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STEVE CRISAFULLI
*Speaker of the House of
Representatives*

July 7, 2016

Ms. Carlotta Stauffer, Commission Clerk
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0850

Re: Docket No. 160021, 160061-EI, 160062-EI and 160088-EI

Dear Ms. Stauffer:

Please find enclosed for filing in the above referenced docket the Direct Testimony and
Exhibits of **J. Randall Woolridge**. This filing is being made via the Florida Public Service
Commission's Web Based Electronic Filing portal.

If you have any questions or concerns; please do not hesitate to contact me. Thank you for
your assistance in this matter.

Sincerely,

Patricia A. Christensen
Associate Public Counsel

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Petition for rate increase by Florida Power Company	Docket No. 160021-EI
In re: Petition for approval of 2016-2018 storm hardening plan, by Florida Power & Light Company.	Docket No. 160061-EI
In re: 2016 depreciation and dismantlement study by Florida Power & Light Company.	Docket No. 160062-EI
In re: Petition for limited proceeding to modify and continue incentive mechanism, by Florida Power & Light Company.	Docket No. 160088-EI
/	Filed: July 07, 2016

DIRECT TESTIMONY

OF

J RANDALL WOOLRIDGE

ON BEHALF OF THE CITIZENS OF THE STATE OF FLORIDA

FLORIDA POWER & LIGHT COMPANY
DOCKET NO. 160021-EI, et al (consolidated)

Direct Testimony of
Dr. J. Randall Woolridge

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1 <div align="center">**DIRECT TESTIMONY**</div>

2 <div align="center">**OF**</div>

3 <div align="center">**J. RANDALL WOOLRIDGE**</div>

4 <div align="center">On Behalf of the Office of Public Counsel</div>

5 <div align="center">Before the</div>

6 <div align="center">Florida Public Service Commission</div>

7 <div align="center">Docket No. 160021-EI, et al (consolidated)</div>

8
9 **I.**   **IDENTIFICATION OF WITNESS AND PURPOSE OF TESTIMONY**

10

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

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

13   State College, PA 16801. I am a Professor of Finance and the Goldman, Sachs & Co.

14   and Frank P. Smeal Endowed University Fellow in Business Administration at the

15   University Park Campus of Pennsylvania State University. I am also the Director of

16   the Smeal College Trading Room and President of the Nittany Lion Fund, LLC. A

17   summary of my educational background, research, and related business experience is

18   provided in Appendix A.

19

20 <div align="center">**A.   Overview**</div>

21

22 **Q.   WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?**

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

24   as to the appropriate return on equity for Florida Power & Light Company ("FPL" or

<div align="center">1</div>

1   "Company") and to evaluate FPL's rate of return testimony in this proceeding.

2

3   **Q.**   **HOW IS YOUR TESTIMONY ORGANIZED?**

4   **A.**   First, I review my cost of equity recommendation for FPL, highlight several factors that

5   have changed since the Company's last rate case, and discuss the primary areas of

6   contention between FPL's rate of return position and my position. Second, I provide an

7   assessment of capital costs in today's capital markets. Third, I discuss the selection of a

8   proxy group of electric utility companies for estimating the market cost of equity for FPL.

9   Fourth, I discuss the relationship between a utility's capital structure and the return on

10   equity that should be associated with that capital structure. Fifth, I provide an overview

11   of the concept of the cost of equity capital, and then estimate the equity cost rate for FPL.

12   Finally, I critique the Company's rate of return analysis and testimony.

13

14   **Q.**   **WHAT COMPRISES A UTILITY'S "RATE OF RETURN"?**

15   **A.**   A company's overall rate of return consists of three main categories: (1) capital

16   structure (i.e., ratios of short-term debt, long-term debt, preferred stock and common

17   equity); (2) cost rates for short-term debt, long-term debt, and preferred stock; and

18   (3) common equity cost, otherwise known as return on equity ("ROE").

19

20   **Q.**   **WHAT IS A UTILITY'S ROE INTENDED TO REFLECT?**

21   **A.**   An ROE is most simply described as the allowed rate of profit for a regulated company.

22   In a competitive market, a company's profit level is determined by a variety of factors,

23   including the state of the economy, the degree of competition a company faces, the ease

1	of entry into its markets, the existence of substitute or complementary
2	products/services, the company's cost structure, the impact of technological changes,
3	and the supply and demand for its services and/or products. For a regulated monopoly,
4	the regulator determines the level of profit available to the utility. The United States
5	Supreme Court established the guiding principles for establishing an appropriate level
6	of profitability for regulated public utilities in two cases: (1) *Bluefield* and (2) *Hope*.[1]
7	In those cases, the Court recognized that the fair rate of return on equity should be:
8	(1) comparable to returns investors expect to earn on investments with similar risk;
9	(2) sufficient to assure confidence in the company's financial integrity; and
10	(3) adequate to maintain the company's credit and to attract capital.
11	Thus, the appropriate ROE for a regulated utility requires determining the
12	market-based cost of capital. The market-based cost of capital for a regulated firm
13	represents the return investors could expect from other investments, while assuming no
14	more and no less risk. The purpose of all of the economic models and formulas in cost
15	of capital testimony (including those presented later in my testimony) is to estimate,
16	using market data of similar-risk firms, the rate of return equity investors require for
17	that risk class of firms in order to set an appropriate ROE for a regulated firm.
18	
19	Q. PLEASE REVIEW THE COMPANY'S PROPOSED RATE OF RETURN.
20	A. The Company has proposed a capital structure from investor-provided capital of
21	40.40% long-term debt and 59.60% common equity. FPL witness Robert B. Hevert has

---

[1] *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591 (1944) ("*Hope*") and *Bluefield Water Works and Improvement Co. v. Public Service Commission of West Virginia*, 262 U.S. 679 (1923) ("*Bluefield*").

1   recommended   a   common   equity   cost   rate   of   11.0%   for   FPL.

2

3   Q.   **WHAT   ARE   YOUR   RECOMMENDATIONS   REGARDING   THE**

4   **APPROPRIATE RATE OF RETURN FOR FPL?**

5   A.   My recommended ROE for the Company is 8.75%. This equity cost rate is based on

6   OPC witness Kevin O'Donnell's capital structure. This figure is at the upper end of

7   my equity cost rate range of 7.90% to 8.85%. If the Commission were to adopt the

8   Company's recommended capital structure with a 59.60% common equity ratio, a ROE

9   below 8.75% would be appropriate.

10   To estimate an equity cost rate for the Company, I have applied the Discounted

11   Cash Flow Model ("DCF") and the Capital Asset Pricing Model ("CAPM") to my

12   proxy group of electric utilities ("Electric Proxy Group"). I have also used Mr.

13   Hevert's proxy group ("Hevert Proxy Group") for purposes of comparison to my

14   Electric Proxy Group analysis. Mr. Hevert has also employed an alternative risk

15   premium ("RP") approach, which he calls the Bond Yield Plus Risk Premium

16   approach. I have reviewed the Company's proposed capital structure and overall cost

17   of capital. FPL's proposed capitalization has much more equity and much less financial

18   risk than the average current capitalizations of electric utility companies. OPC witness

19   O'Donnell presents OPC's capital structure position, which includes a capital structure

20   with a common equity ratio of 50.00%.

1   **B.**   **Since FPL's Last Rate Case**

2

3 **Q.**   **PLEASE REVIEW THE COMMISSION'S ORDER IN FPL'S LAST RATE**

4   **CASE.**

5 **A.**   On January 14, 2013, the Commission issued Order No. PSC-13-0023-S-EI approving

6   the revised stipulation and settlement ("Settlement") between parties in Docket No.

7   120015-EI. The Settlement, dated August 15, 2012, was between FPL and the Florida

8   Industrial Power Users Group ("FIPUG"), the South Florida Hospital and Healthcare

9   Association ("SFHHA") and the Federal Executive Agencies ("FEA"). OPC did not

10   sign on to the Settlement, which included a rate increase of $350 million and a ROE of

11   10.5%.

12

13 **Q.**   **WHAT HAS CHANGED IN CAPITAL MARKETS SINCE 2012?**

14 **A.**   Interest rates and capital costs have decreased in reaction to Federal Reserve monetary

15   policy and changes in the economy. The Federal Reserve has made some significant

16   monetary policy moves, including its Quantitative Easing III ("QEIII") program in

17   September of 2012.[2] Over the next two years, the economy improved, and at its

18   October 2014 meeting, the Federal Open Market Committee ("FOMC") announced a

19   scheduled winding down of the QEIII program. Subsequently, in December 2015, the

20   Federal Reserve increased its target rate for federal funds to a range of 0.25-0.50

21   percent from 0.0-0.25 percent.

---

[2] Under QEIII, the Federal Reserve extended its purchase of long-term securities to about $85 billion per month and kept its target for the federal funds rate between 0.0 to 0.25 percent.

1	Figure 1 shows the thirty-year Treasury yield over the 2013-2016 time period.
2	The movement of long-term interest rates over this period has been driven primarily by
3	slow economic growth and low inflation. During 2013, the thirty-year Treasury yield
4	increased from 3.0% to 4.0% due to improvements in the economy and the speculation
5	about Federal Reserve policy. The thirty-year Treasury yield subsequently decreased
6	to below 2.5% due to continued slow economic growth and low inflation. Then, after
7	increasing to above 3.0% in mid-2015, this yield has subsequently decreased to back
8	below 2.5%.

9
10
11
12

Figure 1
Thirty-Year Treasury Yield
2013-2016
Source: https://research.stlouisfed.org/fred2/series/DGS30


14 Q. **HAVE THE AUTHORIZED ROEs FOR ELECTRIC UTILITIES AROUND**

15 **THE NATION INCREASED OR DECREASED SINCE 2012?**

16 A. Authorized ROEs for electric utilities throughout the United States have decreased

17 since the Company's last rate case in 2012. As shown in Figure 2, these authorized

18 ROEs have declined from 10.01% in 2012, to 9.80% in 2013, 9.76% in 2014, 9.58% in

1   2015, and 9.68% in the first quarter of 2016, according to Regulatory Research

2   Associates.[3]

3   **Figure 2**
4   **Authorized ROEs for Electric Utility and Gas Distribution Companies**
5   **2000-2016**
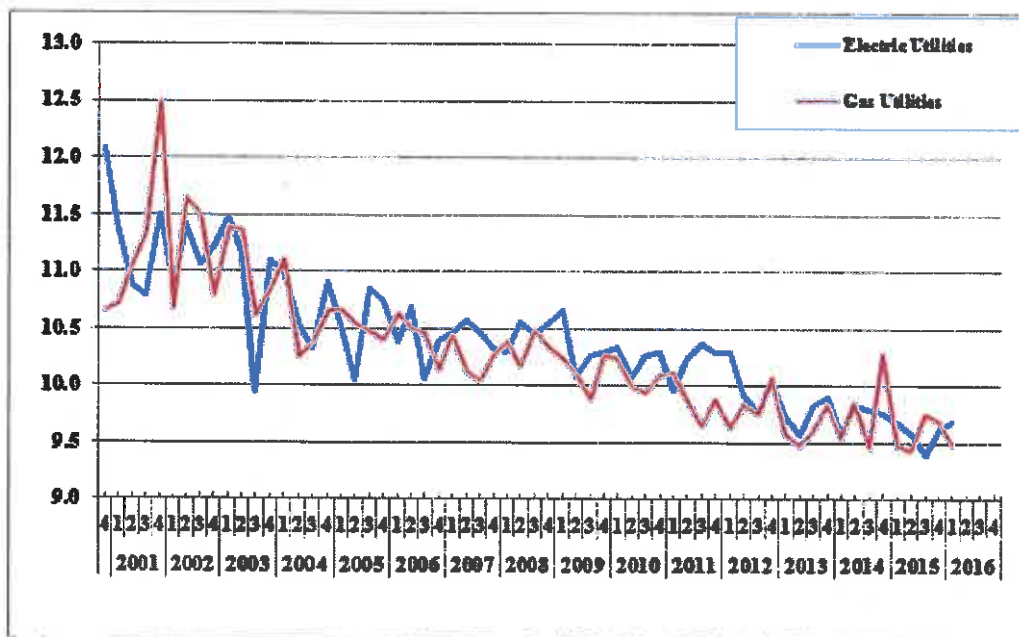
6
7
8
9 Q.   **HAS FPL'S CREDIT RATING CHANGED SINCE 2012?**

10 A.   Yes. Moody's upgraded the long-term issuer credit rating for FPL in January 2014

11   from A2 to A1. This suggests that FPL's investment risk has declined. As discussed

12   later in my testimony, electric utilities, on average, are rated Baa1 by Moody's. With

13   a Company rating of A1 versus a Baa1 rating for other electric companies, FPL is rated

14   three notches above other electric utilities.

15 Q.   **HOW HAS FPL PERFORMED SINCE THE COMPANY'S LAST RATE CASE?**

16 A.   FPL has been one of the top performing electric utilities in the United States since its

---

[3] *Regulatory Focus*, Regulatory Research Associates, April 2016.

1   last rate case in terms of earned returns. Figure 3 shows the earned ROE for FPL versus

2   the electric utility average from 2011-2015, as reported by Regulatory Research

3   Associates ("RRA"). FPL's earned ROE has increased from 10.5% to about 11.5%

4   since its last rate case.[4] On the other hand, the average earned ROE for RRA's electric

5   utility universe has been about 9.0%.

Figure 3
Earned ROEs
FPL Versus Other Electric Utilities
2011-2015
Source: Regulatory Research Associates, "Florida Power & Light outperforms in RRA
Quality Measures Subsidiaries study through year-end 2015", April 19, 2016.
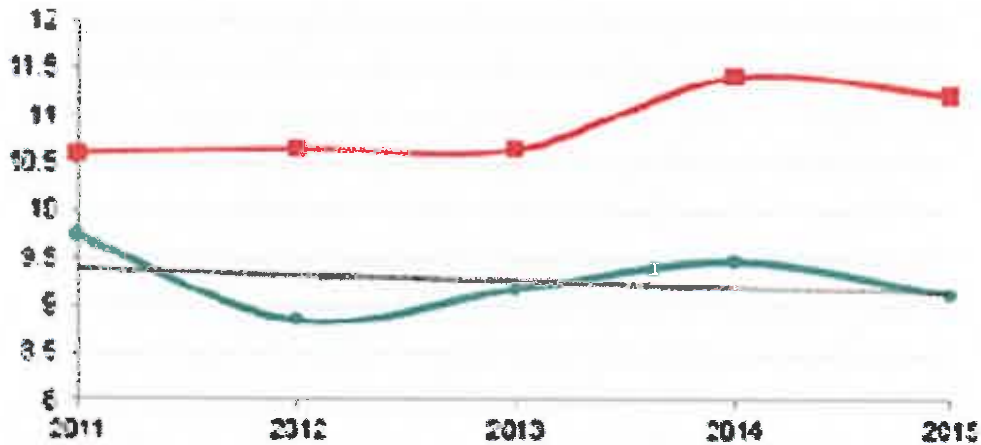
14 Q.   HAS FPL'S SUPERIOR PERFORMANCE BEEN REFLECTED IN THE

15   STOCK PRICE OF ITS PARENT COMPANY – NEXTERA?

16 A.   Definitely, NextEra Energy, Inc.'s ("NEE's") stock has significantly outperformed the

17   stocks of other electric utilities, as well as the S&P 500. This is illustrated in Figure 4.

18   Since 2013, NEE's stock price is up 74%, versus an increase of 48% for the Dow Jones

19   Utilities Index ("DJU") and 41% for the S&P 500 ("GSPC").

---

[4] Regulatory Research Associates, "Florida Power & Light outperforms in RRA Quality Measures Subsidiaries study through year-end 2015", April 19, 2016.

1

Figure 4
Stock Performance of NEE, DJU, and S&P 500 (GSPC)
2013-2016
Source: https://finance.yahoo.com/

Furthermore, the authorized ROEs for distribution-only electric utilities have been

about 20 basis points below those for vertically integrated electric utilities like FPL.

C.   Summary of the Primary Rate of Return Issues in this Case

Q.   PLEASE PROVIDE AN OVERVIEW OF THE ROE POSITIONS IN THIS
PROCEEDING.

A.   The primary issues related to the estimation of FPL's ROE include:

1.   The Company's capital structure has much more equity and much less financial

risk than other electric utilities, including those electric utilities used by Mr. Hevert in

9

1   estimating FPL's cost of equity capital. As noted above, OPC witness O'Donnell

2   presents OPC's capital structure position;

3   2.   Mr. Hevert's assessment of capital market conditions is flawed. In providing

4   guidance on capital costs and in estimating FPL's ROE, he has relied upon economists'

5   interest rate forecasts. Despite dire and unfounded predictions of rising interest rates

6   over the past decade, long-term interest rates and capital costs are still at historically

7   low levels. As I discuss below, there are strong indicators from my assessment study

8   of global capital markets that long-term capital costs will remain low;

9   3.   Mr. Hevert failed to recognize that FPL is less risky than other electric utilities

10 and, therefore, investors require a lower, not a higher ROE;

11 4.   Mr. Hevert has significantly changed his equity cost rate approach and

12 testimony in this proceeding by erroneously giving primary weight to his CAPM and

13 RP approaches and virtually no weight to his prior DCF-centered approach;

14 5.   Beyond the changes in weight Mr. Hevert gives to his equity cost rate

15 approaches in this proceeding, there are a number of errors in his DCF, CAPM, and RP

16 approaches. These errors are addressed below; and

17 6.   Mr. Hevert has included business risk considerations such as the Company's

18 capital expenditure program, geography, and nuclear risk in assessing the relative

19 riskiness of FPL in order to support his 11.0% ROE recommendation. All of these risk

20 factors are already considered by rating agencies in determining the Company's credit

21 ratings. Also, FPL's S&P and Moody's credit ratings of A- and A1 are above those of

22 other electric utilities, including those companies in the two proxy groups.[5]

---

[5] It should be noted that whereas FPL and NextEra both are rated A- by S&P, Moody's has a higher credit rating for FPL (A1) than for NextEra (Baa1).

