estimate of the required risk premium for PEF in my ex post risk premium method.

Q. Why do you analyze investors' experiences over such a long time frame?

A. Because day-to-day stock price movements can be somewhat random, it is inappropriate to rely on short-run movements in stock prices in order to derive a reliable risk premium. Rather than buying and selling frequently in anticipation of highly volatile price movements, most investors employ a strategy of buying and holding a diversified portfolio of stocks. This buy-and-hold strategy will allow an investor to achieve a much more predictable long-run return on stock investments and at the same time will minimize transaction costs. The situation is very similar to the problem of predicting the results of coin tosses. I cannot predict with any reasonable degree of accuracy the result of a single, or even a few, flips of a balanced coin; but I can predict with a good deal of confidence that approximately 50 heads will appear in 100 tosses of this coin. Under these

circumstances, it is most appropriate to estimate future experience from long-run evidence of investment performance.

Q. Would your study provide a different risk premium if you started with a different time period?

A. Yes. The risk premium results do vary somewhat depending on the historical time period chosen. My policy was to go back as far in history as I could get reliable data. I thought it would be most meaningful to begin after the passage and implementation of the Public Utility Holding Company Act of 1935. This Act significantly changed the structure of the public utility industry. Since the Public Utility Holding Company Act of 1935 was not implemented until the beginning of 1937, I feel that numbers taken from before this date would not be comparable to those taken after. (The repeal of the 1935 Act has not materially impacted the structure of the public utility industry; thus, the Act's repeal does not have any impact on my choice of time period.)

Q. Why is it necessary to examine the yield from debt investments in order to determine the investors' required rate of return on equity capital?

A. As previously explained, investors expect to earn a return on their equity investment that exceeds currently available bond yields because the return on equity, as a residual return, is less certain than the yield on bonds; and investors must be compensated for this uncertainty. Second, investors' current expectations concerning the amount by which the return on equity will exceed the bond yield

will be influenced by historical differences in returns to bond and stock investors. For these reasons, we can estimate investors' current expected returns from an equity investment from knowledge of current bond yields and past differences between returns on stocks and bonds.

Q. Is there any significant trend in the equity risk premium over the 1937 to 2008 time period of your risk premium study?

A. Statisticians test for trends in data series by regressing the data observations against time. I have performed such a time series regression on my two data sets of historical risk premiums. As shown below, there is no statistically significant trend in my risk premium data. Indeed, the coefficient on the time variable is insignificantly different from zero (if there were a trend, the coefficient on the time variable should be significantly different from zero).

TABLE 2
REGRESSION OUTPUT FOR RISK PREMIUM ON S&P 500

Line No.		Intercept	Time	Adjusted R Square	F
1	Coefficient	2.28	-0.001	0.006	1.43
2	T Statistic	1.22	-1.196		

TABLE 3
REGRESSION OUTPUT FOR RISK PREMIUM ON S&P UTILITIES

Line No.		Intercept	Time	Adjusted R Square	F
1	Coefficient	1.004	-0.000	-0.010	0.321
2	T Statistic	0.594	-0.566		

Q. Do you have any other evidence that there has been no significant trend in risk premium results over time?

A. Yes. The 2008 Ibbotson® SBBI® Stocks, Bonds, Bills, and Inflation® Valuation Yearbook ("Ibbotson SBBI") contains an analysis of "trends" in risk premium data. Ibbotson SBBI uses correlation analysis to determine if there is any pattern or "trend" in risk premiums over time. Their analysis demonstrates that there are no trends in risk premiums over time.

Q. What is the significance of the evidence that historical risk premiums have no trend or other statistical pattern over time?

A. The significance of this evidence is that the average historical risk premium is a good estimate of the future expected risk premium:

> The significance of this evidence is that the realized equity risk premium next year will not be dependent on the realized equity risk premium from this year. That is, there is no discernable pattern in the realized equity risk premium—it is virtually impossible to forecast next year's realized risk premium based on the premium of the previous year. For example, if this year's difference between the riskless rate and the return on the stock market is higher than last year's, that does not imply that next year's will be higher than this year's. It is as likely to be higher as it is lower. The best estimate of the expected value of a variable that has behaved randomly in the past is the average (or arithmetic mean) of its past values. [Ibbotson SBBI, p. 81.]

Q. What conclusions do you draw from your ex post risk premium analyses about the required return on an equity investment in PEF?

A. My own studies, combined with my analysis of other studies, provide strong evidence that investors today require an equity return of approximately 4.6 percent to 5.0 percent above the expected yield on A-rated utility bonds. The forecasted interest rate on Moody's A - rated utility bonds for Q1 2010 is 6.3 percent. Adding a 4.6 to 5.0 percentage point risk premium to an expected

yield of 6.3 percent on A-rated utility bonds, I obtain an expected return on equity in the range 10.9 percent to 11.3 percent, with a midpoint of 11.1 percent. Adding a 25 basis-point allowance for flotation costs,[4] I obtain an estimate of 11.4 percent as the cost of equity for PEF using the ex post risk premium method.

3. Capital Asset Pricing Model (CAPM)

Q. What is the CAPM?

A. The CAPM is an equilibrium model of the security markets in which the expected or required return on a given security is equal to the risk-free rate of interest, plus the company equity "beta," times the market risk premium:

Cost of equity = Risk-free rate + Equity beta x Market risk premium

The risk-free rate in this equation is the expected rate of return on a risk-free government security, the equity beta is a measure of the company's risk relative to the market as a whole, and the market risk premium is the premium investors require to invest in the market basket of all securities compared to the risk-free security.

Q. How do you use the CAPM to estimate the cost of equity for your proxy companies?

A. The CAPM requires an estimate of the risk-free rate, the company-specific risk factor or beta, and the expected return on the market portfolio. For my estimate of the risk-free rate, I use the Blue Chip forecasted yield to maturity on 20-year

[4] I determine the flotation cost allowance by calculating the difference in my DCF results with and without a flotation cost allowance.

Treasury bonds for Q1 2010, ~~4.93~~ 4.87 percent. For my estimate of the company-specific risk, or beta, I use the average Value Line beta for my proxy companies. For my estimate of the expected risk premium on the market portfolio, I use two approaches. First, I estimate the risk premium on the market portfolio from the difference between the arithmetic mean return on the S&P 500 and the income return on 20-year Treasury bonds as reported by the Ibbotson SBBI *2008 Valuation Yearbook*. Second, I estimate the risk premium on the market portfolio from the difference between the DCF cost of equity for the S&P 500 and the yield to maturity on 20-year Treasury bonds.

Q. Why do you recommend that the risk premium on the market portfolio be estimated using the difference between the arithmetic mean return on the S&P 500 and the income return on 20-year Treasury bonds?

A. I recommend that the long-run historic arithmetic mean risk premium be used to estimate the cost of equity because the arithmetic mean is the best estimate of the expected risk premium on a forward-looking basis. As explained in Ibbotson SBBI, the arithmetic mean return is the best approach for calculating the return investors expect to receive in the future:

> The equity risk premium data presented in this book are arithmetic average risk premia as opposed to geometric average risk premia. The arithmetic average equity risk premium can be demonstrated to be most appropriate when discounting future cash flows. For use as the expected equity risk premium in either the CAPM or the building block approach, the arithmetic mean or the simple difference of the arithmetic means of stock market returns and riskless rates is the relevant number. This is because both the CAPM and the building block approach are additive models, in which the cost of capital is the sum of its parts. The geometric

> average is more appropriate for reporting past performance, since it represents the compound average return. [Ibbotson SBBI, p. 77.]

A discussion of the importance of using arithmetic mean returns in the context of CAPM or risk premium studies is contained in Exhibit No. ___ (JVW-5).

Q. What CAPM result do you obtain when you estimate the expected return on the market portfolio from the arithmetic mean difference between the return on the market and the yield on 20-year Treasury bonds?

A. I obtain a CAPM estimate of 10.7 percent, as shown on Exhibit No. ___ (JVW-6).

Q. What CAPM result do you obtain when you estimate the market risk premium on the market portfolio by applying the DCF model to the S&P 500?

A. I obtain a CAPM result of 11.8 percent when I estimate the market risk premium on the market portfolio by applying the DCF model to the S&P 500 [see Exhibit No. ___ (JVW-7)].

Q. Is there any evidence that a reasonable application of the CAPM may produce higher cost of equity results than you have just reported?

A. Yes. There are several reasons why a reasonable application of the CAPM may produce higher results than I have just reported. First, there is substantial evidence that the CAPM tends to underestimate the cost of equity for companies whose equity beta is less than 1.0 and to overestimate the cost of equity for companies whose equity beta is greater than 1.0. Second, there is strong evidence

that a size premium should be added to the CAPM result for some of my electric companies.

Q. What evidence do you have that the CAPM tends to underestimate the cost of equity for companies with betas less than 1.0?

A. The original evidence that the unadjusted CAPM tends to underestimate the cost of equity for companies whose equity beta is less than 1.0 and to overestimate the cost of equity for companies whose equity beta is greater than 1.0 was presented in a paper by Black, Jensen, and Scholes, "The Capital Asset Pricing Model: Some Empirical Tests." Numerous subsequent papers have validated the Black, Jensen, and Scholes findings, including those by Litzenberger and Ramaswamy, Banz, Fama and French, and Fama and MacBeth.[5]

Q. Does the finance literature support an adjustment to the CAPM equation to account for a company's size as measured by market capitalization?

A. Yes. For example, Ibbotson SBBI supports such an adjustment. Their estimates of the size premium required to be added to the basic CAPM cost of equity are shown below.

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[5]Fischer Black, Michael C. Jensen, and Myron Scholes, "The Capital Asset Pricing Model: Some Empirical Tests," in *Studies in the Theory of Capital Markets*, M. Jensen, ed. New York: Praeger, 1972; Eugene Fama and James MacBeth, "Risk, Return, and Equilibrium: Empirical Tests," *Journal of Political Economy* 81 (1973), pp. 607-36; Robert Litzenberger and Krishna Ramaswamy, "The Effect of Personal Taxes and Dividends on Capital Asset Prices: Theory and Empirical Evidence," *Journal of Financial Economics* 7 (1979), pp. 163-95.; Rolf Banz, "The Relationship between Return and Market Value of Common Stocks," *Journal of Financial Economics* (March 1981), pp. 3-18; and Eugene Fama and Kenneth French, "The Cross-Section of Expected Returns," *Journal of Finance* (June 1992), pp. 427-465.

TABLE 4
IBBOTSON ESTIMATES OF PREMIUMS FOR COMPANY SIZE[6]

Size	Smallest Mkt. Cap. ($Millions)	Premium
Large-Cap (No Adjustment)	9,274.049	
Mid-Cap	2,413.583	0.92%
Low-Cap	725.267	1.65%
Micro-Cap	1.922	3.65%

C. Fair Rate of Return on Equity

Q. Based on your application of several cost of equity methods to your proxy companies, what is your conclusion regarding your proxy companies' cost of equity?

A. Based on my application of several cost of equity methods to my proxy companies, I conservatively conclude that my proxy companies' cost of equity is 11.5 percent. As shown below, 11.5 percent is the simple average of the cost of equity results I obtain from my cost of equity models.

TABLE 5
COST OF EQUITY MODEL RESULTS

METHOD	COST OF EQUITY
DCF	12.3%
Ex Ante Risk Premium	11.2%
Ex Post Risk Premium	11.4%
Historical CAPM	10.7%
DCF CAPM	11.8%
Average All Cost of Equity Methods	11.5%

[6] *See* 2008 Ibbotson® SBBI® Valuation Yearbook published by Morningstar.

Q. Does your 11.5 percent cost of equity conclusion for your proxy groups depend on the percentages of debt and equity in your proxy companies' average capital structure?

A. Yes. The 11.5 percent cost of equity for my proxy groups reflects the financial risk associated with my proxy companies' average capital structures, where the capital structure weights are measured in terms of market values. However, the financial risk associated with my proxy companies' average capital structure is significantly less than the financial risk associated with PEF's ratemaking capital structure. One cannot reasonably apply a cost of equity developed for a sample of companies with a specific degree of financial risk to a capital structure with a different financial risk. Thus, one must adjust the cost of equity for my proxy companies for the difference in financial risk in order to allow PEF's investors an opportunity to earn a return on their investment in PEF that is commensurate with returns they could earn on other investments of comparable risk.

Q. How does PEF's recommended rate making capital structure compare to the average capital structure of your comparable companies?

A. As noted above, PEF's recommended rate making capital structure contains 50 percent common equity, while the average market capital structure for my comparable company group contains approximately 58 percent equity. Although PEF's rate making capital structure contains an appropriate mix of debt and equity and is a reasonable capital structure for ratemaking purposes, from an investors'

viewpoint, PEF's rate making capital structure embodies greater financial risk than the average market value capital structure of my proxy company group.

Q. You note earlier that the cost of equity depends on a company's capital structure. Is there any way to adjust the 11.5 percent cost of equity for your proxy companies to reflect the higher financial risk embodied in PEF's recommended capital structure in this proceeding?

A. Yes. Since the companies in my proxy group and PEF face comparable business risks, PEF should have the same weighted average cost of capital as my proxy companies. It is a simple matter to determine what cost of equity PEF should have in order to have the same weighted average cost of capital as my proxy companies.

Q. Do you perform such a calculation?

A. Yes. I adjust the 11.5 percent average cost of equity for my comparable groups by recognizing that to attract capital, PEF must have the same weighted average cost of capital as my comparable group. As shown in Exhibit___(JVW-8), my analysis indicates that PEF would require a fair rate of return on equity equal to 12.54 percent in order to have the same weighted average cost of capital as my comparable companies. In arriving at this result, I include the purchase power obligation amounts in the capital structure of my comparable companies and the capital structure of PEF.

Q. What is your recommendation as to a fair rate of return on common equity for PEF?

A. I recommend that PEF be allowed a fair rate of return on common equity equal to 12.54 percent.

Q. Does this conclude your testimony?

A. Yes, it does.

BY MR. WALLS:

Q. Dr. Vander Weide, do you have a summary with you?

A. Yes, I do.

Q. Would you please provide that to the Commission?

A. Yes. As I started a bit earlier, I'm Research Professor of Finance and Economics at Duke University, the Fuqua School of Business, and president of Financial Strategy Associates, a firm that provides strategic and financial consulting services to business clients.

I graduated from Cornell University with a bachelor's degree in economics and from Northwestern University with a Ph.D. in finance.

Since joining the faculty at the School of Business, I have taught courses in corporate finance, investment management, and management of financial institutions. I have taught a graduate seminar on public utility pricing and electric -- and executive development seminars. After teaching for 37 years, I have retired from my teaching duties at Duke.

In addition to my teaching and executive education activities, I've written research papers on such topics as portfolio management, the cost of capital, capital budgeting, and the effect of regulation

on the performance of utilities, and numerous other papers that have been published in respected journals. I have previously testified in approximately 400 cases on financial or economic issues.

I have been retained by Progress Energy Florida to prepare an independent appraisal of PEF's cost of equity and to recommend a rate of return on equity that is fair, that allows PEF to attract capital on reasonable terms, and that allows the company to maintain its financial integrity.

Economists define the cost of equity as the return investors expect to receive on alternative equity investments of comparable risk. My assessment of PEF's cost of equity considers both general and financial risks associated with the state of the U.S. economy and the specific business and financial risks associated with investing in PEF's electric energy business.

I've estimated PEF's cost of equity by first applying several standard cost of equity methods to market data for a large group of companies of comparable risk. Then I adjust the average cost of equity for my comparable companies for the difference between the financial risk of those companies in the marketplace and the financial risk implied by PEF's ratemaking capital structure.

I used three generally accepted methods for estimating PEF's cost of equity, the discounted cash flow, the risk premium, and the CAPM methods. The DCF method assumes that the current price of a firm's stock is equal to the discounted value of all expected future cash flows to be received by equity investors. The risk premium method assumes that investors' required return on an equity investment is equal to the interest rate on a long-term bond plus an additional risk premium to compensate the investors for the additional risk of investing in equities compared to bonds. The CAPM assumes that the investors' required rate of return is equal to the risk-free rate plus the product of a company-specific risk factor or beta and the expected risk premium on the market portfolio.

On the basis of my studies, I find that the cost of equity for my comparable companies is 11.5 percent. The cost of equity for these comparable companies must be adjusted to reflect the higher financial risk associated with PEF's ratemaking capital structure, which produces a cost of equity equal to 12.54 percent for PEF. Therefore, my analysis indicates that PEF would require a fair rate of return on equity equal to 12.54 percent in order to have the same weighted average cost of capital as my comparable

companies. In arriving at this result, I include the purchased power obligation amounts in the capital structure of my comparable companies and the capital structure of PEF.

This concludes my summary, and I'm happy to answer any questions that you may have.

COMMISSIONER EDGAR: Thank you.

MR. WALLS: We tender Dr. Vander Weide for cross.

COMMISSIONER EDGAR: Thank you.

Mr. Rehwinkel.

MR. REHWINKEL: Thank you.

CROSS-EXAMINATION

BY MR. REHWINKEL:

Q. Good afternoon, Dr. Vander Weide.

A. Good afternoon.

Q. My name is Charles Rehwinkel with the Office of Public Counsel. I just have a few questions for you.

And I think in your summary you just stated to the Commission that your recommendation for cost of equity is 12.54 percent; correct?

A. Yes.

Q. And isn't it also correct -- and I think you just stated this, but I want to make sure I understand it -- that you derive an equity cost rate of

11.5 percent from your proxy group and then make a 104 basis point adjustment to reflect the difference between the market value and book value capital structures of your proxy group? Is that correct?

A. No, not precisely. I do reach a cost of equity of 11.5 percent, but my financial risk adjustment is not the difference between the market and book value capital structures of my proxy companies. It is the -- it is designed to reflect the difference in the financial risk as reflected in the cost of equity for my proxy companies and the financial risk implied by the capital structure of the company used for ratemaking purposes.

Q. Okay. Dr. Vander Weide, would you accept, subject to check, or maybe you know, what the revenue requirement -- whether the revenue requirement associated with a 104 basis point difference between 12.54 and 11.5 is about $51 million?

A. I would accept that, subject to check.

Q. You've indicated in your testimony, have you not, that you have -- isn't it true that you have offered this adjustment in many rate cases before?

A. Yes.

Q. Now, do you recall giving an answer to or providing an answer to Public Counsel's Interrogatory

163?

A. I do recall, and I have that response with me here today.

Q. Okay. And I think you also mentioned in your summary that you've testified in over 400 cases before regulatory commissions; is that correct?

A. Yes, it is.

Q. And in many of those cases, have you recommended this adjustment?

A. Well, as I've suggested in my response, I began recommending the use of a weighted average cost of capital based on market value weights in telephone company cases since approximately the 1990s and in electric, gas, and water utilities cases since approximately 2003.

Q. Okay. Were you also asked in that interrogatory response to identify all proceedings in which you testified and in which the regulatory commission adopted this adjustment?

A. Yes, I was.

Q. And how many decisions have you identified where that adjustment was adopted?

A. I didn't identify any, because my answer was that I don't maintain records of regulatory decisions or a list of all cases in which commissions have adopted

any of my recommendations.

MR. REHWINKEL: Okay. Thank you, Dr. Vander Weide. That's all I have.

COMMISSIONER EDGAR: Ms. Bradley.

MS. BRADLEY: No questions.

COMMISSIONER EDGAR: No questions. Mr. Moyle.

MR. MOYLE: Thank you, Madam Chair.

CROSS-EXAMINATION

BY MR. MOYLE:

Q. I'm Jon Moyle. I represent FIPUG, the Florida Industrial Power Users Group. Good afternoon. I have some questions for you.

A. Good afternoon, Mr. Oyle.

Q. It's Moyle.

A. Oh, Moyle. Okay. Sorry.

Q. It's an Irish name. That's all right.

A. Sorry.

Q. That's all right. And I'm not going to take a stab at yours. I'll call you Doctor. How's that?

A. It's very different, very difficult. It's pronounced "Vander Wida."

Q. Okay. And you have a Ph.D., so I can call you Doctor; right?

A. Yes.

Q. And would you agree that the process that is

undertaken by you to come up with a return on equity is complex, complicated; correct?

A. Yes.

Q. And you take three models and run three different models; correct?

A. That's correct.

Q. And isn't part of the reason you do that is because there's variability or a lack of certainty in each specific model, so you run three to try to get better results? Is that essentially fair?

A. Yes. The cost of equity is a forward-looking concept, so it necessarily involves estimates of things that are going to happen in the future, including growth rates and risk premiums. And so there is some uncertainty associated with each estimate, and I've attempted to obtain the best available estimate from the information available at the time of my testimony.

Q. And essentially, what this Commission is being asked to do is to try to figure out at a point in time, I guess today and next week, what the current market is for equity investors in terms of what they would require for a return in order to invest their capital; is that fair?

A. Not entirely. Although the testimony is at a point in time, one cannot update it every day, and so

it's not as of today. It's as of the time of my testimony.

Q. But the concept with respect to what the Commission is charged with doing is correct; right?

A. The concept is that they, as I understand it -- I guess to answer your question, I wouldn't view it in that same way. The concept is that they have to determine the company's revenue requirement, and one of the inputs in that -- and that revenue requirement is estimated at the time the company files its case. One of the inputs to that revenue requirement is the cost of capital. And I use the latest available or the information available to me at the time the company was preparing its case, and that is the information that you have before you today.

Q. And just so I'm clear on this, because I'm trying to understand it better and learn, let's say hypothetically that this company had invested $100 million in a plant, Bartow. And let's just use 100 million because it's an easy number to work with. They would be in here asking this Commission to award them $100 million that they invested plus a fair return on the equity invested; correct? Would that be similar to the concept that you're talking about with respect to return on equity, what the fair return is?

A. It's not quite correct. They wouldn't ask for a cash payment of $100 million today. They would ask for $100 million to be included in their rate base, and they would then expect to earn a return on that investment and to depreciate the investment over time.

Q. Yes, sir. And the revenue requirements associated with that 100 million, they wouldn't be looking for 100 million, but they would be looking for revenue requirements to compensate them for the 100 million, hypothetically, they invested in Bartow; correct?

A. Yes.

Q. And included in that would be a fair return on equity?

A. That's correct.

Q. And the focus of you is that -- your testimony is, what is the fair return on equity?

A. That's right.

Q. And you're at a number, 12.54; correct?

A. That's correct.

Q. Are you aware of any other utility in the United States in this year, 2009, that has come before a commission and asked for a return on equity of 12.54 or higher?

A. I believe there are several that have come

with recommendations for 12 1/2 percent, which is essentially what my recommendation is, yes.

Q. Right. And yours is a little higher than 12 1/2; right?

A. Not materially.

Q. People have accused me of trying to, you know, pick up every penny. I don't know if it's fair or not. But could we say a 12.5 return is what you're, in essence, recommending then, given your answer?

A. I'm not sure I understand your question. If you're asking -- for the purpose of responding to your question, I guess my answer would be that 12.54 is not materially different from 12.5. However, if you're asking am I changing my recommendation, the answer would be no.

Q. Okay. So back to my original question then. My original question was, if there's a difference, and you're not willing to change your testimony, between 12.5 and 12.54, you would agree that as we sit here today, you're not aware of any other utility that has filed and sought a return on equity higher than 12.54; correct?

A. Well, if you're making the distinction of four basis points --

Q. Which I am.

A. Then technically, you're correct, but it's not a material difference, as I've suggested earlier.

Q. I think we might be back to the point about picking up pennies, but I appreciate that.

Would it be -- equity investors, they're people with -- they're pension funds, they're insurance companies? Aren't those who the equity investors are in today's market, and others?

A. Those are certainly among the equity investors.

Q. There are probably other ways to ascertain what a reasonable return on equity would be. I mean, the constraints on the return on equity are really limited by the courts, are they not, in the Hope and Bluefield decisions?

A. I'm not sure I understand the question. The Hope and Bluefield decisions set forth the principle that utilities should be allowed to earn a fair rate of return on their capital, including their equity, and that principle is consistent with the economic definition of the cost of equity. And so in attempting to implement the court's fair rate of return standard, I am estimating the cost of equity. I don't know of any other restraints on the cost of equity other than the principle that it provide a fair rate of return.

Q. Okay. And that's the principle I wanted to focus on for a minute, the fair rate of return. That's the standard that the courts have set; correct?

A. Yes.

Q. Okay. And that was set in order to protect utilities. If a commission erred and got too low and didn't allow them a fair rate of return, the courts have said, look, you can't take somebody's property, and that was a judicial decision that said you have to award a fair rate of return; correct?

A. I would agree that that characterizes -- that's one characterization of those cases.

Q. And you would agree that it's a fair characterization, by and large?

A. It's -- I'm not sure. It's somewhat incomplete, but it's a characterization.

Q. Are you familiar -- you've read those cases, have you not?

A. Yes, I have.

Q. And really, what I want to explore is, because we've heard a lot of testimony about these models, but wouldn't you agree so long as a fair rate of return was awarded, that there could be other ways in which to determine a fair rate of return?

A. Yes.

Q. Okay. And let me just throw a hypothetical at you. We don't have this. The witnesses are the ones that we have. But let's say hypothetically that we had equity investors, a panel of equity investors, pension fund managers, insurance companies, money managers from Wall Street, and we had them here and we asked them, in today's market conditions, assuming a level of risk, and we walked them through a whole process, we could ask them for their opinion as to what a fair return on equity might be, and whatever their answer might be, that arguably is another way to determine a return on equity; correct? I mean, it may not be the way you're familiar with, but as long as it was fair, it would presumably be okay?

A. I would agree that would be one way. I don't agree that it would be a good way to estimate the cost of equity.

Q. And why would you think that might not be a good way if those people are right there -- I assume they're right there with their pulse on the market as to what equity investors are looking for in terms of return versus risk with their dollars?