1 Q. **PLEASE INITIALLY ADDRESS THE DIFFERENCES BETWEEN THE**

2   **ALTERNATIVE ASSUMPTIONS REGARDING CAPITAL MARKET**

3   **CONDITIONS BETWEEN YOUR EQUITY COST RATE ANALYSES AND**

4   **MR. HEVERT'S.**

5 A. Mr. Hevert and I have significantly different opinions regarding capital market

6   conditions. Mr. Hevert's analyses and ROE results and recommendations reflect the

7   assumption of higher interest rates and capital costs. These are the same assumptions

8   and results that he has testified to in recent years. I review current market conditions

9   and conclude that interest rates and capital costs are at historically low levels and are

10   likely to remain low for some time. Moreover, I show that the interest rate forecasts

11   used by Mr. Hevert have been wrong for a decade.

12

13 Q. **TURNING TO THE ALTERNATIVE EQUITY COST RATE APPROACHES,**

14   **WHAT ARE THE DIFFERENCES BETWEEN YOUR DCF MODEL AND MR.**

15   **HEVERT'S DCF MODEL?**

16 A. I have employed the traditional constant-growth DCF model. Mr. Hevert has also used

17   this model, as well as a multi-stage growth version of the model. There are several

18   issues with Mr. Hevert's DCF analyses: (1) in contrast to previous testimony in which

19   Mr. Hevert gave primary weight to his DCF results, he has virtually ignored his

20   constant-growth and multi-stage DCF results in arriving at his 11.0% ROE

21   recommendation for FPL; (2) notwithstanding this change, there are errors with his

22   constant-growth and multi-stage growth DCF analyses. These errors include: (a) he

23   has relied exclusively on the overly optimistic and upwardly biased earnings per share

1	("EPS") growth rate forecasts of Wall Street analysts and *Value Line;* and (b) in his
2	multi-stage DCF model, he has employed a terminal growth rate of 5.35%, which is
3	excessive for a number of reasons, especially the fact that it is not reflective of
4	prospective economic growth in the United States and is about 100 basis points above
5	the projected long-term growth in U.S. Gross Domestic Product ("GDP"). On the other
6	hand, when developing the DCF growth rate that I have used in my analysis, I have
7	reviewed thirteen growth rate measures, including historical and projected growth rate
8	measures, and have evaluated growth in dividends, book value, and earnings per share.

9

10   **Q.**   **PLEASE DISCUSS THE DIFFERENCES BETWEEN YOUR APPLICATION OF**

11   **THE CAPM AND THAT OF MR. HEVERT.**

12   **A.**   The CAPM approach requires an estimate of the risk-free interest rate, beta, and the

13   market or risk premium. There are two primary errors in Mr. Hevert's CAPM

14   approach. First, Mr. Hevert has used a projected long-term Treasury yield that is more

15   than 200 basis points above the current market rate. This forecast is extreme and

16   significantly increases his CAPM and RP equity cost rates. However, the major area

17   of disagreement involves the measurement and magnitude of the market risk premium.

18   In short, Mr. Hevert's market risk premium is excessive and does not reflect current

19   market fundamentals. As I highlight in my testimony, there are three methods for

20   estimating a market or equity risk premium – historical returns, surveys, and expected

21   return models. Mr. Hevert uses projected market risk premiums of 10.68% and 9.87%.

22   Also, Mr. Hevert's projected market risk premiums use analysts' EPS growth rate

23   projections to compute expected market returns and market risk premiums. These EPS

1   growth rate projections and the resulting expected market returns and risk premiums

2   include unrealistic assumptions regarding future economic and earnings growth and

3   stock returns. I have used a market risk premium of 5.5%, which: (1) employs three

4   different approaches to estimating a market premium; and (2) uses the results of many

5   studies of the market risk premium. As I note, my market risk premium reflects the

6   market risk premiums that were: (1) determined in recent academic studies by leading

7   finance scholars; (2) employed by leading investment banks and management

8   consulting firms; and (3) found in surveys of companies, financial forecasters, financial

9   analysts, and corporate Chief Financial Officers ("CFOs").

10

11 Q. HAVE YOU EMPLOYED AN ALTERNATIVE RP MODEL?

12 A. No. The CAPM is a form of the RP model, so I believe that using another form of the

13   RP model is unnecessary. Nevertheless, Mr. Hevert has employed an alternative RP

14   model.

15

16 Q. PLEASE DISCUSS THE ERRORS WITH MR. HEVERT'S ALTERNATIVE RP

17   MODEL.

18 A. Mr. Hevert estimates an equity cost rate using an alternative RP model. His risk

19   premium is based on the historical relationship between the yields on long-term

20   Treasury yields and authorized returns on equity for electric utility companies. There

21   are several issues with this approach. First and foremost, this approach is a gauge of

22   regulatory commission behavior and not investor behavior. Capital costs are

23   determined in the marketplace through the financial decisions of investors and are

1   reflected in such fundamental factors as dividend yields, expected growth rates, interest

2   rates, and investors' assessment of the risk and expected return of different investments.

3   Regulatory commissions evaluate not only capital market data in setting authorized

4   ROEs, but also take into account other utility and rate case-specific information in

5   setting ROEs. As such, Mr. Hevert's RP approach and results reflect other factors used

6   by utility regulatory commissions in authorizing ROEs in addition to capital costs. This

7   is especially true when the authorized ROE data includes the results of rate cases that

8   were settled and not fully litigated. Second, Mr. Hevert's methodology produces an

9   inflated measure of the risk premium because his approach uses historical authorized

10 ROEs and Treasury yields, and the resulting risk premium is applied to projected Treasury

11 yields. Finally, the risk premium is inflated as a measure of investors' required risk

12 premium since electric utility companies have been selling at market-to-book ratios in

13 excess of 1.0. This indicates that the authorized rates of return have been greater than

14 the return that investors require.

15 Q.   ARE THESE ERRORS REFLECTED IN THE DIFFERENCES BETWEEN MR.

16   HEVERT'S   RP   RESULTS   AND   THE   AVERAGE   STATE-LEVEL

17   AUTHORIZED   ROEs   FOR   ELECTRIC   UTILITY   COMPANIES

18   NATIONWIDE?

19 A.   Yes, they are. Mr. Hevert's RP equity cost rate estimates for electric utility companies

20   range from 10.04% to 10.53%. These figures overstate actual state-level authorized

21   ROEs. As shown above in Figure 2, the average authorized ROEs for electric utilities

22   have declined from 10.01% in 2012, to 9.80% in 2013, 9.76% in 2014, 9.58% in 2015,

1		and 9.68% in the first quarter of 2016, according to Regulatory Research Associates.[6]
2	Q.	**WHAT ARE OTHER DIFFERENCES BETWEEN YOUR EQUITY COST**
3		**RATE ANALYSES AND MR. HEVERT'S?**
4	A.	One other difference involves a flotation cost adjustment to reflect prospective equity
5		issues. Mr. Hevert has made an explicit ROE adjustment for equity flotation costs of
6		0.12%. He has not cited any current or prospective equity issues by FPL or its parent
7		company, NextEra. Thus, the Company should not be rewarded with a higher ROE
8		that includes unnecessary flotation costs that the subsidiary FPL does not expect to
9		incur.
10		
11		II. CAPITAL COSTS IN TODAY'S MARKETS
12		
13	Q.	**WHY ARE CAPITAL MARKET CONDITIONS AND THE OUTLOOK FOR**
14		**INTEREST RATES AND CAPITAL COSTS IMPORTANT IN THIS CASE?[7]**
15		
16	A.	As discussed above, a company's rate of return is its overall cost of capital. Capital
17		costs, including the cost of debt and equity financing, are established in capital markets
18		and reflect investors' return requirements on alternative investments based on risk and
19		capital market conditions. These capital market conditions are a function of investors'
20		expectations concerning many factors, including economic growth, inflation,
21		government monetary and fiscal policies, and international developments, among

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[6] *Regulatory Focus*, Regulatory Research Associates, July 2015. The electric utility authorized ROEs exclude the authorized ROEs in Virginia, which include generation adders.
[7] A historic perspective on interest rates and capital costs is provided in Appendix B.

1	others. In the wake of the financial crisis, much of the focus in the capital markets has
2	been on the interaction of economic growth, interest rates, and the actions of the Federal
3	Reserve. In addition, as illustrated in the United Kingdom's June 23, 2016 vote to
4	leave the European Union ("BREXIT"), capital markets are global, and capital costs
5	are impacted by global events.
6	
7	**Q.** **WHAT IS MR. HEVERT'S ASSESSMENT OF THE CAPITAL MARKETS**
8	**ENVIRONMENT?**
9	A. In pages 52-65 of his testimony, Mr. Hevert discusses the capital markets environment.
10	Mr. Hevert argues that market data and economists' projections indicate that long-term
11	interest rates are going to increase.
12	
13	**Q.** **PLEASE EXPLAIN YOUR CONCERNS REGARDING MR. HEVERT'S**
14	**CONCLUSION OF HIGHER LONG-TERM INTEREST RATES.**
15	A. In the last couple years, with the end of the Federal Reserve's QEIII program and its
16	December 16, 2015 decision to raise the federal funds rate, there have been forecasts
17	of higher long-term interest rates. However, these forecasts have proven to be wrong.
18	For example, after the announcement of the end of the QEIII program, all the
19	economists in Bloomberg's interest rate survey forecasted that interest rates would
20	increase in 2014, and 100% of the economists were wrong. According to a *Market*
21	*Watch* article:[8]
22	The survey of economists' yield projections is generally skewed

[8] Ben Eisen, "Yes, 100% of economists were dead wrong about yields", *Market Watch*, October 22, 2014. http://www.marketwatch.com/story/yes-100-of-economists-were-dead-wrong-about-yields-2014-10-21.

1	toward rising rates — only a few times since early 2009 have a
2	majority of respondents to the Bloomberg survey thought rates would
3	fall. But the unanimity of the rising rate forecasts in the spring was
4	a stark reminder of how one-sided market views can become. It also
5	teaches us that economists can be universally wrong.
6	
7	Two other financial publications have produced studies on how economists consistently
8	predict higher interest rates, yet the economists have been wrong. The first publication,
9	entitled "How Interest Rates Keep Making People on Wall Street Look Like Fools,"
10	evaluated economists' forecasts of the yield on ten-year Treasury bonds at the
11	beginning of the year for the last ten years.[9] The results demonstrated that economists
12	consistently predict that interest rates will go higher, and interest rates have not fulfilled
13	those predictions.
14	The second study tracked economists' forecasts of the yield on ten-year
15	Treasury bonds on an ongoing basis from 2010 until 2015.[10] The results of this study,
16	which was entitled "Interest Rate Forecasters are Shockingly Wrong Almost All of the
17	Time," are shown in Figure 5 and demonstrate how economists continually forecast
18	that interest rates are going up; however, they do not. Indeed, as Bloomberg has
19	reported, economists' continued failure in forecasting increasing interest rates has
20	caused the Federal Reserve Bank of New York to stop using the interest rate estimates
21	of professional forecasters in the Bank's interest rate model due to the unreliability of
22	those forecasters' interest rate forecasts.[11]

---

[9] Joe Weisenthal, "How Interest Rates Keep Making People on Wall Street Look Like Fools", Bloomberg.com, March 16, 2015. http://www.bloomberg.com/news/articles/2015-03-16/how-interest-rates-keep-making-people-on-wall-street-look-like-fools.

[10] Akin Oyedele, "Interest Rate Forecasters are Shockingly Wrong Almost All of the Time", *Business Insider*, July 8, 2015. http://www.businessinsider.com/interest-rate-forecasts-are-wrong-most-of-the-time-2015-7.

[11] Susanne Walker and Liz Capo McCormick, "Unstoppable $100 Trillion Bond Market Renders Models Useless", Bloomberg.com, June 2, 2014. http://www.bloomberg.com/news/articles/2014-06-01/the-unstoppable-100-trillion-bond-market-renders-models-useless

Figure 5
Economists' Forecasts of the Ten-Year Treasury Yield
2010-2015

10y U.S. Treasury Yield Forecast for Year End 2015
June 10, 2010 through June 24, 2015

4
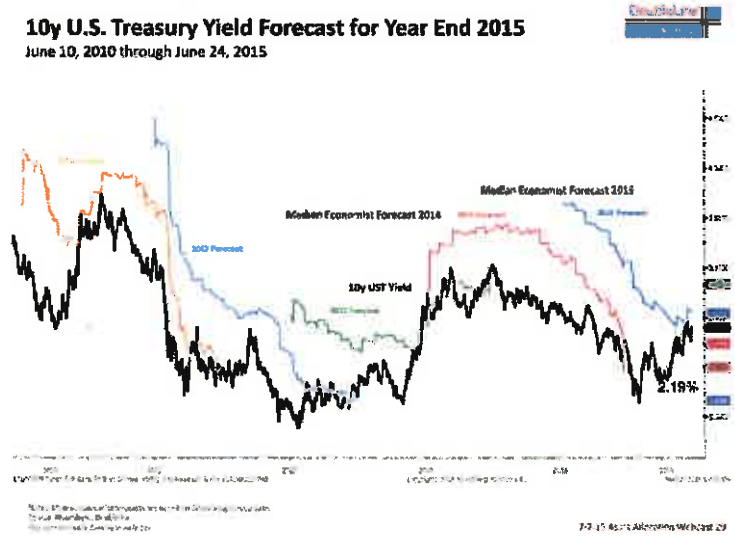
5   Source: Akin Oyedele, "Interest Rate Forecasters are Shockingly Wrong Almost All of the Time", *Business*
6   *Insider*, July 8, 2015. http://www.businessinsider.com/interest-rate-forecasts-are-wrong-most-of-the-time-2015-
7   7.
8

9   **Q.   PLEASE REVIEW THE FEDERAL RESERVE'S DECISION TO RAISE THE**

10   **FEDERAL FUNDS RATE IN DECEMBER 2015.**

11   A.   On December 16, 2015, the Federal Reserve decided to increase the target rate for

12   Federal Funds to 0.25-0.50 percent. The federal funds rate is set by the Federal Reserve

13   and is the borrowing rate generally only applicable to the most creditworthy financial

14   institutions when they borrow and lend funds <u>overnight</u> to each other.[12] In the release,

15   the FOMC included the following observations:[13]

16   The Committee currently expects that, with gradual adjustments in the
17   stance of monetary policy, economic activity will continue to expand at
18   a moderate pace and labor market indicators will continue to strengthen.
19   Overall, taking into account domestic and international developments,
20   the Committee sees the risks to the outlook for both economic activity

---

[12] http://www.investopedia.com/terms/f/federalfundsrate.asp

[13] Board of Governors of the Federal Reserve System, *FOMC Statement* (Dec. 16, 2015).
https://www.federalreserve.gov/newsevents/press/monetary/20151216a.htm

1		and the labor market as balanced. Inflation is expected to rise to 2 percent
2		over the medium term as the transitory effects of declines in energy and
3		import prices dissipate and the labor market strengthens further. The
4		Committee continues to monitor inflation developments closely.
5		

6 This increase comes after the range was kept in the 0.0 to 0.25 percent range for over

7 five years in order to spur economic growth in the wake of the financial crisis. The

8 move occurred almost two years after the end of QEIII program, the Federal Reserve's

9 bond buying program. The Federal Reserve has been cautious in its approach to scaling

10 its monetary intervention, and has paid close attention to a number of economic

11 variables, including GDP growth, retail sales, consumer confidence, unemployment,

12 the housing market, and inflation. While the Fed has cited improvements in many areas

13 of the economy, it has also expressed concern with the low inflation rate, which is

14 currently below the Fed's target of 2.0%.

15

16 Q. **HOW DID LONG-TERM INTEREST RATES REACT TO THE FEDERAL**

17 **RESERVE'S DECISION TO INCREASE THE FEDERAL FUNDS RATE?**

18 A. The yields on long-term Treasury bonds decreased. The FOMC's decision to increase

19 the federal funds rate range was highly anticipated in the markets. Nonetheless, as

20 shown in the Figure 6, at the 2:00 p.m. announcement of the increase in the federal

21 funds rate, the yield on 30-Year U.S. Treasury bonds actually decreased!

1   **Figure 6**
2   **Intra-Day Thirty-Year Treasury Yields**
3   **December 16, 2015**
4   **Source: www.Yahoo.com**

Treasury Yield 30 Years
■ ^TYX   Dec 16, 3:52pm EST

5

6 **Q.** **WHAT HAS HAPPENED TO THE YIELD ON 30-YEAR U.S. TREASURY**

7   **BONDS SINCE THAT DECEMBER 16, 2015 DECISION?**

8 **A.** The yield on 30-year U.S. Treasury bonds continued to decline in 2016 and was below

9   2.50% in early June. It declined further on June 24[th.] with the United Kingdom's

10   BREXIT referendum outcome. Such events illustrate that interest rates and capital

11   costs are a function of global market developments and events. And while U.S. interest

12   rates and capital costs are still at historically low levels, the fact that global investors

13   bought U.S. Treasuries due to BREXIT indicates that U.S. Treasuries have favorable

14   expected returns relative to the government securities of other major countries, such as

15   Great Britain, Germany, and Japan. It should be noted that the stock prices of utility

16   stocks increased following BREXIT while U.S. stocks declined. This again reflects the

17   expected return and risk of utility stocks in the markets.