A. There would be several reasons. One is, they don't represent all investors. Two is that they might have varying interests, and they might have different

hurdle rates for investment in the company. And three is, they're not necessarily making an investment decision at that time.

The cost of equity is a return that is -- that ought to be a -- and it provides an incentive for investors to invest in the company, and only if investors are actually putting their money down do they have an incentive to come up with a reasonable answer of what their required return is.

Q. So if you assume in my hypothetical that the people who were there were doing more than advising, but they were actually fund managers and they made decisions on a regular basis, a daily or weekly basis with respect to investments, that might be a way in which you could make a judgment about ROE, could it not?

A. I don't believe so. I've never seen any testimony on the cost of capital of the sort that you've indicated, where the only method of estimating the cost of equity was to ask people what they thought the cost of equity was without providing capital market evidence.

Q. And the people that we're talking about asking wouldn't just be regular people. They would be people that are engaged in the market on a regular basis. You're just not familiar with that?

A. I have never seen that as a method for

estimating the cost of equity.

Q. And the concerns you identified with it are, they have a conflict of interest, they might have different internal hurdle rates, and they may not actually be putting money in play; right?

A. Those would be three concerns, yes.

Q. Any others?

A. Well, they may not have an interest in participating in a proceeding. They may not be making a decision at this time. There are a whole host of factors that would preclude that as being a reasonable estimate for the cost of equity.

Q. I understand. I think we probably agree that there might be -- you might have some difficulty heightening the interest in participating in a proceeding, but let me move on, and just one final question on that. Have you -- with respect to the concerns that you identified, have you recently invested money in utility companies?

A. I don't generally invest in individual securities. I invest in market indices as a principal.

MR. MOYLE: Madam Chair, I would like to use an exhibit with this witness. It has already been entered and marked. It's 264. It's the chart that has all of the 2009 --

COMMISSIONER EDGAR: I remember it well. Does the witness have a copy?

MR. MOYLE: I have an extra one.

COMMISSIONER EDGAR: Let me just ask, does anybody else need a copy? Mr. Walls, I see you -- you have one already? Okay.

BY MR. MOYLE:

Q. Sir, I've handed you an exhibit that has been entered into the evidence. It's already evidence in this case. It's 264. And I'll represent to you that it has been purported to be a document which captures all of the recent decisions by regulatory entities, such as this Florida Commission, in 2009.

And I guess the first question is, would you agree with me that this document contains important, relevant information that might be useful in determining an appropriate return on equity?

A. I'm not sure. I don't -- I certainly wouldn't -- I normally think that it's -- I normally believe that it's circular to look at returns that are authorized in other proceedings, that a utility commission, because of the differences in times at which evidence is provided, the differences in the circumstances of utilities in different proceedings in different states, and the economic characteristics of the individual utility, that

the best evidence is to provide cost of equity estimates from the models that I've used.

Q. Okay. And it's a little unfair. Have you seen this document before?

A. I've seen documents like it. I'm not sure I've seen this particular document.

Q. Do you need a minute to take a look at it and become familiar with it, because I kind of jumped right in and asked you if you thought it had any important information on it without really giving you a chance, I don't believe, to digest it fully. Do you need a little more time.

A. Well, it depends on your question. I believe I understand it. If I need more time once you ask a question, I'll let you know.

Q. Okay. And in response to my question about it containing useful or relevant information, I thought you indicated you didn't really think it did because there are variabilities with respect to commission decisions, I guess company variabilities and timing variabilities; is that correct?

A. Among others, yes.

Q. And I guess the thing that I'm struggling with trying to intellectually grasp is, you would also agree that there are variabilities with respect to the models

that you use. In the process of trying to identify proxy companies, you have variabilities within the companies in your proxy, do you not?

A. I'm not sure what you mean by variabilities of the companies in my proxy.

Q. Well, you prepared a group of proxy companies; correct?

A. Yes.

Q. And all those companies are not the same, are they, in terms of how they operate, in terms of their recovery clauses they use, in terms of the jurisdiction that they're regulated under, in terms of their regulatory treatment?

A. That's correct. But my cost of equity estimates for those companies are forward-looking as opposed to results of proceedings that are already completed and were based on evidence prior to dates at which the decisions were made.

Q. Okay. And we've had a lot of discussion about forward-looking and looking at actual data, you know, not necessarily in this context, but in the context of things like forecasts of expenditures versus actual expenditures. You would agree, would you not, that historical information of actual results is useful, meaningful information, would you not?

A. Well, as a general statement, looking at historical information of some relevant actual results certainly is helpful.

I don't believe that return -- rate of return or fair return decisions should be based on decisions that are reached in other states, because that is inherently a circular process. If every state did that, for example, the allowed rate of return would never change, because every state would do the same thing. Obviously, states apparently don't do that, because they give different returns on equity.

And as far as any state I've ever been in, they attempt to look at the evidence that is presented in the case. And I don't know how they can look at evidence -- at results of other cases without examining the evidence in those cases to see what the evidence said at the time of the case.

Q. So the evidence as to the other particular cases or the other particular companies is important in making a judgment on return on equity; is that correct?

A. Absolutely. You know, take the example of a company's rate base. You wouldn't use the average rate base that was allowed by companies in other states. You look at the evidence that's presented in this particular case for the company's rate base.

Q. And we could agree, could we not, that the amount of rate base is materially different and distinct from return on equity, in that return on equity is really a measure of what an investor would expect to receive, whether it's in company A, B, or C, whereas rate base is more akin to steel in the ground; correct?

A. I would agree that that's a difference, yes.

Q. And with respect to your models, you know, the forward-looking aspect, would you agree that it's difficult -- I mean, nobody can see into the future; correct?

A. I would agree that there is, as I did earlier, that there's uncertainty associated with the estimate of the cost of equity. There was uncertainty in each of the proceedings in which these rates of return were allowed. The difference is that the uncertainties were for different companies at different points in time, and I believe that the Commission has an obligation to examine the evidence in the case which they're considering.

Q. Okay. And do you know how much each 100 basis points represents in terms of additional revenue requirements that the ratepayers will be asked to pay in this case?

A. No, I do not.

Q. You would agree, would you not, that the impacts of rates on ratepayers is an important factor or consideration that this Commission should take into account when it's making its decision in this case; correct?

A. In terms of the cost of equity, I'm familiar with the fair rate of return standard, and that's the standard that I use to -- as the basis for my studies. And the fair return standard says that investors should be given the opportunity to earn a return that is commensurate with returns they could get on other investments of the same risk.

Q. Yes, sir, and I'm not taking issue with that. I'm trying to see and get your understanding with respect to the job that these regulators are being asked to do is to make a judgment. Now, you are testifying with respect to a judgment that you believe should be made based on the point of view of investors. And my question is, would you agree, or do you have information or knowledge that along with making that judgment, that the impacts of the rates on ratepayers is something that's also appropriate to consider in the ratemaking process?

A. I agree that the impact on ratepayers is already included in the fair rate of return standard,

and it's included in the sense that the company doesn't have a right to anything in excess of the return that it could earn on other investments of the same risk.

On the other hand, they do have a right, according to the Supreme Court, to returns that are commensurate with what they could get on other investments of the same risk.

Q. And so as we sit here, do you know how much the company is requesting for its rate case increase?

A. Not precisely.

Q. I was going to ask you what percentage the return on equity piece might be, but I guess --

A. Oh, the return on equity is my recommended rate of return on equity, 12.54.

Q. Right. But in terms of understanding, out of X amount of a request, a certain portion of that is return on equity. I don't -- were you here during the opening statements?

A. No, I was not.

Q. Okay. So you didn't hear Mr. Glenn talk about three big issues in the case, one of them being return on equity?

A. No. I wasn't here.

Q. I want to move on, if I can, and explore a little bit the notion about the decisions need to be

based on evidence. And I don't know that we disagree with that. I guess the questions that I want to understand better are, you would agree when putting together your proxy group that it's important to compare apples to apples; correct?

A. I'm not sure how you define the phrase "apples to apples." It's used in many different contexts.

Q. Okay. Let me try to clarify. I understand a proxy is an effort where you look at a whole host of utility companies and then you try to narrow that list and come up with a handful of utility companies that you believe are similarly situated to the company for which you're proposing a return on equity. Is that right?

A. Not exactly. I believe they should be similar, on average, in risk to the company whose rates are being determined.

Q. And how do you determine whether a company is similar, on average, on risk?

A. Both by looking at their average Value Line safety rank, by looking at their average bond ratings, and understanding that they're in the same utility environment and have the same procedures that are used to determine their rates.

Q. Do you do digging in any kind of detail with respect to the specific regulatory construct and the

jurisdiction in which one of your candidate proxy companies may be located?

A. Well, I'm generally familiar with the regulatory constructs that are used throughout the country. I don't try to match them one for one with the company, because every company is different in some degrees. The only requirement is that they be similar in risk, not exactly equal to risk in every dimension. And with regard to cost constructs and cost recovery mechanisms, most of my utilities have similar types of cost recovery mechanisms to Progress Energy.

Q. And really, the focus of my question is on the regulatory environments or states, if you will. And given your answer, how do you know that, that -- as I understand it, you said that you believe that the regulatory entities and the states with your proxy companies have similar regulatory policies. I may not have stated it exactly right, but that was the gist, as I understood your answer.

A. I know that because, one, I've testified for companies in the electric utility industry. Two, I read their reports filed with the SEC on a fairly frequent basis. I also read articles on what types of regulatory mechanisms are allowed for the utilities. And although I can't repeat them all here, I am generally aware that

most utilities have a host of regulatory cost recovery mechanisms.

Q. Do you have an understanding as we sit here today how Florida views the development of new nuclear plants?

A. Yes.

Q. And what is that, coming from the standpoint of ability to recover costs?

A. My understanding is that Florida allows the recovery of all prudently incurred costs.

Q. Is there any other state in the country that similarly makes that allowance, if you know?

A. Well, I believe that the general principle of cost of service regulation is that the company ought to be allowed to recover all its prudently incurred costs plus to earn a fair rate of return on its investments.

Q. Do you know how those costs are recovered in Florida?

A. I believe that my general understanding -- I'm not a legal expert on the details of the recovery mechanism, but it's my understanding that they would be allowed to have what's frequently called construction work in progress in rate base.

Q. Do you have an understanding as to how it might get into rate base?

A. I'm not sure. I would assume that there would be a prudency proceeding, as there is with most investments.

Q. Yes, sir. I'm trying to be fair and just test your knowledge with respect to Florida and how it may or may not provide for recovery of nuclear costs. As we sit here today, do you know whether Florida makes provision for nuclear costs to be recovered via a base rate case or via a recovery clause?

A. I believe that it's a recovery clause, but it's not automatic. It depends on the expenditures being prudent.

Q. Do you know of any other states that allow for that?

A. I haven't studied which states with regard to nuclear have a clause like that. I am aware that most states have a general principle of cost recovery that a company should be allowed to recover all prudently incurred costs.

Q. Yes, sir. I don't think we have a disagreement on that.

Are you aware of any other state in this country which has more clauses to permit recovery than the State of Florida?

A. I have never -- no. I have never attempted to

count the number of clauses. I believe that it's -- what's important is the whole picture, not the number of clauses.

Q. You would agree, would you not, that as a general proposition, that the ability to recover moneys through a clause as compared to a base rate case, say, an annual clause, that that presents less risk; correct?

A. I agree that it is helpful in terms of reducing the risk of the company in absolute terms. Whether it reduces the risk relative to the comparable companies depends on the clauses that the comparable companies have as well.

Q. Okay. And as we sit here today, for the purposes of your analysis, in the proxy companies, you didn't make any effort to go through and try to identify and match up the clauses of Progress Energy Florida to the proxy companies; correct?

A. I did not attempt. As we sit here today, I don't recall what all the clauses are that the comparable companies have. However, I would note that Value Line when they determine a safety rank, and the rating agencies when they determine a bond rating, consider those clauses in determining those ratings. And I have presented evidence that my comparable companies have similar bond ratings and similar Value

Line safety ranks to Progress Energy.

Q. You would agree with me, would you not, that an equity ratio is a component of risk, to the extent that a company is higher leveraged or has more debt, that it probably has more risk to an equity investor?

A. Well, I discuss that concept in my -- the concept of financial risk in my testimony. Financial risk has do with the variability of return on an equity investment. And as I discussed in my testimony, the variability of return depends on the market values of debt and equity in the company's capital structure.

Q. Yes, sir. And I guess I'm trying to keep it at a high level. But with respect to the equity ratios, the various equity ratios with respect to a company, you would agree that the amount of equity as compared to the amount of debt in a company is a risk component; correct?

A. Yes. As I've just answered, the relationship of debt and equity measured in market values is a determinant of the variability of the future return on investment, and hence it's a component in financial risk as seen by equity investors.

Q. And equity investments, with respect to some companies, there are parent companies in which an investor has to invest that contains a regulated

electric utility; correct?