1   Q.   HOW WILL INTEREST RATES AND COST OF CAPITAL BE AFFECTED BY

2   ECONOMIC FACTORS IN THE LONG TERM?

3   A.   In the long run, the key drivers of economic growth measured in nominal dollars are

4   population growth, the advancement and diffusion of science and technology, and

5   currency inflation. Although we experienced rapid economic growth during the "post-

6   war" period (the 63 years that separated the end of World War II and the 2008 financial

7   crisis), the post-war period is not necessarily reflective of expected future growth. It

8   was marked by a near-trebling of global population, from under 2.5 billion to

9   approximately 6.7 billion. Over the succeeding 63 years, according to United Nations

10   projections, the global population will grow considerably more slowly, reaching

11   approximately 10.3 billion in 2070. With population growth slowing, life expectancies

12   lengthening, and post-war "baby boomers" reaching retirement age, median ages in

13   developed-economy nations have risen and continue to rise. The postwar period was

14   also marked by rapid catch-up growth as Europe, Japan, and China recovered from

15   successive devastations, and regions such as India and China deployed have

16   leapfrogged technologies that had been developed over a much longer period in earlier-

17   industrialized nations. That period of rapid catch-up growth is coming to an end. For

18   example, although China remains one of the world's fastest-growing regions, its growth

19   is now widely expected to slow substantially. This convergence of projected growth

20   in the former "second world" and "third world" towards the slower growth of the

21   nations that have long been considered "first world" is illustrated in this "key findings"

1   chart (Figure 7) published by the Organization for Economic Co-operation and

2   Development:[14]

3   **Figure 7**
4   **Projected Global Growth**

Global growth will slow from 3.6% in 2010-2020 to 2.4% in
2050-2060 and will be increasingly driven by innovation and
investment in skills.

Global economic growth will slow
% average annual rate
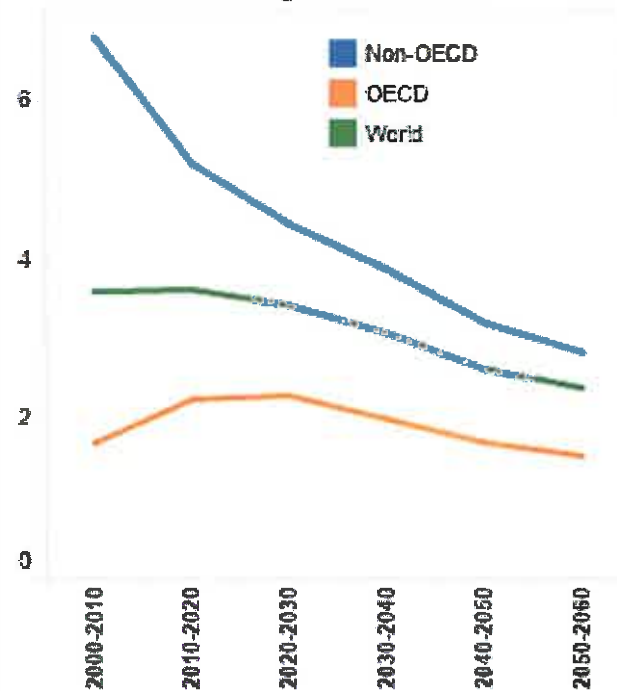
5

6   As to dollar inflation, it has declined to far below the level it reached in the

7   1970s. The Federal Reserve targets a 2.0% inflation rate, but its policies have been

8   unable to achieve even that level of inflation. Indeed, inflation has been below the

9   Federal Reserve's target rate for over four years due to a number of factors, including

10   slow global economic growth, slack in the economy, and declining energy and

11   commodity prices. The slow pace of inflation is also reflected in the decline in forecasts

---

[14] See http://www.oecd.org/eco/outlook/lookingto2060.htm.

1   of future inflation. The U.S. Energy Information Administration's ("EIA's") Annual

2   Energy Outlook 2015 includes in its nominal GDP growth projection a long-term

3   inflation component, which the EIA projects at only 1.8% per year for its forecast

4   period through 2040.[15]

5   All of this translates into slowed growth in annual economic production and

6   income, even when measured in nominal rather than real dollars. Meanwhile, the

7   stored wealth that is available to fund investments has continued to rise. According to

8   the most recent release of the Credit Suisse global wealth report (Figure 8), global

9   wealth has more than doubled since the turn of this century, notwithstanding the

10 temporary setback following the 2008 financial crisis:

11 **Figure 8**
12 **Global Wealth – 2000-2015**

13
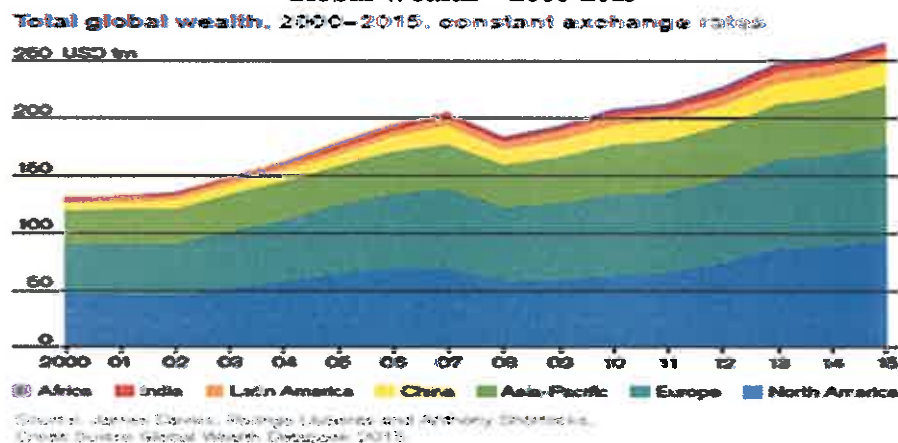
14   These long-term trends mean that overall, and relative to what had been the

15 post-war norm, the world now has more wealth chasing fewer opportunities for

16 investment rewards. Ben Bernanke, the former Chairman of the Federal Reserve,

---

[15] See U.S. Energy Information Administration, *Annual Energy Outlook 2015*, Table 20 (available at
http://www.eia.gov/forecasts/aeo/tables_ref.cfm).

1   called this phenomenon a "global savings glut."[16] Like any other liquid market, capital

2   markets are subject to the law of supply and demand. With a large supply of capital

3   available for investment and relatively scarce demand for investment capital, it should

4   be no surprise to see the cost of investment capital decline and, therefore, interest rates

5   remaining low.

6

7   Q.   **ON THE ISSUE OF THE FEDERAL RESERVE AND LONG-TERM**

8   **INTEREST RATES, PLEASE HIGHLIGHT FORMER FEDERAL RESERVE**

9   **CHAIRMAN BEN BERNANKE'S RECENT TAKE ON THE LOW INTEREST**

10   **RATES IN THE U.S.**

11   A.   Mr. Bernanke addressed the issue of the continuing low interest rates in his weekly

12   Brookings Blog. Mr. Bernanke indicated that the focus should be on real and not

13   nominal interest rates and noted that, in the long term, these rates are not determined

14   by the Federal Reserve:[17]

15   If you asked the person in the street, "Why are interest rates so low?",
16   he or she would likely answer that the Fed is keeping them low.
17   That's true only in a very narrow sense. The Fed does, of course, set
18   the benchmark nominal short-term interest rate. The Fed's policies
19   are also the primary determinant of inflation and inflation
20   expectations over the longer term, and inflation trends affect interest
21   rates, as the figure above [below] shows. But what matters most for
22   the economy is the real, or inflation-adjusted, interest rate (the
23   market, or nominal, interest rate minus the inflation rate). The real
24   interest rate is most relevant for capital investment decisions, for
25   example. The Fed's ability to affect real rates of return, especially
26   longer-term real rates, is transitory and limited. Except in the short

---

[16] Ben S. Bernanke, *The Global Saving Glut and the U.S. Current Account Deficit*, March 10, 2005, available at http://www.federalreserve.gov/boarddocs/speeches/2005/200503102/.

[17] Ben S. Bernanke, "Why are Interest Rates So Low?", Weekly Blog, Brookings, March 30, 2015. http://www.brookings.edu/blogs/ben-bernanke/posts/2015/03/30-why-interest-rates-so-low.

1	run, real interest rates are determined by a wide range of economic
2	factors, including prospects for economic growth—not by the Fed.
3	
4	Mr. Bernanke also addressed the issue about whether low-interest rates are a
5	short-term aberration or a long-term trend (see Figure 9):[18]

> Low interest rates are not a short-term aberration, but part of a long-term trend. As the figure below shows, ten-year government bond yields in the United States were relatively low in the 1960s, rose to a peak above 15 percent in 1981, and have been declining ever since. That pattern is partly explained by the rise and fall of inflation, also shown in the figure. All else equal, investors demand higher yields when inflation is high to compensate them for the declining purchasing power of the dollars with which they expect to be repaid. But yields on inflation-protected bonds are also very low today; the real or inflation-adjusted return on lending to the U.S. government for five years is currently about *minus* 0.1 percent.

Figure 9
Interest Rates and Inflation
1960-Present
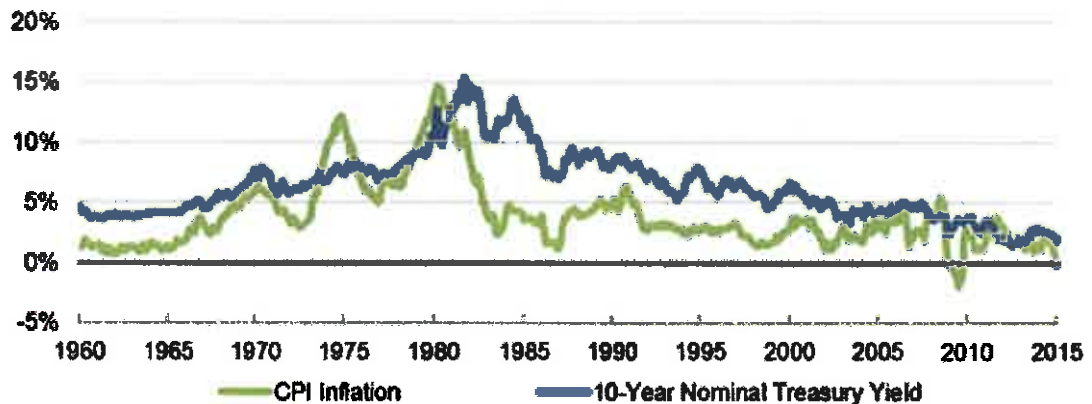
Source: Federal Reserve Board, BLS.

BROOKINGS

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[18] Ben S. Bernanke, "Why are Interest Rates So Low," Weekly Blog, Brookings, March 30, 2015. http://www.brookings.edu/blogs/ben-bernanke/posts/2015/03/30-why-interest-rates-so-low.

1   Q.   **CAN YOU PLEASE PROVIDE THE COMMISSION WITH YOUR OPINION**

2   **REGARDING THE FUTURE OUTLOOK FOR INTEREST RATES AND**

3   **CAPITAL COSTS?**

4   A.   I believe that U.S. Treasuries offer an attractive yield, relative to those of other major

5   governments around the world, which will attract capital to the United States and keep

6   U.S. interest rates down. There are several factors driving this conclusion.

7   First, the economy has been growing for over five years and, as noted above,

8   the Federal Reserve sees continuing strength in the economy. The labor market has

9   improved, with the May 2016 U.S. unemployment now down to 4.7%.[19]

10   Second, interest rates remain at historically low levels and are likely to remain

11   low. There are two factors driving the continued lower interest rates: (1) inflationary

12   expectations in the U.S. remain low and remain below the FOMC's target of 2.0%; and

13   (2) global economic growth – including Europe (where growth is stagnant) and China

14   (where growth is slowing significantly). As a result, while the yields on long-term U.S.

15   Treasury bonds are low by historical standards, these yields are well above the

16   government bond yields in Germany, Japan, and the United Kingdom. Thus, U.S.

17   Treasuries offer an attractive yield relative to those of other major governments around

18   the world, thereby attracting capital to the United States and keeping U.S. interest rates

19   down.

20

21   Q.   **WHAT DO YOU RECOMMEND THE COMMISSION DO REGARDING THE**

22   **FORECASTS OF HIGHER INTEREST RATES AND CAPITAL COSTS?**

---

[19] Bureau of Labor Statistics, available at http://www.bls.gov/news.release/laus.nr0.htm, last checked on June 23, 2016.

1   A.   I suggest that the Commission set an equity cost rate based on current market cost rate

2   indicators and not speculate on the future direction of interest rates. As the above studies

3   indicate, economists are always predicting that interest rates are going up, and yet they are

4   almost always wrong. Obviously, investors are well aware of the consistently wrong

5   forecasts of higher interest rates and, therefore, place little weight on such forecasts.

6   Investors would not be buying long-term Treasury bonds or utility stocks at their current

7   yields if they expected interest rates to suddenly increase, thereby producing higher yields

8   and negative returns. For example, consider a utility that pays a dividend of $2.00 with a

9   stock price of $50.00. The current dividend yield is 4.0%. If, as Mr. Hevert suggests,

10   interest rates and required utility yields increase, the price of the utility's stock would

11   decline. In the example above, if higher return requirements led the dividend yield to

12   increase from 4.0% to 5.0% in the next year, the stock price would have to decline to

13     $40.00, which would be a -20% return on the stock. Obviously, investors would not buy

14   the utility's stock with an expected return of -20% due to higher dividend yield

15   requirements.

16   In sum, forecasting prices and rates that are determined in the financial markets,

17   such as interest rates, the stock market, and gold prices, appears to be impossible to do

18   accurately. For interest rates, I have never seen a study that suggests one forecasting

19   service is consistently better than others or that interest rate forecasts are consistently

20   better than just assuming that the current interest rate will be the rate in the future. As

21   discussed above, investors would not be buying long-term Treasury bonds or utility stocks

22   at their current yields if they expected interest rates to suddenly increase, thereby

23   producing higher yields and negative returns.

1		**III. PROXY GROUP SELECTION**
2		
3	Q.	**PLEASE DESCRIBE YOUR APPROACH TO DEVELOPING A FAIR RATE**
4		**OF RETURN RECOMMENDATION FOR FPL.**
5	A.	To develop a fair rate of return recommendation for the Company, I have evaluated the
6		return requirements of investors on the common stock of a proxy group of publicly held
7		electric utility companies.
8		
9	Q.	**PLEASE DESCRIBE YOUR PROXY GROUP OF ELECTRIC COMPANIES.**
10	A.	The selection criteria for my Electric Proxy Group include the following:
11		1. At least 50% of revenues from regulated electric operations as reported by *AUS*
12		*Utilities Report*;
13		2. Listed as an Electric Utility by *Value Line Investment Survey* and listed as an
14		Electric Utility or Combination Electric & Gas Utility in *AUS Utilities Report*;
15		3. An investment grade issuer credit rating by Moody's and S&P;
16		4. Has paid a cash dividend in the past six months, with no cuts or omissions;
17		5. Not involved in an acquisition of another utility, the target of an acquisition, or
18		in the sale or spin-off of utility assets, in the past six months; and
19		6. Analysts' long-term EPS growth rate forecasts available from Yahoo, Reuters,
20		and/or Zacks.
21		My Electric Proxy Group includes twenty-nine companies. Summary financial
22		statistics for the proxy group are listed in Panel A of page 1 of Exhibit JRW-4.[20] The

---

[20] In my testimony, I present financial results using both means and medians as measures of central tendency.

1		median operating revenues and net plant among members of the Electric Proxy Group
2		are $5,926.1 million and $14,705.0 million, respectively. The group receives 80% of
3		its revenues from regulated electric operations, has BBB+/Baa1 issuer credit ratings
4		from S&P and Moody's respectively, has a current common equity ratio of 46.7%, and
5		has an earned return on common equity of 9.5%.
6		
7	Q.	**PLEASE DESCRIBE MR. HEVERT'S PROXY GROUP OF ELECTRIC**
8		**UTILITY COMPANIES.**
9	A.	The Hevert Proxy Group consists of seventeen electric utility companies.[21] Summary
10		financial statistics for the proxy group are listed on Panel B of page 1 of Exhibit JRW-
11		4. The median operating revenues and net plant among members of the Hevert Proxy
12		Group are $3,317.6 million and $9,366.5 million, respectively. The group receives
13		78% of revenues from regulated electric operations, has an average BBB+ issuer credit
14		rating from S&P and an average Baa1 long-term rating from Moody's, has a current
15		common equity ratio of 48.6%, and has an earned return on common equity of 9.5%.
16		
17	Q.	**HOW DOES THE INVESTMENT RISK OF THE COMPANY COMPARE TO**
18		**THAT OF THE TWO PROXY GROUPS?**
19	A.	I believe that bond ratings provide a good assessment of the investment risk of a
20		company. Exhibit JRW-4 also shows S&P and Moody's issuer credit ratings for the
21		companies in the two groups. FPL's issuer credit rating is A- according to S&P and

However, due to outliers among means, I have used the median as the measure of central tendency.

[21] Great Plains Energy and Westar Energy are excluded from my analysis due to their pending merger.

1		A1 according to Moody's. These ratings are above the mean and median S&P and
2		Moody's issuer credit ratings for the Electric Proxy Group (BBB+ and Baa1).
3		Therefore, I believe that FPL's investment risk is below the investment risk of the
4		Electric and Hevert Proxy Groups.
5		
6	Q.	HOW DOES THE INVESTMENT RISK OF THE TWO PROXY GROUPS
7		COMPARE BASED ON THE VARIOUS RISK METRICS PUBLISHED BY
8		*VALUE LINE*?
9	A.	In Exhibit JRW-5, I have assessed the riskiness of the two proxy groups using five
10		different risk measures from *Value Line*. These measures include Beta, Financial
11		Strength, Safety, Earnings Predictability, and Stock Price Stability.[22] These risk
12		measures suggest that the two proxy groups are similar in risk. The comparisons of the
13		risk measures for the Electric and Hevert Proxy Groups, respectively, include Beta
14		(0.72 vs. 0.75), Financial Strength (A vs. A), Safety (2.0 vs. 2.0), Earnings
15		Predictability (78 vs. 81), and Stock Price Stability (95 vs. 96). On balance, these
16		measures suggest that the two proxy groups are similar.
17	Q.	HOW DOES THE INVESTMENT RISK OF THE TWO PROXY GROUPS
18		COMPARE TO FPL'S PARENT, NEXTERA, BASED ON THE VARIOUS
19		RISK METRICS PUBLISHED BY *VALUE LINE*?
20	A.	The investment risk is similar. NextEra's risk metrics include Beta (0.70), Financial
21		Strength (A), Safety (2), Earnings Predictability (75), and Stock Price Stability (100),
22		which are all similar to the two proxy groups.

---

[22] These metrics are defined on page 2 of Exhibit JRW-5.

| 1 | | IV. CAPITAL STRUCTURE RATIOS AND DEBT COST RATES |

1   IV.   **CAPITAL STRUCTURE RATIOS AND DEBT COST RATES**

2

3   Q.   **PLEASE DESCRIBE FPL'S PROPOSED CAPITAL STRUCTURE AND**

4   **SENIOR CAPITAL COST RATES.**

5   A.   The Company has proposed a capital structure from investor-provided capital of

6   40.40% long-term debt and 59.60% common equity.

7

8   Q.   **WHAT ARE THE COMMON EQUITY RATIOS IN THE CAPITALIZATIONS**

9   **OF THE TWO PROXY GROUPS?**

10   A.   As shown in Exhibit JRW-4, the median common equity ratios of the Electric and Hevert

11   Proxy Groups are 46.7% and 48.6%, respectively. As such, FPL's proposed

12   capitalization from investor-provided capital and as proposed for ratesetting purposes

13   has much more equity and much less financial risk than the average current

14   capitalizations of the electric utility companies in the proxy groups.

15   Q.   **WHAT ARE THE COMMON EQUITY RATIOS OF FPL'S PARENT,**

16   **NEXTERA?**

17   A.   As shown in Exhibit JRW-4, the common equity ratio for NextEra is 42.8%. Hence,

18   FPL's proposed capitalization also has much more equity and much less financial risk

19   than the average current capitalizations of the electric utility companies in the two

20   proxy groups.

V. THE COST OF COMMON EQUITY CAPITAL

A. Overview

1

2

3

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

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

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

7   through the competitive market for its goods and services. Due to the capital

8   requirements needed to provide utility services and the economic benefit to society

9   from avoiding duplication of these services, some public utilities are monopolies.

10   Because of the lack of competition and the essential nature of their services, it is not

11   appropriate to permit monopoly utilities to set their own prices. Thus, regulation seeks

12   to establish prices that are fair to consumers and, at the same time, sufficient to meet

13   the operating and capital costs of the utility (i.e., provide an adequate return on capital

14   to attract investors).

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

16   **CONTEXT OF THE THEORY OF THE FIRM.**

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

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

19   investor would deem sufficient to compensate for risk and the time value of money. In

20   equilibrium, the expected and required rates of return on a company's common stock

21   are equal.

1   Normative economic models of a company or firm, developed under very

2   restrictive assumptions, provide insight into the relationship between firm performance

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

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

5   undifferentiated, and there are increasing marginal costs of production, firms produce

6   up to the point where price equals marginal cost. Over time, a long-run equilibrium is

7   established where price equals average cost, including the firm's capital costs. In

8   equilibrium, total revenues equal total costs, and because capital costs represent

9   investors' required return on the firm's capital, actual returns equal required returns,

10   and the market value must equal the book value of the firm's securities.

11   In the real world, however, firms can achieve competitive advantage due to

12   product market imperfections.   Most notably, companies can gain competitive

13   advantage through product differentiation (adding real or perceived value to products)

14   and by achieving economies of scale (decreasing marginal costs of production).

15   Competitive advantage allows firms to price products above average cost and, thereby,

16   earn accounting profits greater than those required to cover capital costs. When these

17   profits are in excess of that required by investors, or when a firm earns a return on

18   equity in excess of its cost of equity, investors respond by valuing the firm's equity in

19   excess of its book value.

20   James M. McTaggart, founder of the international management consulting firm

21   Marakon Associates, described this essential relationship between the return on equity,

22   the cost of equity, and the market-to-book ratio in the following manner:[23]

---

[23] James M. McTaggart, "The Ultimate Poison Pill: Closing the Value Gap", *Commentary* (Spring 1986), p. 3.

1		Fundamentally, the value of a company is determined by the cash
2		flow it generates over time for its owners, and the minimum
3		acceptable rate of return required by capital investors. This "cost of
4		equity capital" is used to discount the expected equity cash flow,
5		converting it to a present value. The cash flow is, in turn, produced
6		by the interaction of a company's return on equity and the annual rate
7		of equity growth. High return on equity (ROE) companies in
8		low-growth markets, such as Kellogg, are prodigious generators of
9		cash flow, while low ROE companies in high-growth markets, such
10		as Texas Instruments, barely generate enough cash flow to finance
11		growth.

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

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

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

above its cost of equity will see its common stock sell at a price above its book value.

Conversely, a firm that earns a return on equity below its cost of equity will see its

common stock sell at a price below its book value.

Q. PLEASE PROVIDE ADDITIONAL INSIGHTS INTO THE RELATIONSHIP

BETWEEN ROE AND MARKET-TO-BOOK RATIOS.

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

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

relationship between the cost of equity ("K") and the market-to-book ratio:[24]

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

---

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

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

3

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

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

9 regression study between estimated ROE and market-to-book ratios using electric

10 utility, natural gas distribution, and water utility companies. I used all companies in

11 these three industries that are covered by *Value Line* and that have estimated ROE and

12 market-to-book ratio data. The results are presented in Panels A-C of Exhibit JRW-6.

13 The average R-squares for the electric, gas, and water companies are 0.77, 0.56, and

14 0.75, respectively.[25] This demonstrates the strong positive relationship between ROEs

15 and market-to-book ratios for public utilities.

16 **Q. WHAT ECONOMIC FACTORS HAVE AFFECTED THE COST OF EQUITY**

17 **CAPITAL FOR PUBLIC UTILITIES?**

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

19 decade.

20   Page 1 shows the yields on long-term A-rated public utility bonds. These yields

21 decreased from 2000 until 2003, and then hovered in the 5.50%-6.50% range from mid-

22 2003 until mid-2008. These yields spiked up to the 7.75% range with the onset of the

23 Great Recession financial crisis, and remained high and volatile until early 2009. These

---

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

1	yields declined to below 4.0% in mid-2013, and then increased with interest rates in
2	general to the 4.85% range as of late 2013. Subsequently, these yields declined to
3	below 4.0% in the first quarter of 2015, increased with interest rates in general in 2015,
4	and have since dropped back to the 4.0% range.
5	Page 2 provides the dividend yields for electric utilities over the past decade.
6	The dividend yields for this electric group have declined from the year 2000 to 2007,
7	increased to 5.2% in 2009, and declined to about 3.75% in 2014 and 2015.
8	Average earned returns on common equity and market-to-book ratios for
9	electric utilities are on page 3 of Exhibit JRW-7. For the electric group, earned returns
10	on common equity have declined gradually since the year 2000 and have been in the
11	9.0% range in recent years. The average market-to-book ratios for this group peaked
12	at 1.68X in 2007, declined to 1.07X in 2009, and have increased since that time. As of
13	2015, the average market-to-book for the group was 1.55X. This means that, for at
14	least the last decade, returns on common equity have been greater than the cost of
15	capital, or more than necessary to meet investors' required returns. This also means
16	that customers have been paying more than they need to support an artificially elevated
17	profit level for regulated utilities beyond what investors require.
18	
19	Q. **WHAT FACTORS DETERMINE INVESTORS' EXPECTED OR REQUIRED**
20	**RATE OF RETURN ON EQUITY?**
21	A. The expected or required rate of return on common stock is a function of market-wide
22	as well as company-specific factors. The most important market factor is the time value
23	of money as indicated by the level of interest rates in the economy. Common stock

1		investor requirements generally increase and decrease with like changes in interest rates.
2		The perceived risk of a firm is the predominant factor that influences investor return
3		requirements on a company-specific basis. A firm's investment risk is often separated
4		into business and financial risk. Business risk encompasses all factors that affect a
5		firm's operating revenues and expenses. Financial risk results from incurring fixed
6		obligations in the form of debt in financing its assets.
7		
8	Q.	**HOW DOES THE INVESTMENT RISK OF UTILITIES COMPARE WITH**
9		**THAT OF OTHER INDUSTRIES?**
10	A.	Due to the essential nature of their service, as well as their regulated status, public
11		utilities are exposed to a lesser degree of business risk than other, non-regulated
12		businesses. The relatively low level of business risk allows public utilities to meet
13		much of their capital requirements through borrowing in the financial markets, thereby
14		incurring greater than average financial risk. Nonetheless, the overall investment risk
15		of public utilities is below that for most other industries.
16		Exhibit JRW-8 provides an assessment of investment risk for 97 industries as
17		measured by beta, which according to modern capital market theory, is the only
18		relevant measure of investment risk. These betas come from the *Value Line Investment*
19		*Survey* and range from a high of 1.62 for the petroleum (producing) industry to a low
20		of 0.68 for electric utilities (Eastern U.S.). The study shows that the investment risk of
21		utilities is very low. In fact, the lowest betas are for electric utilities (Eastern U.S.,
22		Central U.S., and Western U.S.), natural gas utility, and water utility. The average
23		betas for electric, natural gas, and water utility companies are 0.72, 0.74, and 0.71,

1		respectively. As such, the cost of equity for utilities is among the lowest of all
2		industries in the U.S.
3		
4	Q.	**WHAT IS THE COST OF COMMON EQUITY CAPITAL?**
5	A.	The costs of debt and preferred stock are normally based on historical or book values
6		and can be determined with a great degree of accuracy. The cost of common equity
7		capital, however, cannot be determined precisely and must instead be estimated from
8		market data and informed judgment. This return requirement of the stockholder should
9		be commensurate with the return requirement on investments in other enterprises
10		having comparable risks.
11		According to valuation principles, the present value of an asset equals the
12		discounted value of its expected future cash flows. Investors discount these expected
13		cash flows at their required rate of return that, as noted above, reflects the time value
14		of money and the perceived riskiness of the expected future cash flows. As such, the
15		cost of common equity is the rate at which investors discount expected cash flows
16		associated with common stock ownership.
17		
18	Q.	**HOW CAN THE EXPECTED OR REQUIRED RATE OF RETURN ON**
19		**COMMON EQUITY CAPITAL BE DETERMINED?**
20	A.	Models have been developed to ascertain the cost of common equity capital for a firm.
21		Each model, however, has been developed using restrictive economic assumptions.
22		Consequently, judgment is required in selecting appropriate financial valuation models
23		to estimate a firm's cost of common equity capital, in determining the data inputs for

1   these models, and in interpreting the models' results. All of these decisions must take

2   into consideration the firm involved as well as current conditions in the economy and

3   the financial markets.

4

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

6   **FOR FPL?**

7 A.   I rely primarily on the discounted cash flow ("DCF") model to estimate the cost of

8   equity capital. Given the investment valuation process and the relative stability of the

9   utility business, I believe that the DCF model provides the best measure of equity cost

10   rates for public utilities. I have also performed a capital asset pricing model ("CAPM")

11   study; however, I give these results less weight because I believe that risk premium

12   studies, of which the CAPM is one form, provide a less reliable indication of equity

13   cost rates for public utilities.

14   **B.   DCF Analysis**

15
16 Q.   **PLEASE DESCRIBE THE THEORY BEHIND THE TRADITIONAL DCF**

17   **MODEL.**

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

19   of all future dividends that investors expect to receive from investment in the firm. As

20   such, stockholders' returns ultimately result from current as well as future dividends.

21   As owners of a corporation, common stockholders are entitled to a *pro rata* share of

22   the firm's earnings. The DCF model presumes that earnings that are not paid out in the

23   form of dividends are reinvested in the firm to provide for future growth in earnings

24   and dividends. The rate at which investors discount future dividends, which reflects

1   the timing and riskiness of the expected cash flows, is interpreted as the market's

2   expected or required return on the common stock. Therefore, this discount rate

3   represents the cost of common equity. Algebraically, the DCF model can be expressed

4   as:

5
6   $$P = \frac{D_1}{(1+k)^1} + \frac{D_2}{(1+k)^2} + \dots \frac{D_n}{(1+k)^n}$$
7
8
9   where P is the current stock price, D_n is the dividend in year n, and k is the cost of

10 common equity.

11

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

13 **EMPLOYED BY INVESTMENT FIRMS?**

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

15   technique. One common application for investment firms is called the three-stage DCF

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

17   presented in Exhibit JRW-9, Page 1 of 2. This model presumes that a company's

18   dividend payout progresses initially through a growth stage, then proceeds through a

19   transition stage, and finally assumes a maturity (or steady-state) stage. The dividend-

20   payment stage of a firm depends on the profitability of its internal investments which,

21   in turn, is largely a function of the life cycle of the product or service.

22   1.   Growth stage: characterized by rapidly expanding sales, high profit

23   margins, and an abnormally high growth in earnings per share. Because of

24   highly profitable expected investment opportunities, the payout ratio is low.

1 Competitors are attracted by the unusually high earnings, leading to a decline

2 in the growth rate.

3 2. Transition stage: in later years, increased competition reduces profit

4 margins and earnings growth slows. With fewer new investment opportunities,

5 the company begins to pay out a larger percentage of earnings.

6 3. Maturity (steady-state) stage: eventually, the company reaches a

7 position where its new investment opportunities offer, on average, only slightly

8 attractive ROEs. At that time, its earnings growth rate, payout ratio, and ROE

9 stabilize for the remainder of its life. The constant-growth DCF model is

10 appropriate when a firm is in the maturity stage of the life cycle.

11 In using this model to estimate a firm's cost of equity capital, dividends are

12 projected into the future using the different growth rates in the alternative stages, and

13 then the equity cost rate is the discount rate that equates the present value of the future

14 dividends to the current stock price.

15

16 Q. **HOW DO YOU ESTIMATE STOCKHOLDERS' EXPECTED OR REQUIRED**

17 **RATE OF RETURN USING THE DCF MODEL?**

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

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

20 to the following:

21
22 $$P = \frac{D_1}{k - g}$$
23

1   where P is the current stock price, D_1 represents the expected dividend over the coming

2   year, and g is the expected growth rate of dividends. This is known as the constant-

3   growth version of the DCF model. To use the constant-growth DCF model to estimate

4   a firm's cost of equity, one solves for "k" in the above expression to obtain the

5   following:

6
7
8    $$k \quad = \quad \frac{D_1}{P} \quad + \quad g$$
9
10

11   Q.   **IN YOUR OPINION, IS THE CONSTANT-GROWTH VERSION OF THE DCF**

12   **MODEL APPROPRIATE FOR PUBLIC UTILITIES?**

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

14   maturity or constant-growth stage of a three-stage DCF. The economics include the

15   relative stability of the utility business, the maturity of the demand for public utility

16   services, and the regulated status of public utilities (especially the fact that their returns

17   on investment are effectively set through the ratemaking process). The appropriate

18   DCF valuation procedure for companies in the maturity stage is the constant-growth

19   DCF. In the constant-growth version of the DCF model, the current dividend payment

20   and stock price are directly observable. However, the primary problem and controversy

21   in applying the DCF model to estimate equity cost rates entails estimating investors'

22   expected dividend growth rates.

1   Q.   **WHAT FACTORS SHOULD ONE CONSIDER WHEN APPLYING THE DCF**

2   **METHODOLOGY?**

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

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

5   which the DCF model was developed in estimating its components (the dividend yield

6   and the expected growth rate). The dividend yield can be measured precisely at any

7   point in time; however, it tends to vary somewhat over time. Estimation of expected

8   growth is considerably more difficult. One must consider recent firm performance, in

9   conjunction with current economic developments and other information available to

10   investors, to accurately estimate investors' expectations.

11

12   Q.   **WHAT DIVIDEND YIELDS HAVE YOU REVIEWED?**

13   A.   I have calculated the dividend yields for the companies in the two proxy groups using

14   the current annual dividend and the 30-day, 90-day, and 180-day average stock prices.