A. I'm not --

Q. Do you follow me on that?

A. I'm not sure what you mean by "has to invest."

Q. If an investor wanted to invest in a company -- let's say if a investor wanted to invest in Progress Energy Florida, they would not be able to do it directly, would they? They would have to invest in the parent company which is traded on Wall Street on the New York Stock Exchange?

A. Yes, I agree that they could not make a direct investment in Progress Energy Florida, and they could make a direct investment in Progress Energy.

Q. Okay. And in considering that -- and I don't know if you have any information about Florida Power & Light, but do you know the same thing holds true for FPL Group, which is a holding company, and then it has subsidiaries, one of which is a regulated utility, FPL?

A. Yes, that is correct.

Q. But as an investor, an equity investor couldn't invest directly in FPL, the regulated company. They would need to invest in the parent; correct?

A. That's correct.

Q. All right. And given that, you would also agree, would you not, that the relative percentage of

the holding company's revenues that are generated from regulated utility operations is a component of risk?

A. It can be. I have never found that it is, however. I have generally found that there is no relationship between the percent regulated revenues and a company's beta or its cost of equity as estimated from the discounted cash flow method.

Q. And I'm not necessarily looking to get back into those methods. I'm just asking from the standpoint that if I went to a stockbroker and said, "I want to invest in a good utility company," and he said there were two holding companies, and one had an excellent regulated utility, but it only contributed 10 percent of the revenues to the overall entity, and the other was above average, but it contributed 90 percent of the revenues to the holding company, and I wanted a safe, conservative investment, wouldn't, all things being equal, I probably be better off with the 90 percent regulated utility company that is above average, but not at the top notch in that hypothetical?

A. I would disagree. I would look at a direct measure of risk rather than looking at the percent regulated revenues.

Q. And your direct measure of risk would be through a model; is that right?

A. I indicated my measure of risk is the Value Line safety rank and the bond ratings, and I've indicated -- as an example -- I realize this isn't the time to discuss rebuttal testimony, but the point is that Dr. Woolridge used a set of proxy companies based on percent regulated revenues, and the companies that were eliminated because they had less than his cutoff had higher bond ratings than the companies that were included.

MR. MOYLE: Madam Chair, I have a couple of interrogatories I would like to -- I'm sorry, Mr. Chairman.

CHAIRMAN CARTER: That's okay.

MR. MOYLE: -- talk to the witness about. And I believe staff has these and is going --

CHAIRMAN CARTER: Okay.

MR. MOYLE: -- to use them, so I would like to just be able to approach the witness.

CHAIRMAN CARTER: You may approach. Let everybody know what page you're on.

MR. MOYLE: For the record, the first document that I'm going to show the witness is a hearing exhibit. It's 090079, and it's document 1492. It's Interrogatory 213 from staff.

THE WITNESS: Excuse me. While you're passing

that out, I would just like to inform someone that we're out of water in the container here, and I'm getting dry.

CHAIRMAN CARTER: Okay. All right. We'll --

MR. POUCHER: Would a bottle work?

THE WITNESS: That will help.

CHAIRMAN CARTER: Thank you, Earl. I think the water people went home on us.

MR. MOYLE: My colleague, I believe, has handed you -- are you okay on the water?

THE WITNESS: Yes.

MR. MOYLE: Take your time.

CHAIRMAN CARTER: That interrogatory number again, Mr. Moyle, was --

MR. MOYLE: 213.

CHAIRMAN CARTER: Thank you. You may proceed.

BY MR. MOYLE:

Q. Sir, are you at Interrogatory 213?

A. Let me look at it.

Q. Just tell me when you're ready.

A. Yes, I'm ready.

Q. And you were the sponsor of these interrogatories; right?

A. Yes.

Q. And with respect to 213, I was asking you some questions about the relative percentage of companies'

revenues generated from regulated utility operations, and you were asked -- you know, asked by staff to provide this information for the proxy companies. I'm unclear as to whether you didn't have the information or, you know, why it was not provided. Could you explain that, please?

A. Yes. Because I don't have any summary information. I would have had to look up the Form 10-K information on all the proxy companies. Some of those companies provide -- some of those 10-K's provide information by segments if the company has reportable business segments.

But it is not entirely -- it is not always possible to determine what the percent regulated is, because some of those business segments that are reported have both regulated and unregulated businesses, and so one would have to -- one would have go to considerable effort to look up all the 10-K's for each of the companies, to look up the segment reports for each of those, make an assessment about whether their regulated revenues are discernible from their segment results or not, and if they are not, decide whether to leave them in the sample or not leave them in the sample. And I don't use that information as part of my general procedure of estimating the cost of equity.

Q. The 10-K's for your proxy companies, they're available online, are they not?

A. They are available online, except that it takes some careful reading of the material online in order to make the assessments, and there were, I think, roughly 20-some companies in my comparable group.

Q. You were asked to identify the regulated investor-owned utility associated with each of the utilities in the proxy group, and you didn't do that, did you?

A. No. It's not something that I would normally do as part of my cost of equity estimates. I would have had to go to each of the companies that are publicly traded and determine what their investor-owned utilities were, and that information is publicly available. And as -- it's not something that I would normally do.

Q. Okay. You would agree that it's relevant information, would you not, in terms of the underlying regulated utility if we're trying to compare apples to apples? Here we're focusing largely on the regulated utility, Progress Energy Florida; correct?

A. Well, there are various parts to your question.

Q. Okay. Let me do them one at a time. That's fair. The company that you're making a recommendation

for in this case is Progress Energy Florida; correct?

A. Correct.

Q. And that is a regulated investor-owned utility; correct?

A. Yes.

Q. And also, that is part of a holding company. I think we've already talked about that; correct?

A. Correct.

Q. And so with respect to the proxy analysis and the proxy groups, if you were trying to compare apples to apples, would it not be important or relevant information, in your judgment, to know the identity of the underlying regulated investor-owned utility that was part of your proxy group company?

A. It would not be important or relevant, because the underlying utility is not publicly traded if they are part of a holding company, and to estimate the cost of equity, you need the company to be publicly traded. And so I, and almost every witness that I'm aware of, uses companies that are publicly traded in order to estimate the cost of equity using market prices.

Q. Yes, sir. But you would agree -- and we've already talked about this. You would agree, would you not, that the regulated entity, it would be important to know who they are in order to make judgments about risk,

relative risk of that regulated public utility?

A. If one were attempting to assess the risks themselves, one might want to know such details. But if one is going to rely on publicly available information of companies such as Value Line and the bond rating agencies, who already include that information in their ratings and rankings, then it's not necessary to duplicate their efforts.

Q. And just a couple more questions. The equity ratios, I think we've talked about the equity ratios. You didn't provide equity ratios of the regulated investor-owned utilities that are part of your proxy analysis; correct?

A. No, I did not, for the reasons that I've mentioned earlier. It would have required that I, one, obtain the 10-K's of all of the companies that are publicly traded, and then that I attempt to find the balance sheets of all of the subsidiaries that are the regulated utility subsidiaries and do all of the calculations required to calculate the regulated subsidiary's capital structure. And all of that is unnecessary for any of the methods that I use, because the risk of those companies' capital structures are already reflected in the risk rankings of the companies that are publicly traded.

Furthermore, if someone such as yourself felt that it was important to have that information, it's publicly available.

Q. Who has the burden of proof in this case? Do you know?

A. Well, I'm not a lawyer, so I don't know who has the burden of proof, but as I've just stated, it's not required for me to estimate the cost of equity, because one estimates the cost of equity using companies that are publicly traded, and so I don't need evidence on the subsidiary capital structure because those are not publicly traded entities.

Q. On your direct testimony, page 19, you use the term on line 20, "high degree of financial leverage." Do you see that?

A. Yes.

Q. Okay. And am I correct in presuming that when you use that term, you're talking about the concept of debt and equity and ratios?

A. Yes.

Q. And with respect to a high degree of financial leverage, can you indicate what you believe would be a range for a high degree of financial leverage?

A. I believe I answered that in response to one of the data requests, that my statement was a general

statement about utilities versus non-utilities, on average, and it doesn't require a breakdown of what is high or low or where the cutoff for various categories is. What it does require is just that utilities as a general rule use more leverage than non-utilities.

Q. And your response, I mean, you did -- this was on 219, Interrogatory 219. And I want to be fair to you. You were asked about -- to define a high degree of financial leverage, and you used the term in your testimony. And my reading of this doesn't really indicate what you consider to be a high degree of financial leverage, so as we sit here today, can you tell me what you consider to be a high degree of financial leverage?

A. I mean a higher degree of leverage than for non-utilities.

Q. So if we just put non-utilities out of the equation, we're just looking at utilities, your proxy group is utilities; correct?

A. My proxy group is utilities.

Q. Okay. And based on your proxy group, do you have an opinion or a view as to what you would consider to be a high degree of financial leverage?

A. My statement doesn't relate to the comparison of the degree of leverage of my proxy companies. It's a

statement about utilities compared to non-financial, non-utility companies, industrial companies, that is.

Q. The last interrogatory I want to ask you a couple of questions about is Interrogatory 220, and if you would refer to that and let me know when you have it, please.

A. Okay. And just going back to my last response, it's clearly stated on the last line, line 23 of page 19 and line 1 of page 20 that I'm referring to utilities versus non-utilities, because I say that -- "have encouraged electric utilities to maintain highly debt-leveraged capital structures as compared to non-utility companies."

Q. Yes, sir. I think the point of confusion is that to the extent that there's discussion about highly leveraged entities, oftentimes, you know, it's my impression -- and I'll ask you the question -- that highly leveraged companies are oftentimes referred to by a percentage basis, about how much debt they have on their books compared to how much equity. So if you had a company that had 85 percent debt and 15 percent equity, some might say, well, that's pretty highly leveraged as compared to a company that would, say, have 50 percent debt and 50 percent equity. And as I understand your answer, you don't have a similar type of

range or analysis with respect to electric companies; correct?

A. No. There are two aspects to the answer. I don't have one with respect to electrics, because I've never seen a cutoff that is absolute, that says 25 percent is low and 75 percent is high. I've always seen relative statements about leverage, that somebody has more leverage than another company.

And secondly, the statement wasn't meant to relate to utilities. It was meant to compare -- well, it was meant to relate to utilities, but it wasn't meant to compare leverage within utilities as a group. It was meant to compare the average utility to the average non-utility, and I think that's clear from my sentence that I just referred you to.

Q. Okay. Let's go to 220, the interrogatory, please. And I would ask you to look at this. I'm not going to ask you this direct question, but to be fair to you, I want you to have this available.

A. Yes.

Q. As part of your duties and responsibilities as an expert, you try to keep up, do you not, with regulatory action taken by state regulators?

A. I try to generally. However, at the point in time that I am preparing my testimony, I can't recall

every instance that certain things have happened.

Q. Yes, sir. And you've appeared in front of this Florida Commission before today, have you not, as an expert?

A. Yes.

Q. Okay. And I guess the question -- and it doesn't have to necessarily tie to this answer, but as we sit here today, are you aware of any instance in which the Florida Public Service Commission has failed to allow a company, an electric utility, an investor-owned utility, an opportunity to recover their costs of service and earn a fair and reasonable return on their investment?

A. The answer is no, I'm not aware of any. The follow-up, the explanation for that is I haven't studied that issue, because it would have required looking at a lot of previous historical cases. I'm generally aware that Florida regulation is considered to be constructive and supportive.

Q. In response to an earlier question about trying to make a judgment about return on equity and making sure that those with similar risk are part of your proxy group, you told me that you look at bond ratings; isn't that right?

A. Well, my specific criteria are stated in my

testimony. I look at whether a company has an investment grade bond rating, and I look at whether they have a safety rank of 1, 2, and 3, 1, 2, or 3, and I then compare the average bond rating and safety rank for my proxy companies to that of the company whose cost of equity I'm evaluating.

Q. And as a matter of general economic principle, an investor that was going to put equity at risk, to the extent that they were going to invest in a riskier venture, they would require a higher return on that investment; correct?

A. Yes. It's generally accepted, the higher the risk, the higher the required return.

Q. Okay. And do you know as we sit here today what the bond rankings are for Progress Energy Florida?

A. They are -- I believe Standard & Poor's rating is BBB+, and that's the same as the average bond rating for my proxy companies.

Q. You used TECO as a proxy company, did you not?

A. Yes.

Q. And do you know what TECO was rated?

A. I'm not sure that I -- it certainly was -- if you look at Exhibit JVW-1, page 2 of 2, I have the bond ratings for my proxy companies, and I show TECO as a BBB- there. I don't know if they -- I've forgotten

whether they've been upgraded to BBB since then. But I show that the average of my proxy companies has a BBB+ rating, which is equal to that of Progress Energy Florida.

Q. Okay. And I just want to spend a minute talking about TECO and Progress Energy Florida. Okay?

A. Okay.

Q. All right. So if you assume that TECO, as shown on your exhibit, is BBB- or BBB, either of those rankings is less than BBB+; correct?