15   These dividend yields, as derived from the 30-day, 90-day, and 180-day average stock

16   prices, are provided in Panel A of page 2 of Exhibit JRW-10. For the Electric Proxy

17   Group, the median dividend yields using the 30-day, 90-day, and 180-day average stock

18   prices range from 3.4% to 3.7%. I am using the average of the medians - 3.50% - as

19   the dividend yield for the Electric Proxy Group. The dividend yields for the Hevert

20   Proxy Group are shown in Panel B of page 2 of Exhibit JRW-10. The median dividend

21   yields range from 3.4% to 3.7% using the 30-day, 90-day, and 180-day average stock

22   prices. I am using the average of the medians - 3.50% - as the dividend yield for the

23   Hevert Proxy Group.

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

2   **DIVIDEND YIELD.**

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

4   yield over the coming period. As indicated by Professor Myron Gordon, who is

5   commonly associated with the development of the DCF model for popular use, this is

6   obtained by: (1) multiplying the expected dividend over the coming quarter by 4, and

7   (2) dividing this dividend by the current stock price to determine the appropriate

8   dividend yield for a firm that pays dividends on a quarterly basis.[26]

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

10   growth over the coming year as opposed to the coming quarter. This can be

11   complicated because firms tend to announce changes in dividends at different times

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

13   the coming quarter as opposed to the coming year can be quite different. Consequently,

14   it is common for analysts to adjust the dividend yield by some fraction of the long-term

15   expected growth rate.

16

17 Q.   **GIVEN THIS DISCUSSION, WHAT ADJUSTMENT FACTOR DO YOU USE**

18   **FOR YOUR DIVIDEND YIELD?**

19 A.   I adjust the dividend yield by one-half (1/2) of the expected growth to reflect growth

20   over the coming year. The DCF equity cost rate ("K") is computed as:

21
22                          $K = [(D/P) * (1 + 0.5g)] + g$

---

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

| 1 | Q. | PLEASE DISCUSS THE GROWTH RATE COMPONENT OF THE DCF |
| 2 | | MODEL. |

3 A. There is debate about the proper methodology to employ in estimating the growth

4 component of the DCF model. By definition, this component is investors' expectation

5 of the long-term dividend growth rate. Presumably, investors use some combination

6 of historical and/or projected growth rates for earnings and dividends per share and for

7 internal or book-value growth to assess long-term potential.

8 Q. WHAT GROWTH DATA HAVE YOU REVIEWED FOR THE PROXY

9 GROUPS?

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

11 reviewed *Value Line's* historical and projected growth rate estimates for earnings per

12 share ("EPS"), dividends per share ("DPS"), and book value per share ("BVPS"). In

13 addition, I utilized the average EPS growth rate forecasts of Wall Street analysts as

14 provided by Yahoo, Reuters and Zacks. These services solicit five-year earnings

15 growth rate projections from securities analysts and compile and publish the means and

16 medians of these forecasts. Finally, I also assessed prospective growth as measured by

17 prospective earnings retention rates and earned returns on common equity.

18

19 Q. PLEASE DISCUSS HISTORICAL GROWTH IN EARNINGS AND

20 DIVIDENDS AS WELL AS INTERNAL GROWTH.

21 A. Historical growth rates for EPS, DPS, and BVPS are readily available to investors and

22 are presumably an important ingredient in forming expectations concerning future

1   growth. However, one must use historical growth numbers as measures of investors'

2   expectations with caution. In some cases, past growth may not reflect future growth

3   potential. Also, employing a single growth rate number (for example, for five or ten

4   years) is unlikely to accurately measure investors' expectations, due to the sensitivity

5   of a single growth rate figure to fluctuations in individual firm performance and overall

6   economic fluctuations (i.e., business cycles). However, one must appraise the context

7   in which the growth rate is being employed. According to the conventional DCF

8   model, the expected return on a security is equal to the sum of the dividend yield and

9   the expected long-term growth in dividends. Therefore, to best estimate the cost of

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

11   growth rate expectations.

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

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

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

15   rate times the return on equity. Internal growth is significant in determining long-term

16   earnings and, therefore, dividends. Investors recognize the importance of internally

17   generated growth and pay premiums for stocks of companies that retain earnings and

18   earn high returns on internal investments.

19

20 **Q.**   **PLEASE DISCUSS THE SERVICES THAT PROVIDE ANALYSTS' EPS**

21   **FORECASTS.**

22 **A.**   Analysts' EPS forecasts for companies are collected and published by a number of

23   different investment information services, including Institutional Brokers Estimate

46

1   System ("I/B/E/S"), Bloomberg, FactSet, Zacks, First Call and Reuters, among others.

2   Thompson Reuters publishes analysts' EPS forecasts under different product names,

3   including I/B/E/S, First Call, and Reuters. Bloomberg, FactSet, and Zacks publish their

4   own sets of analysts' EPS forecasts for companies. These services do not reveal: (1) the

5   analysts who are solicited for forecasts; or (2) the identity of the analysts who actually

6   provide the EPS forecasts that are used in the compilations published by the services.

7   I/B/E/S, Bloomberg, FactSet, and First Call are fee-based services. These services usually

8   provide detailed reports and other data in addition to analysts' EPS forecasts. Thompson

9   Reuters and Zacks provide limited EPS forecast data free-of-charge on the internet.

10   Yahoo finance (http://finance.yahoo.com) lists Thompson Reuters as the source of its

11   summary EPS forecasts. The Reuters website (www.reuters.com) also publishes EPS

12   forecasts from Thompson Reuters, but with more detail.   Zacks (www.zacks.com)

13   publishes its summary forecasts on its website. Zacks estimates are also available on other

14   websites, such as msn.money (http://money.msn.com).

15

16   Q.   PLEASE PROVIDE AN EXAMPLE OF THESE EPS FORECASTS.

17   A.   The following example provides the EPS forecasts compiled by Reuters for Alliant

18   Energy Corp. (stock symbol "LNT"). The figures are provided on page 2 of Exhibit

19   JRW-9. Line one shows two analysts' EPS estimates for the quarter ending June 30,

20   2016. The mean, high, and low estimates are $0.33, $0.38, and $0.28, respectively.

21   The second line shows two analysts' quarterly EPS estimates for the quarter ending

22   September 30, 2016 of $0.92 (mean), $0.98 (high), and $0.86 (low). Line three shows

23   eight analysts' annual EPS estimates for the fiscal year ending December 2016: $1.89

1 (mean), $1.92 (high), and $1.88 (low). Line four shows nine analysts' annual EPS

2 estimates for the fiscal year ending December 2017: $2.01 (mean), $2.12 (high), and

3 $1.97 (low). The quarterly and annual EPS forecasts in lines 1-4 are expressed in

4 dollars and cents. As in the LNT case shown here, it is common for more analysts to

5 provide estimates of annual EPS as opposed to quarterly EPS. The bottom line shows

6 the projected long-term EPS growth rate, which is expressed as a percentage. For LNT,

7 two analysts have provided a long-term EPS growth rate forecast, with mean, high, and

8 low growth rates of 6.60%, 7.20%, and 6.00%, respectively.

9

10 **Q.** **WHICH OF THESE EPS FORECASTS IS USED IN DEVELOPING A DCF**

11 **GROWTH RATE?**

12 **A.** The DCF growth rate is the long-term projected growth rate in EPS, DPS, and BVPS.

13 Therefore, in developing an equity cost rate using the DCF model, the projected long-

14 term growth rate is the projection used in the DCF model.

15

16 **Q.** **WHY DO YOU NOT RELY EXCLUSIVELY ON THE EPS FORECASTS OF**

17 **WALL STREET ANALYSTS IN ARRIVING AT A DCF GROWTH RATE FOR**

18 **THE PROXY GROUP?**

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

20 analysts as DCF growth rates. First, the appropriate growth rate in the DCF model is

21 the dividend growth rate, not the earnings growth rate. Nonetheless, over the very long

22 term, dividends and earnings will have to grow at a similar growth rate. Therefore,

23 consideration must be given to other indicators of growth, including prospective

1   dividend growth, internal growth, as well as projected earnings growth. Second, a 2011

2   study by Lacina, Lee, and Xu has shown that analysts' long-term earnings growth rate

3   forecasts are no more accurate at forecasting future earnings than naïve random walk

4   forecasts of future earnings.[27] Employing data over a twenty-year period, these authors

5   demonstrate that using the most recent year's EPS figure to forecast EPS in the next 3-

6   5 years proved to be just as accurate as using the EPS estimates from analysts' long-

7   term earnings growth rate forecasts. In the authors' opinion, these results indicate that

8   analysts' long-term earnings growth rate forecasts should be used with caution as inputs

9   for valuation and cost of capital purposes. Finally, and most significantly, it is well

10   known that the long-term EPS growth rate forecasts of Wall Street securities analysts

11   are overly optimistic and upwardly biased. This has been demonstrated in a number of

12   academic studies over the years.[28] Hence, using these growth rates as a DCF growth

13   rate will provide an overstated equity cost rate. On this issue, a study by Easton and

14   Sommers (2007) found that optimism in analysts' growth rate forecasts leads to an

15   upward bias in estimates of the cost of equity capital of almost 3.0 percentage points.[29]

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[27] M. Lacina, B. Lee & Z. Xu, *Advances in Business and Management Forecasting (Vol. 8)*, Kenneth D. Lawrence, Ronald K. Klimberg (ed.), Emerald Group Publishing Limited, pp.77-101 (2011).

[28] The studies that demonstrate analysts' long-term EPS forecasts are overly-optimistic and upwardly biased include: R.D. Harris, "The Accuracy, Bias, and Efficiency of Analysts' Long Run Earnings Growth Forecasts", *Journal of Business Finance & Accounting*, pp. 725-55 (June/July 1999); P. DeChow, A. Hutton, and R. Sloan, "The Relation Between Analysts' Forecasts of Long-Term Earnings Growth and Stock Price Performance Following Equity Offerings", *Contemporary Accounting Research* (2000); K. Chan, L., Karceski, J., & Lakonishok, J., "The Level and Persistence of Growth Rates," *Journal of Finance* pp. 643–684, (2003); M. Lacina, B. Lee and Z. Xu, *Advances in Business and Management Forecasting (Vol. 8)*, Kenneth D. Lawrence, Ronald K. Klimberg (ed.), Emerald Group Publishing Limited, pp.77-101 (2011); and Marc H. Goedhart, Rishi Raj, and Abhishek Saxena, "Equity Analysts, Still Too Bullish," *McKinsey on Finance*, pp. 14-17 (Spring 2010).

[29] Easton, P., & Sommers, G., *Effect of Analysts' Optimism on Estimates of the Expected Rate of Return Implied by Earnings Forecasts, Journal of Accounting Research*, 45(5), pp. 983–1015 (2007).

1	Q.	IS IT YOUR OPINION THAT STOCK PRICES REFLECT THE UPWARD BIAS
2		IN THE EPS GROWTH RATE FORECASTS?
3	A.	Yes, I do believe that investors are well aware of the bias in analysts' EPS growth rate
4		forecasts and, therefore, stock prices reflect the upward bias.
5		
6	Q.	HOW DOES THAT AFFECT THE USE OF THESE FORECASTS IN A DCF
7		EQUITY COST RATE STUDY?
8	A.	According to the DCF model, the equity cost rate is a function of the dividend yield and
9		expected growth rate. Because stock prices reflect the bias, it would affect the dividend
10		yield. In addition, the DCF growth rate needs to be adjusted downward from the projected
11		EPS growth rate to reflect the upward bias.
12		
13	Q.	PLEASE DISCUSS THE HISTORICAL GROWTH OF THE COMPANIES IN
14		THE PROXY GROUPS, AS PROVIDED BY *VALUE LINE.*
15	A.	Page 3 of Exhibit JRW-10 provides the 5- and 10-year historical growth rates for EPS,
16		DPS, and BVPS for the companies in the two proxy groups, as published in the *Value*
17		*Line Investment Survey.* The median historical growth measures for EPS, DPS, and
18		BVPS for the Electric Proxy Group, as provided in Panel A, range from 3.5% to 5.0%,
19		with an average of the medians of 4.3%. For the Hevert Proxy Group, as shown in
20		Panel B of page 3 of Exhibit JRW-10, the historical growth measures for EPS, DPS,
21		and BVPS, as measured by the medians, range from 3.5% to 6.5%, with an average of
22		the medians of 4.5%.

1	Q.	PLEASE SUMMARIZE *VALUE LINE'S* PROJECTED GROWTH RATES FOR
2		THE COMPANIES IN THE PROXY GROUPS.

3　A.　*Value Line's* projections of EPS, DPS, and BVPS growth for the companies in the

4　　　proxy groups are shown on page 4 of Exhibit JRW-10. As stated above, due to the

5　　　presence of outliers, the medians are used in the analysis. For the Electric Proxy Group,

6　　　as shown in Panel A of page 4 of Exhibit JRW-10, the medians range from 4.0% to

7　　　5.5%, with an average of the medians of 4.8%. The range of the medians for the Hevert

8　　　Proxy Group, shown in Panel B of page 4 of Exhibit JRW-10, is from 4.0 % to 5.5%,

9　　　with an average of the medians of 5.0%.

10　　　　　Also provided on page 4 of Exhibit JRW-10 are the prospective sustainable

11　　　growth rates for the companies in the two proxy groups as measured by *Value Line*'s

12　　　average projected return on shareholders' equity and retention rates. As noted above,

13　　　sustainable growth is a significant and a primary driver of long-run earnings growth.

14　　　For the Electric and Hevert Proxy Groups, the median prospective sustainable growth

15　　　rates are 3.9% and 3.9%, respectively.

16

17	Q.	PLEASE ASSESS GROWTH FOR THE PROXY GROUPS AS MEASURED BY
18		ANALYSTS' FORECASTS OF EXPECTED 5-YEAR EPS GROWTH.

19　A.　Yahoo, Zacks, and Reuters collect, summarize, and publish Wall Street analysts' long-

20　　　term EPS growth rate forecasts for the companies in the proxy groups. These forecasts

21　　　are provided for the companies in the proxy groups on page 5 of Exhibit JRW-10. I

22　　　have reported both the mean and median growth rates for the groups. Since there is

23　　　considerable overlap in analyst coverage between the three services, and not all of the

1		companies have forecasts from the different services, I have averaged the expected five-
2		year EPS growth rates from the three services for each company to arrive at an expected
3		EPS growth rate for each company. The mean/median of analysts' projected EPS
4		growth rates for the Electric and Hevert Proxy Groups are 4.8%/5.0% and 5.4%/5.3%,
5		respectively.[30]
6		
7	Q.	**PLEASE SUMMARIZE YOUR ANALYSIS OF THE HISTORICAL AND**
8		**PROSPECTIVE GROWTH OF THE PROXY GROUPS.**
9	A.	Page 6 of Exhibit JRW-10 shows the summary DCF growth rate indicators for the
10		proxy groups.
11		The historical growth rate indicators for my Electric Proxy Group imply a
12		baseline growth rate of 4.3%. The average of the projected EPS, DPS, and BVPS
13		growth rates from *Value Line* is 4.8%, and *Value Line*'s projected sustainable growth
14		rate is 3.9%. The projected EPS growth rates of Wall Street analysts for the Electric
15		Proxy Group are 4.8% and 5.0%, as measured by the mean and median growth rates.
16		The overall range for the projected growth rate indicators (ignoring historical growth)
17		is 3.9% to 5.0%. Giving primary weight to the projected EPS growth rate of Wall
18		Street analysts, I believe that the appropriate range of growth rates is 4.75% to 5.0%. I
19		will use the midpoint of this range - 4.875% - as the DCF growth rate for the Electric
20		Proxy Group. This growth rate figure is clearly in the upper end of the range of historic
21		and projected growth rates for the Electric Proxy Group.

---

[30] Given the variation in the measures of central tendency of analysts' projected EPS growth rates for the proxy groups, I have considered both the means and medians in the growth rate analysis.

1   For the Hevert Proxy Group, the historical growth rate indicators indicate a

2   growth rate of 4.5%. The average of the projected EPS, DPS, and BVPS growth rates

3   from *Value Line* is 5.0%, and *Value Line*'s projected sustainable growth rate is 3.9%.

4   The projected EPS growth rates of Wall Street analysts are 5.4% and 5.3%, as measured

5   by the mean and median growth rates. The overall range for the projected growth rate

6   indicators is 3.9% to 5.4%. Again, giving primary weight to the projected EPS growth

7   rate of Wall Street analysts, I believe that the appropriate growth rate is 5.25% for the

8   Hevert Proxy Group. Similar to the Electric Proxy Group, this growth rate figure is

9   clearly in the upper end of the range of historic and projected growth rates for the

10   Hevert Proxy Group.

11

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

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

14   **PROXY GROUPS?**

15 A. My DCF-derived equity cost rates for the groups are summarized on page 1 of Exhibit

16   JRW-10 and in Table 1 below.

17   **Table 1**
18   **DCF-derived Equity Cost Rate/ROE**

	Dividend Yield	**1 + ½ Growth Adjustment**	**DCF Growth Rate**	**Equity Cost Rate**
Electric Proxy Group	3.50%	1.024375	4.875%	8.45%
Hevert Proxy Group	3.50%	1.026250	5.250%	8.85%

19

20   The result for my Electric Proxy Group is the 3.50% dividend yield, times the

21   one and one-half growth adjustment of 1.024375, and a DCF growth rate of 4.875%,

53

1   which results in an equity cost rate of 8.45%. The result for the Hevert Proxy Group is

2   8.85%, which includes a dividend yield of 3.50%, an adjustment factor of 1.02625, and

3   a DCF growth rate of 5.25%.

4

5   **C.   Capital Asset Pricing Model**

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

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

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

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

10
11                         $$k \quad = \quad R_f \quad + \quad RP$$

12   The yield on long-term U.S. Treasury securities is normally used as R_f. Risk

13   premiums are measured in different ways. The CAPM is a theory of the risk and

14   expected returns of common stocks. In the CAPM, two types of risk are associated

15   with a stock: firm-specific risk or unsystematic risk, and market or systematic risk,

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

17   bearing is systematic risk.

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

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

20                     $$K = (R_f) + \beta * [E(R_m) - (R_f)]$$
21
22 Where:
23   • *K* represents the estimated rate of return on the stock;
24   • *E(R_m)* represents the expected return on the overall stock market. Frequently,
25   the 'market' refers to the S&P 500;
26   • *(R_f)* represents the risk-free rate of interest;
27   • *[E(R_m) - (R_f)]* represents the expected equity or market risk premium—the

1		excess return that an investor expects to receive above the risk-free rate for
2		investing in risky stocks; and
3		• *Beta*—(ß) is a measure of the systematic risk of an asset.
4		

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

6   inputs: the risk-free rate of interest (R_f), the beta (ß), and the expected equity or market

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

8   by the yield on long-term U.S. Treasury bonds. ß, the measure of systematic risk, is a

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

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

11   to 1.0 over time. And finally, an even more difficult input to measure is the expected

12   equity or market risk premium $[E(R_m) - (R_f)]$. I will discuss each of these inputs below.

13

14   Q.   **PLEASE DISCUSS EXHIBIT JRW-11.**

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

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

17

18   Q.   **PLEASE DISCUSS THE RISK-FREE INTEREST RATE.**

19   A.   The yield on long-term U.S. Treasury bonds has routinely been viewed as the risk-free

20   rate of interest in the CAPM. The yield on long-term U.S. Treasury bonds, in turn, has

21   been considered to be the yield on U.S. Treasury bonds with 30-year maturities.

22

23   Q.   **WHAT RISK-FREE INTEREST RATE ARE YOU USING IN YOUR CAPM?**

24   A.   As shown on page 2 of Exhibit JRW-11, the yield on 30-year U.S. Treasury bonds has

25   been in the 2.5% to 4.0% range over the 2013–2016 time period. The 30-year Treasury

1   yield is currently at the bottom of this range. Given the recent range of yields and the

2   possibility of higher interest rates, I use 4.0% as the risk-free rate, or R_f, in my CAPM.

3

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

5 A.   Beta (ß) is a measure of the systematic risk of a stock. The market, usually taken to be

6   the S&P 500, has a beta of 1.0. The beta of a stock with the same price movement as

7   the market also has a beta of 1.0. A stock whose price movement is greater than that

8   of the market, such as a technology stock, is riskier than the market and has a beta

9   greater than 1.0. A stock with below-average price movement, such as that of a

10   regulated public utility, is less risky than the market and has a beta less than 1.0.

11   Estimating a stock's beta involves running a linear regression of a stock's return on the

12   market return.

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

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

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

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

17   Several online investment information services, such as Yahoo and Reuters,

18   provide estimates of stock betas. Usually, these services report different betas for the

19   same stock. The differences are usually due to: (1) the time period over which ß is

20   measured; and (2) any adjustments that are made to reflect the fact that betas tend to

21   regress to 1.0 over time. In estimating an equity cost rate for the proxy groups, I am

22   using the betas for the companies as provided in the *Value Line Investment Survey*. As

1		shown on page 3 of Exhibit JRW-11, the median betas for the companies in the Electric
2		and Hevert Proxy Groups are 0.70 and 0.75, respectively.
3		
4	Q.	**PLEASE DISCUSS THE MARKET RISK PREMIUM ("MRP").**
5	A.	The MRP is equal to the expected return on the stock market (e.g., the expected return
6		on the S&P 500, $E(R_m)$ minus the risk-free rate of interest (R_f)). The MRP is the
7		difference in the expected total return between investing in equities and investing in
8		"safe" fixed-income assets, such as long-term government bonds. However, while the
9		MRP is easy to define conceptually, it is difficult to measure because it requires an
10		estimate of the expected return on the market - $E(R_m)$. As discussed below, there are
11		different ways to measure $E(R_m)$, and various studies have come up with significantly
12		different magnitudes for $E(R_m)$. As Merton Miller, the 1990 Nobel Prize winner in
13		Economics indicated, $E(R_m)$ is very difficult to measure and is one of the great
14		mysteries in finance.[31]
15		
16	Q.	**PLEASE DISCUSS THE ALTERNATIVE APPROACHES TO ESTIMATING**
17		**THE MRP.**
18	A.	Page 4 of Exhibit JRW-11 highlights the primary approaches to, and issues in,
19		estimating the expected MRP. The traditional way to measure the MRP was to use the
20		difference between historical average stock and bond returns. In this case, historical
21		stock and bond returns, also called *ex post* or backward-looking returns, were used as

---

[31] Merton Miller, "The History of Finance: An Eyewitness Account," *Journal of Applied Corporate Finance*, 2000, p. 3.

| 1 | the measures of the market's expected return, also known as the *ex ante* or forward-
| 2 | looking expected return. This type of historical evaluation of stock and bond returns is
| 3 | often called the "Ibbotson approach" after Professor Roger Ibbotson, who popularized
| 4 | this method of using historical financial market returns as measures of expected returns.
| 5 | Most historical assessments of the equity risk premium suggest an equity risk premium
| 6 | range of 5% to 7% above the rate on long-term U.S. Treasury bonds. However, this
| 7 | can be a problem because: (1) *ex post* returns are not the same as *ex ante* expectations;
| 8 | (2) market risk premiums can change over time, increasing when investors become
| 9 | more risk-averse and decreasing when investors become less risk-averse; and (3)
| 10 | market conditions can change such that *ex post* historical returns are poor estimates of
| 11 | *ex ante* expectations.
| 12 | The use of historical returns as market expectations has been criticized in
| 13 | numerous academic studies, as discussed later in my testimony. The general theme of
| 14 | these studies is that the large equity risk premium discovered in historical stock and
| 15 | bond returns cannot be justified by the fundamental data. These studies, which fall
| 16 | under the category "Ex Ante Models and Market Data," compute *ex ante* expected
| 17 | returns using market data to arrive at an expected equity risk premium. These studies
| 18 | have also been called "Puzzle Research" after the famous study by Mehra and Prescott,
| 19 | in which the authors first questioned the magnitude of historical equity risk premiums
| 20 | relative to fundamentals.[32]

---

[32] Rajnish Mehra & Edward C. Prescott, "The Equity Premium: A Puzzle," *Journal of Monetary Economics,* p. 145 (1985).

1   In addition, there are a number of surveys of financial professionals regarding

2   the MRP. There have also been several published surveys of academics on the equity

3   risk premium. *CFO Magazine* conducts a quarterly survey of CFOs, which includes

4   questions regarding their views on the current expected returns on stocks and bonds.

5   Over 500 CFOs normally participate in the survey.[33] Questions regarding expected

6   stock and bond returns are also included in the Federal Reserve Bank of Philadelphia's

7   annual survey of financial forecasters, which is published as the *Survey of Professional*

8   *Forecasters*.[34] This survey of professional economists has been published for almost

9   50 years. In addition, Pablo Fernandez conducts annual surveys of financial analysts

10   and companies regarding the equity risk premiums they use in their investment and

11   financial decision-making.[35]

12

13 Q. **PLEASE PROVIDE A SUMMARY OF THE MARKET RISK PREMIUM**

14   **STUDIES.**

15 A. Derrig and Orr (2003), Fernandez (2007), and Song (2007) have completed the most

16   comprehensive reviews to date of the research on the MRP.[36] Derrig and Orr's study

---

[33]*See* Duke/CFO Magazine Global Business Outlook Survey, www.cfosurvey.org.

[34] Federal Reserve Bank of Philadelphia, *Survey of Professional Forecasters* (Feb, 2016). The Survey of Professional Forecasters was formerly conducted by the American Statistical Association ("ASA") and the National Bureau of Economic Research ("NBER") and was known as the ASA/NBER survey. The survey, which began in 1968, is conducted each quarter. The Federal Reserve Bank of Philadelphia, in cooperation with the NBER, assumed responsibility for the survey in June 1990.

[35] Pablo Fernandez, Alberto Ortiz and Isabel Fernandez Acín, "Market Risk Premium used in 71 countries in 2016: A survey with 6,932 answers", May 9, 2016.

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

1   evaluated the various approaches to estimating MRPs, as well as the issues with the

2   alternative approaches and summarized the findings of the published research on the

3   MRP.   Fernandez examined four alternative measures of the MRP – historical,

4   expected, required, and implied. He also reviewed the major studies of the MRP and

5   presented the summary MRP results. Song provides an annotated bibliography and

6   highlights the alternative approaches to estimating the MRP.

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

8   risk premium studies reviewed by Derrig and Orr, Fernandez, and Song, as well as

9   other more recent studies of the MRP. In developing page 5 of Exhibit JRW-11, I have

10   categorized the studies as discussed on page 4 of Exhibit JRW-11. I have also included

11   the results of studies of the "Building Blocks" approach to estimating the equity risk

12   premium. The Building Blocks approach is a hybrid approach employing elements of

13   both historical and *ex ante* models.

14

15   Q.   **PLEASE DISCUSS PAGE 5 OF EXHIBIT JRW-11.**

16   A.   Page 5 of JRW-11 provides a summary of the results of the MRP studies that I have

17   reviewed. These include the results of: (1) the various studies of the historical risk

18   premium; (2) *ex ante* MRP studies; (3) MRP surveys of CFOs, financial forecasters,

19   analysts, companies and academics; and (4) the Building Blocks approach to the MRP.

20   There are results reported for over 30 studies, and the median MRP is 4.63%.

21

22   Q.   **PLEASE HIGHLIGHT THE RESULTS OF THE MORE RECENT RISK**

23   **PREMIUM STUDIES AND SURVEYS.**

1   A.   The studies cited on page 5 of Exhibit JRW-11 include every MRP study and survey I

2   could identify that was published over the past decade and that provided an MRP

3   estimate. Most of these studies were published prior to the financial crisis. In addition,

4   some of these studies were published in the early 2000s at the market peak. It should

5   be noted that many of these studies (as indicated) used data over long periods of time

6   (as long as 50 years of data) and were not estimating an MRP as of a specific point in

7   time (e.g., the year 2001). To assess the effect of the earlier studies on the MRP, I have

8   reconstructed page 5 of Exhibit JRW-11 on page 6 of Exhibit JRW-11; however, I have

9   eliminated all studies dated before January 2, 2010. The median for this subset of

10   studies is 5.03%.

11

12   Q.   **GIVEN THESE RESULTS, WHAT MRP ARE YOU USING IN YOUR CAPM?**

13   A.   Much of the data indicates that the market risk premium is in the 4.0% to 6.0% range.

14   Several recent studies (such as Damodaran, American Appraisers, Duff & Phelps,

15   Duarte and Rosa, and the CFO Survey) have suggested an increase in the market risk

16   premium. Therefore, I will use 5.5%, which is in the upper end of the range, as the

17   market risk premium, or MRP.

18

19   Q.   **IS YOUR *EX ANTE* MRP CONSISTENT WITH THE MRPs USED BY CFOs?**

20   A.   Yes. In the June 2016 CFO survey conducted by *CFO Magazine* and Duke University,

21   which included approximately 450 responses, the expected 10-year MRP was 4.55%.[37]

---

[37] Duke/CFO Magazine Global Business Outlook Survey, www.cfosurvey.org, June 2016.

1	Q.	IS YOUR *EX ANTE* MRP CONSISTENT WITH THE MRPs OF

1 Q. IS YOUR *EX ANTE* MRP CONSISTENT WITH THE MRPs OF

2   PROFESSIONAL FORECASTERS?

3 A. The financial forecasters in the previously referenced Federal Reserve Bank of

4   Philadelphia survey projected both stock and bond returns. In the February 2016

5   survey, the median long-term expected stock and bond returns were 5.34% and 3.44%,

6   respectively. This provides an *ex ante* MRP of 1.90% (5.34% minus 3.44%). As such,

7   my MRP is larger than that forecasted by the professional forecasters.

8 Q. IS YOUR *EX ANTE* MRP CONSISTENT WITH THE MRPs OF FINANCIAL

9   ADVISORS?

10 A. Yes. Duff & Phelps is a well-known valuation and corporate finance advisor that

11   publishes extensively on the cost of capital. As of 2016, Duff & Phelps recommended

12   using a 5.5% MRP for the U.S.[38]

13

14 Q. WHAT EQUITY COST RATE IS INDICATED BY YOUR CAPM ANALYSIS?

15 A. The results of my CAPM study for the proxy groups are summarized on page 1 of

16   Exhibit JRW-11 and in Table 2 below.

17   **Table 2**

18
19   **CAPM-derived Equity Cost Rate/ROE**
20
21                   $K = (R_f) + \beta * [E(R_m) - (R_f)]$

	Risk-Free Rate	Beta	Equity Risk Premium	Equity Cost Rate
Electric Proxy Group	4.0%	0.70	5.5%	7.9%
Hevert Proxy Group	4.0%	0.75	5.5%	8.1%

[38] http://www.duffandphelps.com/insights/publications/cost-of-capital/index.

| | | 1 | For the Electric Proxy Group, the risk-free rate of 4.0% plus the product of the beta of |

1   For the Electric Proxy Group, the risk-free rate of 4.0% plus the product of the beta of

2   0.70 times the equity risk premium of 5.5% results in a 7.9% equity cost rate. For the

3   Hevert Proxy Group, the risk-free rate of 4.0% plus the product of the beta of 0.75

4   times the equity risk premium of 5.5% results in an 8.1% equity cost rate.

5

6   **D.   Equity Cost Rate Summary**

7   Q.   **PLEASE SUMMARIZE THE RESULTS OF YOUR EQUITY COST RATE**

8   **STUDIES.**

9   A.   My DCF analyses for the Electric and Hevert Proxy Groups indicate equity cost rates

10   of **8.45%** and **8.85%**, respectively. The CAPM equity cost rates for the Electric and

11   Hevert Proxy Groups are 7.9% and 8.1%, respectively.

12   **Table 3**
13   **ROEs Derived from DCF and CAPM Models**

	DCF	CAPM
Electric Proxy Group	**8.45%**	**7.90%**
Hevert Proxy Group	**8.85%**	**8.10%**

14

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

16   **RATE FOR THE GROUPS?**

17   A.   Given these results, I conclude that the appropriate equity cost rate for companies in

18   the Electric and Hevert Proxy Groups is in the 7.90% to 8.85% range. However, since

19   I rely primarily on the DCF model, I am using the upper end of the range as the equity

20   cost rate. Therefore, I conclude that the appropriate equity cost rate for the groups is

21   8.75%. This recommendation gives primary weight to the DCF results for the two

22   proxy groups.

1	Q.	WHAT IS YOUR RECOMMENDED EQUITY COST RATE AND RANGE FOR
2		FPL?

1   Q.   WHAT IS YOUR RECOMMENDED EQUITY COST RATE AND RANGE FOR

2   FPL?

3   A.   Based upon my analysis, the appropriate equity cost rate (or return on equity) for FPL

4   is 8.75%, with a range from 7.90% to 8.85%.

5

6   Q.   PLEASE INDICATE WHY AN EQUITY COST RATE OF 8.75% IS

7   APPROPRIATE FOR FPL.

8   A.   There are a number of reasons why an equity cost rate of 8.75% is appropriate,

9   reasonable, and fair for the Company in this case:

10   1. As shown in Exhibits JRW-2 and JRW-3, capital costs for utilities, as

11   indicated by long-term bond yields, are still at historically low levels. In addition, given

12   low inflationary expectations and slow global economic growth, interest rates are likely

13   to remain at low levels for some time.

14   2. As shown in Exhibit JRW-8, the electric utility industry is among the lowest

15   risk industries in the U.S., as measured by beta. As such, the cost of equity capital for

16   this industry is among the lowest in the U.S., according to the CAPM.

17   3. The investment risk of FPL, as indicated by the Company's S&P and

18   Moody's issuer credit ratings of A- and A1, respectively, are better than the average

19   issuer credit ratings of the Electric and Hevert Proxy Groups. I have not made an

20   adjustment to account for FPL's lower risk since I have employed Mr. O'Donnell's

21   capital structure.

22   4. The authorized ROEs for electric utilities have declined from 10.01% in

23   2012, to 9.80% in 2013, 9.76% in 2014, 9.58% in 2015, and 9.68% in the first quarter

1   of 2016, according to Regulatory Research Associates.[39] In my opinion, authorized

2   ROEs have lagged behind capital market cost rates or, in other words, authorized ROEs

3   have been slow to reflect low capital market cost rates. This has been especially true

4   in recent years, as some state commissions have been reluctant to authorize ROEs

5   below 10%. However, the trend has been towards lower ROEs, and the norm now is

6   below 10%. Hence, I believe that my recommended ROE reflects our present

7   historically low capital cost rates, and these low capital cost rates are finally being

8   recognized as the norm by state utility regulatory commissions.