A. That's a correct statement.

Q. And when I say less, that would suggest that there's greater risk in investing with a company that has a BBB ranking as compared to a BBB+ ranking, correct, all other things being equal?

A. Well, that's entirely correct. Let me be clear about it. We're looking at bond ratings. Bond ratings measure the risk faced by bond investors. Sometimes bond ratings are indicative of equity risk, but not in every case.

Q. Yes, sir. And you're aware that the rating agencies, when they are putting together their bond rankings -- which are on debt, not equity; correct?

A. Yes.

Q. That they do an analysis of business risk and

financial risk; correct?

A. They do an analysis of business and financial risk from the standpoint of a bond investor, who is concerned about the probability of bankruptcy.

Q. Yes, sir. And would you also agree, would you not, that that information that is oftentimes compiled in those rating analyses, that that's useful information to equity investors as well; correct?

A. It's useful, but it's not complete. It's not the only investment -- the only information that they would look at. They would also look at assessments of equity risk, and that would be possibly somewhat different than bond investment risk.

Q. I mean, you have this Exhibit 2 of 2, and it's entitled "Risk Ratings." So am I correct in assuming that -- you're not providing expert testimony on debt percentage servicing levels; correct? Yours is on equity?

A. Yes. I'm providing an estimate of the cost of equity using a group of comparable risk companies that are comparable in equity risk.

Q. All right. And you use the bond ranking as part of that analysis; correct?

A. Yes.

Q. So back to the comparison of Tampa Electric

versus Progress Energy Florida. And we've already talked about the economic construct, that an equity investor would need a higher return for a higher level of risk.

Do you know what this Commission awarded to Tampa Electric Company in its recent rate case for its return on equity?

A. Yes. They awarded 11.25 percent.

Q. And do you know that that was a higher number than what was recommended by staff?

A. I'm not aware of what staff's recommendation was.

Q. And if you assumed that the Commission got it right with an 11.25 for Tampa Electric Company, wouldn't the economic theory that we just discussed and the fact that Tampa Electric Company has a rating, a bond rating, which in your analysis you've termed a risk rating, that the award of return on equity to Progress Energy Florida should be less than 11.25, given the fact that it is considered to be less risky by the bond rating agencies?

A. No, and the reason is that this isn't a bond risk ranking, that Progress potentially has a greater investment in nuclear regulated -- nuclear generating facilities than TECO does, to the best of my knowledge. And from an equity investor's perspective, I would

believe that would make them generally, at the very least, comparable in risk, and it would offset some of the difference in bond rating.

Q. Do you know, as we sit here today, are the bond rating agencies aware of Progress Energy Florida's plans to invest in nuclear?

A. They are. But again, they consider things from the bond investor's point of view rather than the equity investor's point of view.

Q. And you considered the bond rankings in your analysis, right, as a level of risk?

A. I considered them to a limited extent. That is, I -- once again, I used the criteria that a company must have an investment grade bond rating. And because I believe that from an equity investor's standpoint, equity investors don't distinguish between finer gradations of bond ratings, I have not found in my studies a significant relationship between the cost of equity and the bond rating for investment grade ratings. There's not a correlation, to the best of my knowledge and from my experience. So I used the criteria that they have to have an investment grade rating, and then I chose a set of companies that did have investment grade ratings.

And I would have used the same companies -- if

I were doing this at the same time for TECO, I would have used the same companies, because I would have had the same criteria for TECO that I had for PEF.

Q. Yes, sir. Just a couple of final questions. Have you had any recent discussions with equity investors, pension funds, insurance companies, people who are active in the market and investing large amounts of equity?

A. I haven't had one-on-one discussions. I've read reports of such investors.

Q. And given your answers to my questions with respect to attempting to compare TECO to Progress Energy Florida, would I be correct in drawing from your remarks that it's your belief that Progress Energy Florida, given the fact that you're recommending a 12.54 return on equity, that it really has greater risk than Tampa Electric Company?

A. I believe my testimony was not that. I'll just -- I'll reiterate what my testimony was a minute ago, which is that I would have used the same proxy companies for TECO if I were testifying at exactly the same time that I would for PEF, and I would have obtained the same cost of equity results for TECO as I did for PEF.

Q. Yes, sir. And you're aware that in the Hope

and the Bluefield decisions that there's discussion about trying to get companies that are similarly situated, particularly geographically situated?

A. I believe the Bluefield case refers to geographically situated. The Hope case does not, to the best of my recall, use the word "geographically situated."

For the purpose of estimating the cost of equity, the capital markets are national in scope. And one would also have advantages from looking at a large group of proxy companies. It's not really possible to distinguish the cost of equity for a single company based only on the data for that company.

Q. Yes, sir. And with respect again to the geographic proximity lanugage used in -- I think you said Bluefield; is that right?

A. Yes, which was earlier than the Hope case.

Q. Okay. You would agree that Tampa Electric Company is geographically close to Progress Energy Florida; correct?

A. That I would agree, yes.

Q. And you would agree that the Commissions which regulate Tampa Electric Company and Progress Energy Florida are the same?

A. Yes.

Q. And that there are similarities from a regulatory standpoint; correct?

A. Yes.

Q. And again, not to get back into the analysis, the CAPM and the DCF, but just from the standpoint of if you assume that this Commission got it right with TECO being 11.25 with a BBB or BBB- rating, and it's your judgment that the proper return on equity is 12.54, wouldn't that indicate that -- to an investor, that Progress Energy Florida has greater risk than Tampa Electric Company?

A. No.

MR. MOYLE: Okay. I don't need an explanation. That's it. That's all I have. Thank you.

CHAIRMAN CARTER: Had you finished your answer?

THE WITNESS: No, I had not.

CHAIRMAN CARTER: You may finish your answer.

THE WITNESS: I believe that Progress Energy Florida has the same risk as TECO from the point of view of an equity investor. I realize they have a different bond rating, but I'm looking at the cost of equity, and the cost of equity relates to the equity risk. And as I've indicated, I would view TECO and PEF as having similar risks from an equity investor's standpoint. And

I would recommend -- if I were to do the testimony at exactly the same point in time, I would use the same set of proxy companies and arrive at the same recommended cost of equity for TECO as for PEF.

CHAIRMAN CARTER: Mr. Moyle?

MR. MOYLE: I just want to thank the witness for his patience. I spent a lot of time with him. I wasn't able to take your finance or public utilities class at Duke University, but thank you for your indulgence in having the conversation me. Thank you.

THE WITNESS: Well, I've enjoyed the conversation very much. Thank you.

CHAIRMAN CARTER: Commissioner Skop, and then I'll come back to you, Mr. Wright.

COMMISSIONER SKOP: Thank you, Mr. Chairman. Good evening, Dr. Vander Weide.

THE WITNESS: Good evening.

COMMISSIONER SKOP: In your prefiled testimony, you've identified yourself as an expert in financial and economic theory; correct?

THE WITNESS: Yes.

COMMISSIONER SKOP: Okay. And you currently serve as a Professor of Finance and Economics at the Duke University Fuqua School of Business; correct?

THE WITNESS: That's correct.

COMMISSIONER SKOP: Okay. Now, as you stated in your prefiled testimony, you're familiar with the derivation of cost of capital; correct?

THE WITNESS: Yes.

COMMISSIONER SKOP: And would you also agree that the cost of equity represents a portion of the weighted average cost of capital?

THE WITNESS: Yes, I would.

COMMISSIONER SKOP: Now, is the cost of equity dependent upon many factors, including perceived investor risk?

THE WITNESS: Yes.

COMMISSIONER SKOP: Okay. And in that regard, would it be appropriate to view the cost of equity in isolation?

THE WITNESS: No.

COMMISSIONER SKOP: All right. Based on that, I wanted to follow up on a question that I previously asked to Mr. Sullivan, and I would like to get your professional opinion regarding imputed debt adjustments for power purchase agreements and how such an adjustment might impact both the capital structure and the cost of capital.

If an imputed debt adjustment were not recognized by this Commission, how might that affect the

equity ratio of the company?

THE WITNESS: It wouldn't affect the company's equity ratio as reported on the company's books using Generally Accepted Accounting Principles. It would affect the equity ratio as seen by the bond rating agencies, because they would impute an additional level of debt to the companies. And thus, they would, as Mr. Sullivan correctly testifies, calculate their financial ratios using a higher -- a lower level of equity and a -- a lower equity ratio and a higher debt ratio, and the company would not then satisfy the standards for an A bond rating.

COMMISSIONER SKOP: Okay. And you would agree, would you not, that the various bond rating firms treat imputed debt adjustments for power purchase agreements differently; correct?

THE WITNESS: Yes.

COMMISSIONER SKOP: Now, with respect to how a bond rating agency might look at something, if the imputed were not recognized and the equity ratio as they would view it would be lower, how would that -- what would that mean in terms of implied risk?

THE WITNESS: Well, I wouldn't look at the equity ratio in isolation. I would look at the cash flow that's generated by the company as well and relate

that to both the company's debt level and to its interest payments. And if the adjustment is not accepted, that would reduce the company's cash flows, and hence its ratios of cash flow to debt and cash flow to interest would be lower and wouldn't meet the requirements for an A rating.

COMMISSIONER SKOP: Okay. Now, going back to not looking at the equity ratio in isolation, but all things being considered, if the bond rating agency -- if the Commission did not allow that adjustment, the bond rating agency would recognize it irrespectively. So if there were no adjustment made that would bump up the equity as a result of the PPAs, then when the bond rating agency would look at it, they would just view it as debt.

So on paper, for their analysis, all things being equal, if it were not balanced out from, I guess, a virtual or analytical perspective, they would appear to have more debt than they would if the adjustment were not offset by an equity adjustment; is that correct?

THE WITNESS: Yes. They would appear to have more debt as a percent of the capital structure, and in order to meet the financial criteria for an A rating, the company would have to offset that debt with additional equity.

COMMISSIONER SKOP: Okay. So if that is not offset, then what they're seeing on paper appears to be more debt by virtue of the imputation that the rating agencies would make and less equity. So not in reality, but in terms of what they look at, theoretically, there would be an adjustment where -- I'm trying to find a way to articulate this late in the evening. But essentially, the practical effect would be that debt would increase and equity would go down?

THE WITNESS: Yes.

COMMISSIONER SKOP: Okay. So in terms of how they perceive risk, not only with the things that you mentioned with the interest coverage and the cash flow for operations to cover debt, if through that imputation process there's an apparent change in the capital structure in terms of what is, you know, the calculated effect, on a cost of equity basis, how might that influence the cost of equity?

I guess what I'm trying to rationalize this as is that in water and wastewater cases, we have like a linear function between equity and the cost of equity. So as equity goes up, your risk is lower, generally speaking, and your cost of equity or return on equity is lower. But as equity comes down, then there's a tradeoff between those along -- in water and wastewater,

what is sometimes a linear function that the Commission sometimes has trouble with in itself.

But I'm trying to understand the interplay here between, you know, doing something that seems to be addressed by the Commission's favorable cost recovery treatment in terms of the annual clauses, so there's not a big delay, but certainly when fuel prices spike tremendously, the amount at risk can grow volumetrically in a very short period of time.

But, you know, one rating agency does one thing, another one does another thing, and we on the Commission are being asked to make such an imputed debt adjustment so that the imputed debt portion is offset by additional equity. And I'm wondering whether that, in terms of the cost of equity, has any affect on how the Commission should view that. For instance, you know, if the equity adjustment is made, do they have less risk, less perceived risk, versus if the adjustment is not made, do they have more risk justifying an incremental change in the cost of equity? So if you could elaborate on that?

THE WITNESS: Yes. Equity investors care about cash flow, and the stock price depends on the investors' forecast of the company's future cash flows. And to the extent that a disallowance of an imputed --

of that imputed equity would reduce the cash flows, that would be seen as a negative factor by equity investors.

In addition, the equity investors realize that one element of risk is the degree to which the company's costs are fixed and the degree to which they're not fixed. Purchased power agreements increase the proportion of costs that are fixed because of the capacity payments. And unless that proportion of fixed cost is offset with equity, that would tend to increase the risk from the equity investor's standpoint as well.

COMMISSIONER SKOP: And just two brief follow-up questions to that. To the extent that those future payments with respect to power purchase agreements are essentially guaranteed to be allowed to be recovered by virtue of the approval of such agreements, long-term agreements by the Commissioners, does that weigh upon reducing any perceived risk?

THE WITNESS: Yes. That would certainly reduce the risk. But investors look to the long-run future, and they realize that a current commission can't guarantee what future commissions will do, and so they also would have to consider their views of what would happen in the future. But certainly a current acceptance of such an adjustment would be a positive for equity investors.

COMMISSIONER SKOP: Okay. And I guess the reason I'm exploring this in great detail -- and I think you touched on the part that's so very imporant in corporate finance -- is that the rating agencies care about cash flow, because cash is king, is the mantra out there. But equally, in these difficult economic times, consumers are also burdened with cash flow issues, and I think that's the tension that the Commission is facing here, is that, you know, there's a need to improve cash flow from operations so that you can do X, Y, and Z and improve your credit standing and do all those things that are necessary to keep the lights on. But equally too, there's an opportunity cost of doing that, because consumers are asking to pay, and, you know, frankly, from what we've heard from many of the people that appeared before the Commission, they're unable to do so. So I think that's why it's very important to me to try and understand the ramifications of any sub-decision that the Commission makes in considering the request before us.

THE WITNESS: I appreciate that very much. I understand the delimma.

COMMISSIONER SKOP: Okay. Thank you.

CHAIRMAN CARTER: Mr. Wright. No questions, right, Ms. Evans?

MS. EVANS: No questions.

CHAIRMAN CARTER: Okay. Mr. Wright.

MR. WRIGHT: Thank you, Mr. Chairman.

CROSS-EXAMINATION

BY MR. WRIGHT:

Q. Good evening, Dr. Vander Weide.

A. Good evening.

Q. My name is Schef Wright, and I represent the Florida Retail Federation in this proceeding, and I do have some questions for you.

First, I just want to clarify my understanding of something based on a remark you made in response to a question posed to you by Commissioner Skop. I think you made the statement that rating agencies would impute debt based on the long-term power purchase agreements. Do you recall making that statement?

A. Yes.

Q. Isn't it true that only Standard & Poor's actually imputes debt?

A. I'm not sure entirely. I believe that the other -- the Standard & Poor's tend to have more quantitative guidelines for a bond rating than Moody's or Fitch, and so they would make a quantitative imputation. But to the best of my understanding, Moody's and Fitch would recognize the existence of

purchased power agreements, and that would impact their rating, although they wouldn't maybe do it in as quantitative a manner as S&P.

Q. To your knowledge, do they do it in a quantitative matter at all -- manner at all?

A. I don't know.

Q. I have kind of a preliminary question, but it relates to a couple of exhibits included in your testimony. When did you actually write your testimony?

A. I don't recall the date that I wrote it. I know that I -- the company needed to have data in order to be able to prepare its cost studies, and the company felt that it needed to have information prior to the writing of the testimony, as is typically the case, and so I provided them with a number based on data through November, I believe, and then that was the number that was used in their cost studies. And then I subsequently wrote the testimony, but I don't recall the exact period that I wrote the testimony.

Q. In your testimony at page 15, you talk at some length about macroeconomic risks in the current United States ecnomic environment. In particular, you talk about the economy being in the midst of the largest housing, employment, credit, and financial crisis since World War II, and so on. Now, you filed your testimony

on March 20th, and -- that's all correct, is it not?

A. Yes.

Q. Now, my question for you is, have you updated your views about the macroeconomic situation since you filed your testimony in March?

A. Well, yes. I'm aware that the macroeconomic environment has improved from what it was earlier in the year. In my mind, we undoubtedly have come off the bottom of the worst economic conditions. The issues as I see them -- although the stock market has gone up considerably since it reached its bottom, it's not nearly at the high level it was prior to the recession. But in my view, it's the uncertainty about the recovery that still remains. Most economists are concerned about the strength of the recovery. I frequently hear the word "a tepid recovery "or "a weak recovery."

And what that concern I think is about is that during the period 2003 to 2007, consumers generally overspent their income. The savings rate in the U.S. for much of the time was either zero or very slightly negative. Most people agree that consumers are now saving a higher percentage of their income, which is very good in the long run. But in the short run, the unfortunate impact of that higher savings is that they consume less, and that means that corporations will see

less demand for their products compared to if they had continued to spend at the rate they had during the 2003 to 2007 period. And since consumer spending represents about two-thirds of the total GDP, that means that recovery is forecasted to be weak. There will be a recovery. There's no doubt that we've bounced off the bottom, but there's considerable uncertainty about what the future holds for the economy and what kind of recovery it will be.

Q. And that's an example of what we called in principles the paradox of savings; right?

A. That's a good word for it, yes.

Q. Another witness in another case recently told me that the stock market bottomed around the beginning of March. Is that consistent with your understanding?

A. Yes.

Q. Would you agree -- and I'm not going to hold you to the exact number, but would you agree the Dow -- at around that time, the Dow Jones Industrial Average was in the range of 6,500?

A. I don't recall where it was, but I agree it was in that range, yes.

Q. And today it's more like 9,600 or so, 9,500, 600, 700?

A. Yes. It's still significantly below its peak,

but it's well above its trough.

Q. Right. I know that you're aware -- well, I would bet a lot of money that you're aware that the chairman of the Federal Reserve, Benjamin Bernanke, has said that he believes the recession is over.

A. Yes, indeed. He elaborated on that to say the recession was over, but he's very much concerned about the tepid recovery. When I used that word "tepid," I was thinking of words that were used by Chairman Bernanke.

MR. WRIGHT: Thank you. Mr. Chairman, I'm going to ask my colleague to pass out an exhibit, which I would like marked for identification.

CHAIRMAN CARTER: 277.

MR. WRIGHT: Thank you.

CHAIRMAN CARTER: Short title?

MR. WRIGHT: CBOE VIX.

CHAIRMAN CARTER: CBOE VIX.

MR. WRIGHT: 9/11/09.

CHAIRMAN CARTER: 9/11/09.

MR. WRIGHT: Yes, sir.

(Exhibit Number 277 was marked for identification.)

CHAIRMAN CARTER: You may proceed.

MR. WRIGHT: Thank you, Mr. Chairman.

BY MR. WRIGHT:

Q. Dr. Vander Weide, I've just given you and the parties and the Commissioners an exhibit that I believe is essentially an updated version of what appears as Figure 1 of your testimony on page 17, the CBOE volatility index. Do you recognize this as such?

A. Yes, I do.

Q. Okay. And this actually does go through September 11th this year, which is when we pulled it off the Internet. Would you agree that the VIX has not been even as high as 40 since the middle of March of this year?

A. Yes.

Q. And that it hasn't even been as high as 30 since the middle of July of this year?

A. Well, it came very close to 30 in September, but it looks like it was just under 30.

Q. That's how I read it. Thank you.

I want to follow up on a few questions that Mr. Moyle asked you. He asked you whether you were aware of other utilities in the United States that have asked for returns on equity as high as the 12.54 percent that you recommend in this case. I believe you said there were several. Is that an accurate characterization?

A. Well, I said there were several that had asked for 12.5, in that range.

Q. That's right.

A. Which I viewed mine being approximately equal to 12.5 as well.

Q. Other than Florida Power & Light Company, can you name one that has asked for even a 12.5?

A. As we're sitting here right now, I've made no attempt in preparation to consider that information. With additional time, I could certainly look at what the requested returns were, but I don't have that information here.

Q. Thank you. I was really just trying to understand the nature of your testimony tonight.

You live in North Carolina; right?

A. Yes.

Q. Are you aware that Duke Energy has a pending rate increase request before the North Carolina Public Service Commission?

A. Yes, I am.

Q. Are you a witness?

A. Yes.

Q. What ROE is Duke requesting in that case?

A. They are requesting an 11.5, but I was -- I provided the same cost of equity study to them that I --

except for different months, I would have arrived at numbers similar to what I arrived at here.

Q. I thought I just heard you say except for different months. Is that what you said?

A. My recall is that I didn't provide a number for them until several months later, and so my recall is that my studies go through several months more than what they did in this case.

Q. Do you recall the month in which you completed your analysis for the Duke Energy case?

A. Not as I sit here now, no.

Q. Mr. Moyle asked you a few questions about the Commission's action in the Tampa Electric rate case, and I want to follow up on that a little bit. Now, I think that you said that you would have done the same analysis for Progress as for Tampa Electric, or conversely; is that accurate?

A. Yes.

Q. Did you -- I think he asked you, but I'm not sure I heard the answer. Do you consider Progress Energy Florida to be riskier, the same, or less than Tampa Electric?

A. In regard to equity risk, I would consider them to be of similar risk, and I would use the same comparable companies as I did for Progress.

Q. Have you had occasion to observe what has happened to TECO Energy's stock price since the Commission's decision on St. Patrick's Day of this year?

A. No, I have not.

Q. Would you agree, subject to check, that it has gone up significantly since that time?

A. You know, as I sit here, I don't even recall what date St. Patrick's Day is, so I --

Q. Well, it's March the 17th, and that's the date on which the Commission rendered its vote in that case.

A. Okay. Well, yes. I believe that all stock -- most stock prices have increased since early March, both utility and non-utility.

Q. Would you agree, subject to whatever check you might want to do, that Tampa Electric stock has traded substantially and in substantial volumes since that time?

A. I just have no basis to make a judgment.

Q. Well, I'll try one more. Would you agree, subject to check, that Tampa Electric has not had -- back up. That investors have been willing to pay to buy Tampa Electric stock at higher prices than before the Commission's decision?

A. You know, I guess if you're asking me to accept something subject to check, I can look it up, but

I have no basis to assess that at this point in time. I would -- my general understanding is that most stock prices have increased since early March.

Q. In response to Mr. Moyle's question about Tampa Electric and TECO Energy, I believe you also referenced the fact that Progress Energy has a nuclear investment program. Do you recall making that indication?

A. Yes, I do.

Q. Now, I know from scanning your deposition that you have been asked about the Florida nuclear cost recovery statute.

A. Yes.

Q. I think that as of the time of your deposition, you had not had that chance to review it. Is that accurate?

A. That is correct.

Q. Have you since?

A. I have reviewed it as an economist, not in detail to understand what the legal requirements are, but it appeared to be a supportive regulatory stance.

Q. Do you know what rate of return Progress is allowed to earn on its qualifying cost items through the nuclear cost recovery clause?

A. No, I don't.

Q. That is in evidence through another witness.

Would you agree that if the return on equity embedded in that rate of return is 11.75 percent, that that's a pretty good return?

A. I don't know how you define pretty good. It's less than my recommended return.

Q. It's higher than the return authorized for Tampa Electric, is it not?

A. Yes.

Q. At several places in your testimony -- this also follows up on some questions Mr. Moyle asked you. At several places in your testimony, you make references to investors' considerations about investing in electric energy companies such as PEF. And I could point, for example, to page 17, line 11.

A. I recall that phrase.

Q. Also on page 21, line 10 and line 12; page 22, line 8; page 23, line 4; and then again in the company's response to Staff's Interrogatory Number 220. That's all correct, isn't it? It actually says "such as Progress Energy Florida" in the response to the interrogatory.

A. Yes.

Q. Okay. My question is this: You testified in response to Mr. Moyle's questions that you didn't need

to look at individual regulated electric companies, but rather just at the parent companies that investors might consider; correct?

A. That is correct, what I -- that I said that. And in the context, it was that to estimate the cost of equity, I needed to use market prices, and hence, I needed to look at a comparable group of publicly traded companies.

Q. Well, if you're going to offer testimony at several different places about the risks inherent in investing in electric energy companies such as PEF, why wouldn't you want to look at the risks attendant to the underlying regulated companies in the various jurisdictions of your proxy group?

A. The testimony that I have beginning on page 17 looks at the risks facing electric utilities in a general sense. That provides useful information in terms of the background of my estimates. But it would do me no good to look at -- when I actually come to doing my cost of equity studies, to look to the risk of the subsidiaries, because the utility subsidiaries don't have publicly traded stock. So there's nothing I could do with the information about the subsidiaries, because I need the stock prices, and I need companies that have stock prices in order to measure risk. So the only

thing I can do is to use the companies that have stock prices, and those are the publicly traded entitles commonly called the utility holding companies.

Q. Well, aren't the subsidiaries the ones that actually face the regulatory and operating risks?

A. They are. And again, that's interesting and important information, but it's not information that I can use when I estimate the cost of equity, because the cost of equity is determined in the marketplace, and it's determined by investors in the utility companies whose stock is publicly traded.

Q. I would like to ask you to lock at page 20, lines 8 through 11, of your testimony. I think you covered this in in part with Mr. Moyle and -- I think that's all. I particularly want to look at the sentence that reads, "Investors are painfully aware that regulators in some jurisdictions have been unwilling at times to set rates that allow companies an opportunity to recover their cost of service and earn a fair and reasonable return on investment."

Now, the staff asked you or asked the company through Interrogatory Number 220 to identify examples, and in the company's response to Interrogatory Number 220, no examples were identified. I'm going to ask you again, can you name one such instance that you referred

to in this testimony?

A. As we sit here today, I cannot name an example. Are you referring to in general or with regard to Progress Energy Florida?

Q. Well, right now I'm asking in general, because your sentence is stated in the general form.

A. Yes. And my statement is such a general statement that it doesn't require specific examples at this point in time. I could -- I would have to do a special study of times when items have been not allowed in rate base. But I have also been testifying for roughly 30 years as an expert in utility regulation and finance, and I'm aware over that time from a personal basis that items are not always allowed to be recovered as either capital items or as expense items. I didn't think it was necessary, since I had been in that many cases, to come up with a list of examples.

Q. But you didn't do any such a study in preparing your testimony for the Florida Public Service Commission in this case, did you?