9

10   Q.   PLEASE DISCUSS YOUR RECOMMENDATION IN LIGHT OF A RECENT

11   MOODY'S PUBLICATION.

12   A.   In 2015, Moody's published an article on utility ROEs and credit quality. In the article,

13   Moody's recognizes that authorized ROEs for electric and gas companies are declining

14   due to lower interest rates.[40]

15   The credit profiles of US regulated utilities will remain intact over
16   the next few years despite our expectation that regulators will
17   continue to trim the sector's profitability by lowering its authorized
18   returns on equity (ROE). Persistently low interest rates and a
19   comprehensive suite of cost recovery mechanisms ensure a low
20   business risk profile for utilities, prompting regulators to scrutinize
21   their profitability, which is defined as the ratio of net income to book
22   equity. We view cash flow measures as a more important rating
23   driver than authorized ROEs, and we note that regulators can lower
24   authorized ROEs without hurting cash flow, for instance by targeting
25   depreciation, or through special rate structures.

---

[39] *Regulatory Focus*, Regulatory Research Associates, April, 2016. The electric utility authorized ROEs exclude the authorized ROEs in Virginia, which include generation adders.
[40] Moody's Investors Service, "Lower Authorized Equity Returns Will Not Hurt Near-Term Credit Profiles", March 10, 2015, p. 1.

1   Moody's indicates that even with the lower authorized ROEs, electric and gas

2   companies are earning ROEs of 9.0% to 10.0%; however, these lower authorized ROEs

3   are not impairing their credit profiles and are not deterring them from raising record

4   amounts of capital. With respect to authorized ROEs, Moody's recognizes that utilities

5   and regulatory commissions are having trouble justifying higher ROEs in the face of

6   lower interest rates and cost recovery mechanisms.[41]

7   Robust cost recovery mechanisms will help ensure that US regulated
8   utilities' credit quality remains intact over the next few years. As a
9   result, falling authorized ROEs are not a material credit driver at this
10   time, but rather reflect regulators' struggle to justify the cost of
11   capital gap between the industry's authorized ROEs and persistently
12   low interest rates. We also see utilities struggling to defend this gap,
13   while at the same time recovering the vast majority of their costs and
14   investments through a variety of rate mechanisms.

15

16   Overall, this article further supports the prevailing/emerging belief that lower

17   authorized ROEs are unlikely to hurt the financial integrity of utilities or their ability

18   to attract capital.

19

20 Q.   DO YOU BELIEVE THAT YOUR 8.75% ROE RECOMMENDATION MEETS

21   *HOPE* AND *BLUEFIELD* STANDARDS?

22 A.   Yes. As previously noted, according to the *Hope* and *Bluefield* decisions, returns on

23   capital should be: (1) comparable to returns investors expect to earn on investments

24   with similar risk; (2) sufficient to assure confidence in the company's financial

25   integrity; and (3) adequate to maintain the company's credit and to attract capital.

[41] Moody's Investors Service, "Lower Authorized Equity Returns Will Not Hurt Near-Term Credit Profiles",
March 10, 2015, p. 2.

66

1		FPL's S&P and Moody's credit ratings are better than the average of the Electric and
2		Hevert Proxy Groups. While my recommendation is below the average authorized
3		ROEs for electric utility companies, it reflects the downward trend in authorized and
4		earned ROEs of electric utility companies. As highlighted in the Moody's publication
5		cited above, despite authorized and earned ROEs below 10%, the credit quality of
6		electric and gas companies has not been impaired and, in fact, has improved because
7		utilities are raising approximately $50 billion per year in capital. Major positive factors
8		in the improved credit quality of utilities are regulatory ratemaking mechanisms.
9		Therefore, I do believe that my ROE recommendation meets the criteria established in
10		the *Hope* and *Bluefield* decisions.
11		
12	Q.	**CAN YOU PRESENT MARKET-BASED EVIDENCE THAT YOUR 8.75%**
13		**ROE RECOMMENDATION MEETS *HOPE* AND *BLUEFIELD* STANDARDS?**
14	A.	Yes. The current earned ROE's for electric utilities has been in the 9.0% to 9.5% range
15		in the first half of 2016, according to the *AUS Utilities Report*. Figure 10 provides the
16		year-to-date stock performance of the Dow Jones Utilities Index ("DJU") and the S&P
17		500 ("GSPC"). While the S&P 500 is up 1.22%, the DJU is up 17.71%. This provides
18		very direct evidence that a ROE of 9.0% to 9.5% is clearly more than enough to meet
19		investor return requirements. Therefore, this demonstrates that my 8.75%
20		recommendation meets the *Hope* and *Bluefield* standards of providing a comparable
21		return to investors that is sufficient to assure the company's financial integrity and
22		adequate to maintain credit quality and attract capital.

1   **Figure 10**

2   **Stock Performance of DJU and S&P 500**
3   **2016**
4   Source: https://finance.yahoo.com/

5

6

7

8   Q.   **DO YOU HAVE AN OPINION ABOUT FPL'S REQUESTED CAPITAL**

9   **STRUCTURE OR ROE ADDER?**

10 A.   None other than the Commission should carefully consider the testimony of OPC

11 witnesses Kevin O'Donnell on FPL's requested capital structure and Daniel Lawton on

12 FPL's requested ROE adder/surplus ROE inflator, which is not needed to maintain

13 credit quality or attract capital.

| 1 | | **VI.** | **CRITIQUE OF FPL'S RATE OF RETURN TESTIMONY** |

1   **VI.   CRITIQUE OF FPL'S RATE OF RETURN TESTIMONY**

2

3 **Q.**   **PLEASE SUMMARIZE WITNESS HEVERT'S RATE OF RETURN**

4   **RECOMMENDATION FOR FPL.**

5 **A.**   The Company has proposed a capital structure from investor-provided capital of 40.40%

6   long-term debt and 59.60% common equity. FPL witness Hevert has recommended a

7   common equity cost rate of 11.0% for FPL.

8

9 **Q.**   **WHAT ISSUES DO YOU HAVE WITH THE COMPANY'S COST OF CAPITAL**

10   **POSITION?**

11   I have the following issues with the Company's cost of capital position:

12   1.   The Company's capital structure has much more equity and much less financial

13   risk than other electric utilities, including those electric utilities used by Mr. Hevert in

14   estimating FPL's cost of equity capital. This issue is addressed by OPC witness

15   O'Donnell;

16   2.   Mr. Hevert's assessment of capital market conditions is flawed. He has relied on

17   upwardly biased economists' interest rate forecasts in assessing capital costs and in

18   estimating FPL's ROE. However, economists have been forecasting higher interest rates

19   for a decade and, as I have already demonstrated in my testimony, they have been proven

20   wrong. The fact is that long-term interest rates and capital costs are still at historic lows.

21   As previously discussed, there are strong indicators from my assessment of global capital

22   markets that long-term capital costs will remain low;

1   3.   Mr. Hevert has not recognized that FPL is less risky than other electric utilities

2   and, therefore, investors require a lower, not a higher, ROE;

3   4.   Mr. Hevert has significantly changed his equity cost rate approach and testimony

4   in this proceeding by erroneously giving primary weight to his CAPM and RP

5   approaches and virtually no weight to his DCF approach;

6   5.   Beyond the changes in weight he gives his equity cost rate approaches in this

7   proceeding, there are a number of errors in his DCF, CAPM, and RP approaches. These

8   errors include:

9   DCF Approach: (1) in contrast to previous testimony in which Mr. Hevert gave

10   primary weight to his DCF results, he has virtually ignored his constant-growth

11   and multi-stage DCF results in arriving at his 11.0% ROE recommendation for

12   FPL; (2) notwithstanding this change, there are errors with his constant-growth

13   and multi-stage growth DCF analyses. These errors include: (a) his exclusive

14   reliance on the overly optimistic and upwardly biased EPS growth rate forecasts

15   of Wall Street analysts and *Value Line;* and (b) in his multi-stage DCF model, he

16   has employed a terminal growth rate of 5.35%, which is excessive for a number

17   of reasons, especially the fact that it is not reflective of prospective economic

18   growth in the U.S. and is about 100 basis points above the projected long-term

19   growth in U.S. GDP;

20   CAPM approach: (1) Mr. Hevert has used a projected long-term Treasury yield

21   of 4.85%, which is more than 200 basis points above the current market rate; (2)

22   Mr. Hevert's MRP is excessive and does not reflect current market fundamentals.

23   The primary reason is because Mr. Hevert's projected MRPs use analysts' EPS

1	growth rate projections to compute an expected market return and market risk
2	premium. These EPS growth rate projections and the resulting expected market
3	returns and MRPs include unrealistic assumptions regarding future economic and
4	earnings growth and stock returns;
5	Alternative RP Model: Mr. Hevert's alternative RP model is based on the
6	historical relationship between the yields on long-term Treasury yields and
7	authorized ROEs for electric utility companies. The errors for this model include:
8	(1) his Alternative RP Model approach is a gauge of commission behavior and
9	not investor behavior. Capital costs are determined in the capital markets.
10	Regulatory commissions take into account other utility- and rate case-specific
11	information in setting ROEs; (2) Mr. Hevert's methodology produces an inflated
12	measure of the risk premium because his approach uses historical authorized
13	ROEs and Treasury yields, and the resulting risk premium is applied to projected
14	Treasury yields; (3) the risk premium in his Alternative RP Model is inflated as
15	a measure of investors' required risk premium, since electric utility companies
16	have been selling at market-to-book ratios in excess of 1.0. This indicates that
17	the authorized rates of return have been greater than the return that investors
18	require; and (4) reflective of these errors, Mr. Hevert's RP equity cost rate
19	estimates of 10.04% to 10.53% are well above current authorized ROEs for
20	electric utility companies;
21	6. Mr. Hevert has included business risk considerations such as the Company's
22	capital expenditure program, geography, and nuclear risk in assessing the relative
23	riskiness of FPL in supporting his 11.0% ROE recommendation. However, Mr.

1		Hevert ignores the fact that all of these factors are already considered by rating
2		agencies in determining the Company's credit ratings. Moreover, FPL's S&P
3		and Moody's credit ratings of A- and A1, respectively, are above those of other
4		electric utilities, including those companies in the proxy groups; and
5		7. Mr. Hevert includes an explicit ROE adjustment for equity flotation costs of
6		0.12%. However, he has not identified any current or prospective equity issues
7		by FPL or its parent company, NextEra, to justify any adjustment.
8		
9	Q.	PLEASE OUTLINE YOUR REBUTTAL ANALYSES.
10	A.	I have already discussed the capital market conditions and the Company's capital
11		structure and relative risk. I will now address Mr. Hevert's new equity cost rate
12		methodology, the equity cost rate approaches (DCF, CAPM, alternative RP models), as
13		well as flotation costs.
14		
15		**A. Mr. Hevert's New Equity Cost Rate Approach and Testimony**
16		
17	Q.	WHAT DO YOU MEAN BY MR. HEVERT'S NEW EQUITY COST RATE
18		APPROACH AND METHODOLOGY?
19	A.	In this proceeding, Mr. Hevert has significantly changed his equity cost rate approach
20		and testimony from what he previously filed in other jurisdictions. This change directly
21		leads to his inflated ROE recommendation of 11.0% for FPL. Specifically, in this case,
22		Mr. Hevert gives primary weight to his seriously flawed CAPM and RP approaches and
23		virtually ignores his DCF results. This change is further exemplified in Table 4, which

1   is a summary of his equity cost results in a rate case involving NSTAR Gas Company.[42]

2   In that proceeding, he presents his "Summary of Analytical Results," which are from the

3   DCF model, and he presents "Supporting Methodologies," which are his CAPM and

4   Alternative RP approaches. In this case, Mr. Hevert has virtually abandoned his DCF

5   model results, and relied exclusively on his former "Supporting Methodologies." As

6   discussed below, this grossly inflates his ROE recommendation for FPL. The CAPM

7   and alternative RP results are overstated due to his reliance on interest rate forecasts that

8   are more than <u>200 basis points</u> above current market interest rates, and risk premiums

9   that do not reflect capital market conditions and economic reality.

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11
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Table 4
Hevert Summary of Equity Cost Rate Results
Source: Testimony of Robert Hevert, p. 50, December 17, 2014
Commonwealth of Massachusetts, Department of Public Utilities
D.P.U. 14-150

Table 8: Summary of Analytical Results

Discounted Cash Flow	Mean Low	Mean	Mean High
30-Day Constant Growth DCF	7.96%	9.26%	10.85%
90-Day Constant Growth DCF	7.94%	9.24%	10.84%
180-Day Constant Growth DCF	7.99%	9.29%	10.88%
30-Day Multi-Stage DCF	9.33%	9.65%	10.07%
90-Day Multi-Stage DCF	9.32%	9.63%	10.05%
180-Day Multi-Stage DCF	9.35%	9.67%	10.10%

Supporting Methodologies		
CAPM Results	Bloomberg Derived Market Risk Premium	Value Line Derived Market Risk Premium
Average Bloomberg Beta Coefficient		
Current 30-Year Treasury (3.09%)	11.18%	10.67%
Near-Term Projected 30-Year Treasury (3.88%)	11.98%	11.47%
Average Value Line Beta Coefficient		
Current 30-Year Treasury (3.09%)	11.21%	10.69%
Near-Term Projected 30-Year Treasury (3.88%)	12.00%	11.49%

	Low	Mid	High
Bond Yield Risk Premium	10.03%	10.17%	10.76%

Flotation Costs	0.12%

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[42] Testimony of Robert B. Hevert in Support of NSTAR Gas Company, December 17, 2014, Commonwealth of Massachusetts, Department of Public Utilities, D.P.U. 14-150, p. 50.

B. Mr. Hevert's DCF Approach

1

2

3 **Q. PLEASE SUMMARIZE MR. HEVERT'S DCF ESTIMATES.**

4 A. On pages 27-36 of his testimony and in Exhibits RBH-4 and RBH-5, Mr. Hevert develops

5 an equity cost rate by applying the DCF model to the Hevert Proxy Group. Mr. Hevert's

6 DCF results are summarized in Panel A of Exhibit JRW-12. He uses constant-growth and

7 multi-stage growth DCF models. He also uses three dividend yield measures (30, 90,

8 and 180 days) in his DCF models. In his constant-growth DCF models, Mr. Hevert has

9 relied on the forecasted EPS growth rates of Zacks, First Call, and *Value Line*. His

10 multi-stage DCF model uses analysts' EPS growth rate forecasts as a short-term growth

11 rate, and his projection of GDP growth as the long-term growth rate. For all three

12 models, he reports Mean Low, Mean, and Mean High results.

13 **Q. WHAT ARE THE ERRORS IN MR. HEVERT'S DCF ANALYSES?**

14 A. The primary errors in Mr. Hevert's DCF analyses are: (1) the lack of weight he gives to

15 his constant-growth DCF results; (2) his exclusive use of the overly optimistic and

16 upwardly biased EPS growth rate forecasts of Wall Street analysts and *Value Line*; and

17 (3) the use of an inflated terminal growth rate of 5.35% in his multi-stage DCF model,

18 which is not reflective of prospective economic growth in the U.S. and is more than 100

19 basis points above the projected long-term GDP growth.

20
21   1. The Low Weight Given to the Constant-Growth DCF Results
22
23
24 **Q. HOW MUCH WEIGHT HAS MR. HEVERT GIVEN TO HIS DCF RESULTS IN**

25 **ARRIVING AT AN EQUITY COST RATE FOR THE COMPANY?**

1 A.   Apparently, very little, if any at all. The average of his mean constant-growth stage DCF

2   equity cost rates is only 9.4%.[43] Had he given these results more weight, or even any

3   weight, he would have arrived at a much lower equity cost rate recommendation.

4

5 Q.   **AT PAGE 68 OF HIS TESTIMONY, MR. HEVERT SUGGESTS THAT EQUITY**

6   **COST RATE RESULTS FROM THE CONSTANT-GROWTH DCF MODEL**

7   **ARE SUSPECT DUE TO THE RELATIVELY HIGH VALUATION LEVELS OF**

8   **UTILITY COMPANIES. PLEASE RESPOND.**

9 A.   Mr. Hevert expresses concerns with the constant-growth DCF model results because

10   utility Price/Earnings ("P/E") ratios have increased and are high on both an absolute and

11   relative levels. Mr. Hevert is correct - the P/E ratios of utility stocks have increased.

12   However, as discussed in the previously cited Moody's article, the higher valuation of

13   utilities is justified because cost recovery mechanisms have reduced utility industry risk,

14   which has led to higher P/E multiples. Moody's states:[44]

15   As utilities increasingly secure more up-front assurance for cost recovery in
16   their rate proceedings, we think regulators will increasingly view the sector as
17   less risky. The combination of low capital costs, high equity market valuation
18   multiples (which are better than or on par with the broader market despite the
19   regulated utilities' low risk profile), and a transparent assurance of cost
20   recovery tend to support the case for lower authorized returns, although because
21   utilities will argue they should rise, or at least stay unchanged.
22
23
24   Therefore, Mr. Hevert's suggestion that the constant-growth DCF results may provide

25   low results due to the relatively high P/E multiples of utilities is incorrect. On the

---

[43] The 9.4% represents the average of the "Mean" column for the constant-growth DCF results shown in Panel A of Exhibit JRW-12.
[44] Moody's Investors Service, "Lower Authorized Equity Returns Will Not Hurt Near-Term Credit Profiles", March 10, 2015, p. 3.

1   contrary, as indicated by Moody's, the lower risk of utilities has led to higher valuation

2   levels and P/E multiples.