A. No, because this is only useful background information, but it doesn't determine any of my -- it doesn't affect any of my numbers. My numbers are determined by capital market studies. So as background information, I would stand by my statement that all of

these factors are true, but they do not affect the numbers that I am providing to the Commission, because those are based on my cost of equity studies based on capital market evidence.

Q. Well, I understand that you have a lot of wonderful experience, and you just told us that you've been testifying for more than 30 years, and I'm going to ask you, can you name one instance in which a jurisdiction, where you testified or otherwise, did not allow the utlity to recover its cost of service and earn a fair and reasonable return on investment, a regulatory utility commission action?

A. I do not have information in front of me tonight to look at specific instances that would require a special study, which would require me to go through my prior cases and try to recollect the times when that occurred.

However, there is -- anytime that there is risk, it's included in the Value Line safety ranks and in the bond ratings that I use to determine comparability. It's also reflected in the stock prices that I use to estimate the cost of equity. And so it's all reflected indirectly in all of my cost of equity studies, and so there was no need for me to do a special study to identify such items. It's not part of my

normal testimony.

Q. Would it be true that in at least some of the cases in which you have testified, the regulatory commission has set the ROE at a number less than that which you recommended?

A. Yes.

Q. To your knowledge, has an appellate court or other reviewing body ever overturned a lower ROE that you recommended?

A. I can't recall.

Q. I would like to move -- sticking with the same sentence, I would like to move on and talk about Florida a little bit. Are you aware of the Florida Public Service Commission ever having denied one of the investor-owned electric companies subject to its jurisdiction the opportunity to recover its cost of service?

A. I don't recall any specific examples with regard to the past. That doesn't -- and that's all good, and that would certainly affect investors' views of the future, but it doesn't guarantee that Florida utilities will always for the life of the investment going -- of equity investments going forward recover all of their costs.

Q. And I want to ask you the same question about

the second half of the clause. You're not aware as you sit here tonight of the Florida Public Service Commission ever having set rates for one of the electric companies subject to its jurisdiction that did not afford the utility an opportunity to earn a fair and reasonable return on investment, are you?

A. I haven't made such a study.

Q. Do you know what percentage of Progress's total revenues are recovered through cost recovery clauses?

A. No.

Q. And in selecting your Progress -- I'm sorry. Too many words that start with P-r-o. In selecting your proxy group, did you consider whether the regulatory environments of the companies operating in your proxy group might have had different percentages that are recovered through cost recovery clauses?

A. I considered that indirectly through the use of the Value Line safety ranks and the bond ratings, because both Value Line and the bond rating agencies are very much aware of all of the risks that affect these utilities.

Q. On page 21, you talk about greater macroeconomic uncertainty and its effect on the business and financial risks of investing in electric energy

companies. My question for you is, relative to all companies in the general economy, are electric energy companies riskier or less risky, regulated electric companies?

A. Relative to the average of all companies, they are generally considered to be less risky. There are some companies that are -- but it doesn't mean that they're less risky than all companies. But compared to the average non-regulated company, they are considered to be less risky.

Q. I apologize, but I don't recall offhand. Do you recall -- you did a CAPM study; correct?

A. Yes.

Q. Do you recall the beta for electric utilities or for Progress that you used in your CAPM study?

A. Yes. I used the beta of .79, as shown in Exhibit 7. But I also did state that the CAPM tends to underestimate the cost of equity for companies with betas less than 1, so the market apparently does not consider betas less than 1 to be accurate of the true risks that affect those companies.

Q. As a simple matter of financial analysis, isn't it true that a beta less than 1 indicates that the investment in question is less risky than the general market?

A. That's theoretical interpretation of a beta less than 1, but we have to estimate the beta. And the studies have indicated that for companies whose betas are significantly less than 1, their cost of equity is higher than that indicated by the CAPM, which at least indirectly indicates that maybe beta doesn't correctly measure risk. It's one indicator. In theory, what it means is, it's not necessarily -- as it's measured does it mean that.

Q. I would like to ask you to look at Exhibit 264, which Mr. Moyle handed out. It's already in evidence in the case.

A. And would you refresh my memory what that exhibit is?

Q. Yes, sir. It's the kind of scratcy looking graphic -- not graphic, tabular chart.

A. Yes.

Q. Now, I know you had a chance to kind of peruse it earlier, if you want to take just a minute to read down the list of companies there to familiarize yourself with those companies.

A. Yes, I'm familiar with those.

Q. Okay. Thank you. My question for you is this: Are you aware of any of these companies having difficulty selling their stock in the stock market?

A. Well, most of these companies don't sell their stock in the stock market. These are regulated utilities that are generally subsidiaries of companies whose stock is publicly traded.

Q. Great. Then I will ask you the question, are you aware of the parent companies whose stocks are publicly traded having any difficulty selling their stocks for the operating companies listed on this exhibit?

A. No, I'm not aware of a company having difficulty selling stock, if you define difficulty as not being able to sell it. Normally one can sell a stock once you determine the price. It just may not be the price that you anticipated at the time you planned to sell it. If the price goes low enough, you can always find buyers for your stock.

Q. Are you aware of any of these companies -- sorry. Are you aware of any of the parent companies of the companies listed on this exhibit whose stock prices have been in the tank, so to speak, this year, say, since April 1st?

A. Well, I haven't studied the stock prices of the parent companies of these companies other than when I did -- to the extent that my comparable companies are parents of some of these companies, I used their stock

prices in my DCF calculations, and their stock prices were used in the beta calculations, and hence, their stock prices would be included in my estimated cost of equity.

Q. Will you agree that the parent companies of these companies, or to the extent applicable, the companies listed, if they do sell their stock publicly, will you agree that that set of companies compete for capital with Progress Energy in the general equity market in the United States?

A. Yes.

Q. This publication was put out by a company called SNL Financial. Are you familiar with that company?

A. Yes, I am.

Q. And do you understand that it's the successor to Regulatory Research Associates?

A. Well, to be specific, I believe they acquired Regulatory Research Associates, but they do more than what Regulatory Research Associates did.

Q. But Regulatory Research Associates has published this sort of thing for a while; correct?

A. Yes.

Q. Now, you criticized -- in your responses to Mr. Moyle's questioning, you criticized the use of other

states' decisions as being circular. A couple of questions about that. What's really the difference between using what other states decided and picking a proxy group? Does it come down to the criteria you use to pick the proxy group?

A. No, not at all. What's different between those two is that when you pick a proxy group, you do so only as an intermediate step to estimating the cost of equity. You then look at market prices using a discounted -- and use those prices in growth rates and risk premia in the context of a discounted cash flow model or a risk premium model or a capital asset pricing model and estimate the cost of equity.

Just looking at the results of authorized returns in other states, those are -- you don't know what they're based on. They're for different time periods than the time you estimated the cost of equity. You don't know what the context was, were there penalties to the company because of problems with their performance or were there not penalties to the company, was it part of a settlement in which many items would have been traded off one against another to produce an agreement between the parties. So there are many reasons why these results are quite different than estimating the cost of equity using market data for a

set of proxy companies.

Q. In response to a question from Mr. Moyle, I believe that you stated something to the effect that investors in the regulated -- well, investors in a regulated electric company or its parent that sells the stock are entitled to earn a return similar to the return that they could earn from other investments with similar or the same risk. Is that a pretty fair characterization of what you said?

A. Yes, and I was basically just paraphrasing the Hope and Bluefield decisions.

Q. Do you believe that statement to be true, or was that merely your characterization of your understanding of the Hope and Bluefield decisions?

A. I'm having difficulty understanding the question. Do you mean that as an economist, that's consistent with my notion of the cost of equity, or are you asking whether I think that's true of the Hope and Bluefield decisions?

Q. I really was trying ask you the first question you posed. As an economist, based on your understanding of cost of equity, do you agree with that statement, the statement?

A. Yes. That's the fundamental definition of the cost of equity, that investors require a return that's

commensurate with what they could earn on other inivestments of the same risk, in the marketplace, that is.

Q. Yes, sir. Can you tell me where I could get 12.54 percent return on equity for an investment of risk comparable to Progress Energy Florida?

A. Well, you're not guaranteed any return. All returns in the marketplace are forward-looking, so they're expected returns.

Q. I would like to ask you to look briefly at your Exhibit JVW-7.

A. Yes, I'm there.

Q. Thanks. I just wanted to ask you a question about the source. You used a forecasted 20-year Treasury bond yield from Blue Chip from last December. Help me out. If you could explain Footnote 8 to me, that would be a help.

A. Sure. My goal was to obtain a forecast of the 20-year Treasury bond yield from Blue Chip, and I then explain how I obtained that. Blue chip has a forecast for a 30-year Treasury bond, but they do not have a forecast for a 20-year Treasury bond. So I took the forecasted yield on a 30-year Treasury bond, and I either added or subtracted the current difference between the yield on the 20-year and 30-year bond,

depending on whether that was positive or negative currently. So I basically assumed that the spread between the 20-year yield and the 30-year yield would be the same, and I just looked at what was the forecast yield.

As a matter of fact, if I had used the 30-year -- current yield on the 30-year and compared it to the forecast, it would have gone up by -- I think I said by -- it went up by 27 basis points, and that's basically what I raised my estimate of the 20-year by. That is, I assumed it would go up by the same amount as the 30-year.

Q. I'm sorry. It's been a long day, but I just want to be clear. Your view of the risk-free rate is the 20-year Treasury bond yield?

A. Yes.

Q. Okay. Thank you.

I just have a follow-up question on a question I asked you earlier when we were talking about the rate of return on equity that you recommended in the Duke case. My question is this: If you had included the additional months in analyzing the ROE for Progress that you referred to or relied on in your study for Duke, would you be recommending 11 1/2 percent for Progress?

A. I don't believe so.

MR. WRIGHT: Just a moment, Mr. Chairman.

CHAIRMAN CARTER: Absolutely.

MR. WRIGHT: Thank you, Mr. Chairman, and thank you, Dr. Vander Weide. That's all the questions.

CHAIRMAN CARTER: Thank you, Mr. Wright. Staff.

MS. FLEMING: Thank you, Commissioners. We do have some questions.

With respect to the staff composite exhibit, I have not heard from all the parties, but in order to move on, we'll just address those when Dr. Vander Weide comes up in rebuttal.

CHAIRMAN CARTER: Okay.

MS. FLEMING: Good evening, Dr. Vander Weide. How are you?

CHAIRMAN CARTER: One second. Hang on a second, Ms. Fleming. Commission Skop.

COMMISSIONER SKOP: Thank you, Mr. Chairman. Could I just get three or four additional questions in real quick that I forgot last time?

CHAIRMAN CARTER: We're going to stop at 8:00, though.

COMMISSIONER SKOP: All right. That's fine.

Dr. Vander Weide, I just wanted to go back to a previous comment that you had made with respect to the

need to have cash flow in terms of ratings and all the things that are resultant in more favorable debt ratings and such.

THE WITNESS: Yes.

COMMISSIONER SKOP: I have a brief line of questions on that. In your opinion, how would improved cash flow from operations affect a company's debt rating, or how might it?

THE WITNESS: I think it would undoubtedly improve the company's financial ratios and improve its chance of having an A rating from Standard & Poor's.

COMMISSIONER SKOP: Okay. And in that regard, how might a higher debt rating affect perceived investment risk?

THE WITNESS: A higher debt rating would reduce the risk to the bondholders, and the cash flows, the additional cash flows would also reduce the risk to the equity investors.

COMMISSIONER SKOP: Okay. And so you would agree that additional cash flows are generally a good thing for corporate operations?

THE WITNESS: Undoubtedly.

COMMISSIONER SKOP: Okay. Just two final points. If storm reserve accruals were increased for an unfunded reserve account, would you agree that that

would provide an incremental source of unencumbered free cash flow for operations?

THE WITNESS: I'm sorry. I missed the very first couple of words of the question.

COMMISSIONER SKOP: Okay. I'll repeat the question. If a storm reserve accrual were increased for an unfunded reserve account, would you agree that that would provide an incremental source of unencumbered cash flow for operations?

THE WITNESS: Yes.

COMMISSIONER SKOP: Okay. And if, all things being equal, free cash flow is a good thing for operations and tends to perhaps improve debt ratings or move towards that, would any resultant risk be reduced from those cash flow operations?

THE WITNESS: Yes, it would.

COMMISSIONER SKOP: In that light, all things being equal again, that may be a small portion, but would that change any of your analysis as it might pertain to cost of equity in terms of incremental reduced risk?

THE WITNESS: Well, I would have to reassess, if that occurred, how Progress Energy compared to the proxy companies that I used, and so I would have to reassess the risk of those proxy companies and compare

that to the change in the risk of Progress Energy.

COMMISSIONER SKOP: Okay. Without doing that, though, all things being equal, if there were an incremental increase in free cash flow that would be a much smaller revenue requirement, just generally speaking, would that factor adversely impact the general range of your analysis if it were --

THE WITNESS: Well, other things equal, it would reduce the risk, and hence would reduce the required return, assuming that other things are held equal.

COMMISSIONER SKOP: But if the -- I guess what I'm trying to get at, if there weren't a substantial increase in the unfunded reserve account, then your analysis would generally be intact?

THE WITNESS: It would generally remain the same, yes.

COMMISSIONER EDGAR: All right. Thank you.

CHAIRMAN CARTER: Ms. Fleming.

MS. FLEMING: Thank you. And during that short intermission, we did find out that the parties have stipulated to Exhibit 40, so if we could just go ahead and address that briefly. Is that correct? There are no objections to Exhibit 40, which is staff's composite exhibit related to this witness?

CHAIRMAN CARTER: Let me ask the parties. Are there any objections to Exhibit 40?

MR. WRIGHT: No objections, Mr. Chairman. Thank you.

CHAIRMAN CARTER: Okay. Thank you so kindly. Exhibit 40 entered.

(Exhibit Number 40 was identified and admitted into the record.)

CHAIRMAN CARTER: Okay. Ms. Fleming.

MS. FLEMING: Okay. I'm watching the clock.

CHAIRMAN CARTER: That's good.

CROSS-EXAMINATION

BY MS. FLEMING:

Q. Good afternoon, Dr. Vander Weide.

A. I appreciate that, by the way.

Q. I have 30 minutes to get through my questions, so if you can, keep your answers short and succinct, if possible.

A. You've just given me an incentive to shorten my answers.

Q. We want to finish with you tonight.

The required return on equity is the minimum return required to attract capital to an investment; correct?

A. Yes.

Q. And it is your testimony that the cost of capital as determined by the Commission in this proceeding only reflects the risk of providing regulated electric service in Florida; is that correct?

A. Yes.

Q. And in your opinion, are capital markets generally efficient?

A. Yes.

Q. In general, do market prices for investment reflect the investors' perceptions of risk for those investments?

A. Yes.

Q. To the extent that a cost of capital witness such as yourself relied on market-based cost of equity models to estimate the required return on equity for PEF, in theory, are investors' expectations represented in the average results of those models?

A. Yes.

Q. Now, it is your testimony that within the context of the discounted cash flow model, the stock price reflects investors' view of risk; is that correct?

A. Yes.

Q. And are investors aware of the business and financial risks of investing in electric energy companies?

A. Yes.

Q. And you believe that investors take these risks, these business and financial risk factors into account in making investment decisions regarding electric utility stocks; correct?

A. Yes.

Q. Now, earlier Mr. Wright was asking you some questions, and you stated that the risk outlines starting on page 18 of your direct testimony relate to electric energy companies in general; is that correct?

A. Yes, it is.

Q. So the risk factors that you spoke of or addressed in your direct testimony starting on page 18 are not unique to PEF; is that correct?

A. That is correct.

Q. And you would agree that these risk factors are reflected in the stock price for electric energy companies; correct?

A. Yes.

Q. And in theory, these risk factors are reflected in the estimates of cost of equity for electric energy companies; correct?

A. Yes, they are.

Q. Now, in your testimony, you applied the discounted cash flow model approach to a group of

electric energy companies shown in your Exhibit JVW-1; is that correct?

A. Yes, it is.

Q. And you applied the DCF model approach to the Value Line electric companies that are shown in your Exhibit JVW-1; correct?

A. Yes.

Q. And the electric companies in your proxy group are the parent companies of regulated electric companies; is that correct?

A. Yes, it is.

Q. And the electric companies in your proxy group are, on average, comparable in risk to Progress Energy; is that correct?

A. Yes, they are.

Q. And in the electric -- you have not conducted a numerical comparison of PEF's capital expenditure program to the capital expenditure program of the other electric companies, including those in your proxy group; is that correct?

A. I have not done a thorough comparison. I recognize that PEF's capital -- propsective capital expenditures are unusually large, I state in my testimony, with respect to their rate base. And so it's my belief that their capital expenditures are large in

comparison to the rate base, but I haven't compared them in quantity to these companies.

Q. Okay. In your deposition, page 25, lines 20 to 24, you were asked, "Have you conducted a comparison of PEF's capital expenditure program to the capital expenditure program of other electric energy companies, including those in your proxy group?" Your answer, "I haven't explicitly conducted a numerical study of PEF's capital expenditures compared to all of the other electric utilities." Is that correct?

A. Yes. And I believe that's the same answer I just gave.

Q. Okay. Now, in your testimony, you state that you believe PEF is currently more risky than an investment in an average utility in the S&P Utilities Index; is that correct?

A. Do you have a specific page where I state that?

Q. It will be on page 43 of your testimony, line 4. And you state, "PEF is currently more risky than an investment in the average utility in the S&P Utilities Index over the entire period 1937 to the present"; is that correct?

A. Yes, it is.

Q. And you have not performed an analysis that

demonstrates that PEF is currently more risky than an investment in the average utility in the S&P index; is that correct?

A. It is correct, but this statement -- I believe we discussed this in the deposition, and it's based on my judgment from 30 years of experience in the electric utility industry, considering that many of the risks that PEF faces today were not faced by the utilities in the S&P Utilities Index, on average, from 1937 to the present.

A. Thank you. Now, it is your testimony that the financial risk associated with your proxy companies' average capital structure is significantly less than the risk associated with PEF's ratemaking capital structure; is that correct?

A. Yes.

Q. And it's also your testimony that PEF's recommended ratemaking capital structure contains 50 percent common equity; is that correct?

A. Yes.

Q. And it's also your testimony that your comparable company group or proxy group contains approximately 58 percent equity; is that correct?

A. Yes. And let me interpret that, in that I also adjusted the capital structure, the market value

capital structure for those companies by including an estimate of their purchased power obligations. And I compared it to a capital -- I consistently did the same thing for both PEF and the comparable companies.

Q. Thank you. Could I have you turn to your Exhibit JVW-8, please.

A. Yes.

Q. In this exhibit, you show the derivation you used to determine the return on equity that PEF would need in order to have the same cost of capital as your comparable proxy group; is that correct?

A. Yes.

Q. And in your derivation -- I think we discussed this in your deposition. The capital structure ratio for your comparable proxy group is based on a five-year average market value capitalization ratio; is that correct?

A. Yes.

Q. And the capital structure ratio for PEF is based on the approximate book value capitalization ratio for the 2010 projected test year; is that correct?

A. Yes.

Q. And you did not calculate the average book value capitalization ratio for your comparable company group; is that correct?

A. It's correct that I did not.

Q. Now, during your deposition, we asked you a little bit about the Value Line reports. Do you recall that?

A. It's kind of late in the day, and I don't recall it, but I'll accept it.

Q. Okay. Well, do you consider Value Line to be a reliable and accurate source of information, of financial information?

A. Yes.

Q. And you relied on this information from Value Line to perform portions of your cost of capital analysis; correct?

A. Correct.

MS. FLEMING: At this time, we're handing out an exhibit that we'll need marked for identification, please.

COMMISSIONER EDGAR: Yes, ma'am. That will be 278. Short title, please.

MS. FLEMING: Value Line Report for Proxy Group.

COMMISSIONER EDGAR: Thank you.

(Exhibit Number 278 was marked for identification.)

BY MS. FLEMING:

Q. Dr. Vander Weide, do you recall this exhibit from your deposition?

A. Again, I don't recall it, but I'll --

Q. Well, would you agree, subject to check, that this was identified as Deposition Exhibit Number 1 to your deposition?

A. Yes.

Q. And if I could have you turn to the first page.

A. The one titled "Vander Weide Book Value, PEF Proxy Electric Company Group"?

Q. Yes, sir.

A. Yes.

Q. The first column on the left lists all the companies contained in your proxy group that are listed in JVW-1; is that correct?

A. Yes.

Q. And the next column on the right titled "2007 Equity Ratio," that lists the historical 2007 equity ratios for your proxy group, is that correct, reported by Value Line?

A. Let me just quickly look at my proxy group. I said yes kind of rapidly. I could accept that, subject to check, or I could compare them. I believe they're the same.

Q. Well, in your deposition, page 98, lines 13 through 15, you were asked with the same exhibit, "The first column on the left lists all the companies contained in your proxy group listed in Exhibit JVW-1; is that correct?"

Your response, "Yes."

A. I must have compared them, then, and I'll accept that.

Q. Thank you. So the column to the right, the 2007 equity ratio, it lists the historical 2007 eqiuty ratios for your proxy companies as reported by Value Line; is that correct?

A. Yes.

Q. And the next column that's labeled "2008 Equity Ratio" lists the historical 2008 equity ratio for your proxy companies as reported by Value Line; is that correct?

A. I'm not sure what you mean by historical. It would be year-end capital structure for 2008.

Q. Okay. And then the last column, the 2010 estimated equity ratio, that lists the 2010 estimiated equity ratios for your companies, proxy companies as reported by Value Line; is that correct?

A. Yes.

Q. And looking at the last row, the simple

average of the equity ratios for each of the columns is listed in the last row; is that correct?

A. That's what it is titled.

Q. Okay. So the simple average historical book value equity ratio for the proxy group for 2008, or year-end 2008, as you referred to, is 45.7 percent; is that correct?

A. Yes.

MS. FLEMING: We have no further questions.

COMMISSIONER EDGAR: Are there any further questions from the bench? No.

Mr. Walls, redirect.

MR. WALLS: No.

COMMISSIONER EDGAR: No rediect. Okay. I believe that brings us to exhibits. Mr. Walls, we'll start with you.

MR. WALLS: Yes. We have Exhibits JVW-1 through JVW-13, which are identified as Exhibits 98 through 110 that we would move in evidence.

COMMISSIONER EDGAR: Any objection? Hearing none, at this time, we will enter Exhibits 98 through 110 -- yes, 110, into the record.

(Exhibits Number 98 through 110 were identified and admitted into the record.)

COMMISSIONER EDGAR: Mr. Wright.

MR. WRIGHT: Thank you, Madam Chairman. I would move 277, please.

COMMISSIONER EDGAR: Any objection?

MR. WALLS: No objection.

MR. WRIGHT: And if I might inquire, is 40 in the record already? Was that admitted earlier?

COMMISSIONER EDGAR: I think the answer is yes, but let me look at my record, and we will all confirm together. I am showing that 40 has been entered. I'll seeing a nod from staff that --

MS. FLEMING: Yes.

COMMISSIONER EDGAR: -- they feel the same, so we're going to call that yes.

MR. WRIGHT: That's great. Thank you very much.

COMMISSIONER EDGAR: All right. So 277 is entered in the record at this time.

(Exhibit Number 277 was admitted into the record.)

COMMISSIONER EDGAR: And that brings us, Ms. Fleming, to you.

MS. FLEMING: We would ask that 278 be moved into the record.

COMMISSIONER EDGAR: Any objection?

MR. WALLS: No objection.

COMMISSIONER EDGAR: 278 is entered into the record at this time.

(Exhibit Number 278 was admitted into the record.)

COMMISSIONER EDGAR: Doctor, thank you very much. You are excused. And I understand that we will be seeing you back on rebuttal. You're excused for the time being. Thank you.

THE WITNESS: Thank you.

COMMISSIONER EDGAR: Okay. This looks like an excellent stopping point to me. Is there anything that we can address or deal with yet this evening while we are still gathered together, anything procedural, any order of witnesses, anything like that so that we are as clear as we can all be in the morning?

MS. FLEMING: I'm getting nods from the parties that we should meet to discuss the order of witnesses.

COMMISSIONER EDGAR: Okay. Let me then ask when we are adjourned here in just a moment if the parties will get with Ms. Fleming briefly before you leave the building.

Mr. Wright.

MR. WRIGHT: Madam Chairman, the reason I was looking somewhat quizzically at Ms. Fleming is that I

think there was some confusion as between who all knew exactly what the witness order was going to be today. I'm fine meeting, but I thought one or more Commissioners weren't completely sure what the order of witnesses was to be, because --

COMMISSIONER EDGAR: That was probably me.

MR. WRIGHT: Because it got decided after you all had blessedly, for your sake, left. And so I just wanted to say if you all wanted to hang -- if somebody wanted to know what it's going to be, maybe staff can tell you later or something. I was just concerned for that.

COMMISSIONER EDGAR: I have full confidence that staff will share with us in the morning whatever it is individually that we need to know.

MS. FLEMING: I intend to provide Marshall Willis with an e-mail this evening after we adjourn.

COMMISSIONER EDGAR: All right. Mr. Willis has received a new assignment.

So thank you all, and with that, we are adjourned for the evening.

(Proceedings recessed at 7:47 p.m.)

CERTIFICATE OF REPORTER

STATE OF FLORIDA:

COUNTY OF LEON:

I, MARY ALLEN NEEL, Registered Professional Reporter, do hereby certify that the foregoing proceedings were taken before me at the time and place therein designated; that my shorthand notes were translated under my supervision; and the foregoing pages numbered 1297 through 1463 are a true and correct record of the aforesaid proceedings.

I FURTHER CERTIFY that I am not a relative, employee, attorney or counsel of any of the parties, nor relative or employee of such attorney or counsel, or financially interested in the foregoing action.

DATED THIS 28th day of September, 2009.

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