3

4   2. Reliance of Wall Street Analysts' EPS Growth Rate Forecasts

5

6 Q.   **PLEASE DISCUSS MR. HEVERT'S EXCLUSIVE RELIANCE ON THE**

7   **PROJECTED GROWTH RATES OF WALL STREET ANALYSTS AND**

8   *VALUE LINE.*

9 A.   It seems highly unlikely that investors today would rely exclusively on the EPS growth

10   rate forecasts of Wall Street analysts and ignore other growth rate measures in arriving

11   at their expected growth rates for equity investments. As I previously indicated, the

12   appropriate growth rate in the DCF model is the dividend growth rate, not the earnings

13   growth rate. Hence, consideration must be given to other indicators of growth,

14   including historical prospective dividend growth, internal growth, as well as projected

15   earnings growth. In addition, the previously cited 2011 study by Lacina, Lee, and Xu

16   has shown that analysts' long-term earnings growth rate forecasts are no more accurate

17   at forecasting future earnings than naïve random walk forecasts of future earnings.[45]

18   As such, the weight given to Wall Street analysts' projected EPS growth rates should

19   be limited. And finally, and most significantly, it is well-known that the long-term EPS

20   growth rate forecasts of Wall Street securities analysts are overly optimistic and

---

[45] M. Lacina, B. Lee and Z. Xu, *Advances in Business and Management Forecasting (Vol. 8)*, Kenneth D. Lawrence, Ronald K. Klimberg (ed.), Emerald Group Publishing Limited, pp.77-101.

1   upwardly biased.[46] A 2007 study by Easton and Sommers found that optimism in

2   analysts' earnings growth rate forecasts leads to an upward bias in estimates of the cost

3   of equity capital of almost 3.0 percentage points.[47] Hence, using these EPS growth

4   rates as a DCF growth rate produces an overstated equity cost rate.

5

6 Q. **WHY IS WITNESS HEVERT'S EXCLUSIVE RELIANCE ON THE**

7   **PROJECTED GROWTH RATES OF WALL STREET ANALYSTS AND**

8   ***VALUE LINE* PROBLEMATIC?**

9 A. As discussed earlier in my testimony, this is because the long-term EPS growth rate

10   estimates of Wall Street analysts have been shown to be upwardly biased and overly

11   optimistic. Therefore, exclusive reliance on these forecasts for a DCF growth rate

12   injects upwardly skewed bias into one of the basic inputs in the DCF model.

13

14   3. Multi-Stage DCF Analysis

15

16 Q. **PLEASE DISCUSS MR. HEVERT'S MULTI-STAGE DCF ANALYSIS.**

17 A. Mr. Hevert has employed a multi-stage growth DCF model that includes: (1) the first

18   stage is the average projected analyst growth rate of Wall Street analysts as published

19   by First Call, Zacks, and *Value Line*; and (2) the second stage is a long-term expected

20   earnings growth rate equal to his measure of long-term GDP growth. The long-term

21   nominal GDP growth rate of 5.35% is based on: (a) a real GDP growth rate of 3.25%,

---

[46] See footnote No. 28.

[47] Easton, P., & Sommers, G., *Effect of Analysts' Optimism on Estimates of the Expected Rate of Return Implied by Earnings Forecasts, Journal of Accounting Research*, 45(5), pp. 983–1015 (2007).

1		which is calculated over the 1929-2014 time period; and (b) an inflation rate of 2.10%.
2		
3	Q.	**WHAT ARE THE PRIMARY ERRORS WITH MR. HEVERT'S MULTI-**
4		**STAGE DCF ANALYSIS?**
5	A	There are two primary errors with Mr. Hevert's multi-stage DCF analysis: (1) the first-
6		stage DCF growth rate is the average projected EPS growth rate from Wall Street analysts
7		which, as discussed above, are overly optimistic and upwardly biased; and (2) the long-
8		term GDP growth rate is based on historical GDP growth and is about 100 basis points
9		above long-term projections of GDP growth.
10		
11	Q.	**PLEASE IDENTIFY THE ERRORS IN MR. HEVERT'S PROJECTED LONG-**
12		**TERM GDP GROWTH RATE OF 5.35%.**
13	A.	There are two major errors in this analysis. First, Mr. Hevert has not provided any
14		theoretical or empirical support that long-term GDP growth is a reasonable proxy for the
15		expected growth rate of the companies in his proxy group. Five-year and ten-year historic
16		measures of growth for earnings and dividends for electric utility companies, as shown on
17		page 3 of Exhibit JRW-10, suggest growth that is more than 100 basis points below Mr.
18		Hevert's 5.35% long-term GDP growth rate. Mr. Hevert has provided no evidence as to
19		why investors would rely on his overly optimistic estimate of long-term GDP growth as
20		the appropriate growth rate for electric utility companies.
21		The second error is the magnitude of Mr. Hevert's long-term GDP growth rate
22		estimate of 5.35%. On page 1 of Exhibit JRW-13 of my testimony, I provide an analysis
23		of GDP growth since 1960. Since 1960, nominal GDP has grown at a compounded rate

1	of 6.58%, but economic growth in the U.S. has slowed considerably in recent decades.
2	Page 2 of Exhibit JRW-13 provides the nominal annual GDP growth rates over the
3	1961-2015 time period. Nominal GDP growth grew from 6.0% to over 12.0% from
4	the 1960s to the early 1980s, due in large part to inflation and higher prices. With the
5	exception of an uptick during the mid-2000s, annual nominal GDP growth rates have
6	declined to the 3.5% to 4.0% range during the most recent five-year period.
7	The components of nominal GDP growth are real GDP growth and inflation.
8	Page 3 of Exhibit JRW-13 shows the annual real GDP growth rate over the 1961-2015
9	time period. Real GDP growth has gradually declined from the 5.0% to 6.0% range in
10	the 1960s to the 2.0% to 3.0% range during the most recent five-year period. The
11	second component of nominal GDP growth is inflation. Page 4 of Exhibit JRW-13
12	shows inflation as measured by the annual growth rate in the Consumer Price Index
13	("CPI") over the 1961-2015 time period. The large increase in prices from the late
14	1960s to the early 1980s is readily evident. Equally evident is the rapid decline in
15	inflation during the 1980s, as inflation declined from above 10% to about 4%. Since
16	that time, inflation has gradually declined and has been in the 2.0% range or below
17	during the most recent five-year period.
18	The graphs on pages 2, 3, and 4 of Exhibit JRW-13 provide very clear evidence
19	of the decline in nominal GDP as well as its components (real GDP and inflation) in
20	recent decades. To gauge the magnitude of the decline in nominal GDP growth, Table
21	5 provides the compounded GDP growth rates for 10, 20, 30, 40 and 50 years. While
22	the 50-year compounded GDP growth rate is 6.65%, there has been a significant decline
23	in nominal GDP growth over subsequent 10-year intervals. These figures clearly suggest

1   that nominal GDP growth in recent decades has slowed, becoming increasingly

2   monotonic, and that a figure in the range of 4.0% to 5.0% is more appropriate today for

3   the U.S. economy. Therefore, Mr. Hevert's long-term GDP growth rate of 5.35% is

4   clearly inflated, and he provides no valid justification for this rate.

5

6   **Table 5**
7   **Historic GDP Growth Rates**

10-Year Average - 2006-2015	3.28%
20-Year Average - 1996-2015	4.36%
30-Year Average - 1986-2015	4.87%
40-Year Average - 1976-2015	6.19%
50-Year Average - 1966-2015	6.65%

8

9   **Q.   ARE THE LOWER GDP GROWTH RATES OF RECENT DECADES**

10   **CONSISTENT WITH THE FORECASTS OF GDP GROWTH?**

11   A.   Yes, and a lower range is also consistent with long-term GDP forecasts. There are several

12   forecasts of annual GDP growth that are available from economists and government

13   agencies. These are listed on page 5 of Exhibit JRW-13. Economists, in the February

14   2016 *Survey of Professional Forecasters,* forecasted the mean 10-year nominal GDP

15   growth rate to be 4.4%.[48] The EIA, in its projections used in preparing *Annual Energy*

16   *Outlook 2015,* forecasted long-term GDP growth of 4.2% for the period 2015-2040.[49]

17   The Congressional Budget Office ("CBO"), in its forecasts for the period 2015-2040,

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[48] Federal Reserve Bank of Philadelphia, *Survey of Professional Forecasters* (Feb., 2016).

[49] U.S. Energy Information Administration, A*nnual Energy Outlook 2015.* http://www.eia.gov/forecasts/aeo/.

1	projected a nominal GDP growth rate of 4.3%.[50] Finally, the Social Security
2	Administration ("SSA"), in its Annual Old-Age, Survivors, And Disability Insurance
3	("OASDI") Report, projected a nominal GDP growth rate of 4.5% for the period 2015-
4	2090.[51] These four forecasts and projections of GDP growth from economists and
5	government agencies range from 4.2% to 4.5%. Overall, these projections of nominal
6	GDP growth over extended future time periods provide very direct evidence that Mr.
7	Hevert's long-term GDP growth rate of 5.35% is grossly overstated by almost 100 basis
8	points.
9	
10	Q. DOES MR. HEVERT PROVIDE ANY REASONS WHY HE HAS IGNORED
11	THE WELL-KNOWN LONG-TERM REAL GDP FORECASTS OF THE CBO,
12	SSA, AND EIA?
13	A. No.
14	
15	Q. IN YOUR OPINION, WHAT IS WRONG WITH MR. HEVERT'S REAL GDP
16	FORECAST BASED ON HISTORIC DATA AND IGNORING THE WELL-
17	KNOWN LONG-TERM GDP FORECASTS OF THE CBO, SSA, AND EIA?
18	A. In developing a DCF growth rate for his constant-growth DCF analysis, Mr. Hevert has
19	totally ignored <u>historic</u> EPS, DPS, and BVPS data and relied solely on the long-term EPS
20	growth rate <u>projections</u> of Wall Street analysts and *Value Line*. In contrast, in developing

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[50]Congressional   Budget   Office,   The   *2015   Long-term   Budget   Outlook*,   July   2015.
https://www.cbo.gov/publication/50250.

[51] Social Security Administration, *2015 Annual Report of the Board of Trustees of the Old-Age, Survivors, and Disability Insurance (OASDI) Program.* http://www.ssa.gov/oact/tr/2015/X1_trLOT.html.

1		a terminal DCF growth rate for his multi-stage growth DCF analysis, Mr. Hevert has also
2		totally ignored the well-known long-term real GDP growth rate forecasts of the CBO,
3		SSA, and EIA, and relied solely on historic data going back to 1929. Simply put, he is
4		inconsistent with his methodology.
5		
6		C. **Mr. Hevert's CAPM Approach**
7		
8	Q.	**PLEASE DISCUSS MR. HEVERT'S CAPM APPROACH.**
9	A.	On pages 19-23 of his testimony and in Exhibit RBH-2, Mr. Hevert estimates an equity
10		cost rate by applying a CAPM model to his proxy group. As I discussed earlier, the
11		CAPM approach requires an estimate of the risk-free interest rate, beta, and the equity
12		risk premium. Mr. Hevert uses three different measures of the 30-Year Treasury bond
13		yield: (a) a current yield of 2.96% and a near-term projected yield of 4.00%, and a
14		long-term projected yield of 4.80%; (b) two different betas (an average Bloomberg
15		Beta of 0.608 and an average *Value Line* Beta of 0.776); and (c) two market risk
16		premium measures - a Bloomberg, DCF-derived market risk premium of 10.68% and
17		a *Value Line*-derived market risk premium of 9.87%. Based on these figures, he finds
18		a CAPM equity cost rate range from 8.96% to 13.09%. Mr. Hevert's CAPM results are
19		summarized in Panel B of Exhibit JRW-12.
20		
21	Q.	**WHAT ARE THE ERRORS IN MR. HEVERT'S CAPM ANALYSIS?**
22	A.	The primary errors with Mr. Hevert's CAPM analysis are: (1) the projected risk-free
23		interest rate of 4.80%; and (2) the expected market return used to compute the MRPs.

| 1 | | 1. Projected Risk-Free Interest Rate |

2

3   **Q.**   **PLEASE DISCUSS THE BASE YIELD IN MR. HEVERT'S CAPM ANALYSIS.**

4   A.   Mr. Hevert uses a projected long-term Treasury yield of 4.80% in his CAPM analyses.

5   This figure is more than 200 basis points above the current yield on long-term Treasury

6   bonds of 2.50%.

7 | | 2. Market Risk Premium |

8   **Q.**   **WHAT ARE THE ERRORS IN MR. HEVERT'S CAPM ANALYSES?**

9   A.   The primary errors in Mr. Hevert's CAPM analyses are the market premiums of 10.68%

10   and 9.87%, which are based on the upwardly biased long-term EPS growth rate estimates

11   of Wall Street analysts.

12

13   **Q.**   **PLEASE ASSESS MR. HEVERT'S MARKET RISK PREMIUMS DERIVED**

14   **FROM APPLYING THE DCF MODEL TO THE S&P 500 AND *VALUE LINE***

15   ***INVESTMENT SURVEY.***

16   A.   For his Bloomberg and *Value Line* market risk premiums, Mr. Hevert computes market

17   risk premiums of 10.68% and 9.87% by: (1) calculating an expected market return by

18   applying the DCF model to the S&P 500; and, then (2) subtracting the current 30-year

19   Treasury bond yield from the calculation. Mr. Hevert's estimated expected market

20   returns from these are 13.63% (using Bloomberg's three- to five-year EPS growth rate

21   estimates)[52] and 12.82% (using *Value Line's* three- to five-year EPS growth rate

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[52] Testimony of Robert B. Hevert, Exhibit RBH-6, pp. 1-6.

1   estimates).[53] As discussed below, these results are not realistic. He uses: (1) a dividend

2   yield of 2.39% and an expected DCF growth rate of 11.24% for Bloomberg; and (2) a

3   dividend yield of 2.24% and an expected DCF growth rate of 10.58% for *Value Line.*

4

5   **Q.**   **HOW DID MR. HEVERT ERR WHEN ANALYZING MARKET PREMIUMS?**

6   A.   The primary error is that the expected DCF growth rate is the projected five-year EPS

7   growth rate from Wall Street analysts as reported by these two services. As explained

8   below, this produces an overstated expected market return and equity risk premium.

9

10 **Q.**   **WHAT EVIDENCE CAN YOU PROVIDE THAT MR. HEVERT'S GROWTH**

11   **RATES ARE ERRONEOUS OR NOT REALISTIC?**

12 A.   Mr. Hevert's expected long-term EPS growth rates of 11.24% for Bloomberg and

13   10.58% for *Value Line* represent the forecasted five-year EPS growth rates of Wall

14   Street analysts. As I have explained earlier, the error with this approach is that the EPS

15   growth rate forecasts of Wall Street securities analysts are overly optimistic and

16   upwardly biased, thus his results are not realistic. As discussed below, these projected

17   EPS growth rates are not consistent with historic or projected growth in earnings and

18   the economy.

19

20 **Q.**   **ARE EPS GROWTH RATES OF 11.24% and 10.58% CONSISTENT WITH**

21   **THE HISTORIC AND PROJECTED GROWTH IN EARNINGS AND THE**

22   **ECONOMY?**

---

[53] Testimony of Robert B. Hevert, Exhibit RBH-6, pp. 7-12.

1	A.	No. Long-term EPS growth rates of 11.24% and 10.58% are not consistent with
2		historic or projected economic and earnings growth in the U.S. for several reasons:
3		(1) long-term growth in EPS is far below Mr. Hevert's projected EPS growth rates;
4		(2) more recent trends in GDP growth, as well as projections of GDP growth, suggest
5		slower long-term economic and earnings growth in the future; and (3) over time, EPS
6		growth tends to lag behind GDP growth.

7   The long-term economic, earnings, and dividend growth rates in the U.S. have

8   only been in the 5% to 7% range. I performed an analysis of the growth in nominal

9   GDP, S&P 500 stock price appreciation, and S&P 500 EPS and DPS growth since

10   1960. The results are provided on page 1 of Exhibit JRW-13, and a summary is

11   provided in Table 6 below.

12
13
14

Table 6
GDP, S&P 500 Stock Price, EPS, and DPS Growth
1960-Present

Nominal GDP	6.58%
S&P 500 Stock Price	6.69%
S&P 500 EPS	6.64%
S&P 500 DPS	5.76%
Average	6.42%

15   The long-term growth results of GDP, S&P 500, S&P EPS, and S&P DPS from

16   1960-2015 are presented graphically on page 6 of Exhibit JRW-13. In sum, the

17   historical long-term growth rates for GDP, S&P 500, S&P EPS, and S&P DPS have

18   been in the 5% to 7% range.

19

20 **Q.** **DOES MORE RECENT DATA SUGGEST THAT U.S. ECONOMIC GROWTH**

21   **IS HIGHER OR LOWER THAN THE LONG-TERM DATA?**

1	A.	As previously discussed and presented in Table 5, the more recent trend suggests lower
2		future economic growth than the long-term historic GDP growth. The historical GDP
3		growth rates for 10, 20, 30, 40 and 50 years clearly suggest that nominal GDP growth in
4		recent decades has slowed to the 4.0% to 5.0% area. By comparison, Mr. Hevert's long-
5		term growth rate projections of 11.24% and 10.58% are vastly overstated. His
6		estimates suggest that companies in the U.S. would be expected to: (1) increase their
7		growth rate of EPS by almost 100% in the future; and (2) maintain that growth
8		indefinitely in an economy that is expected to grow at about one-half of his projected
9		growth rates, as forecasted by economists and various government agencies. Thus, Mr.
10		Hevert's projections are unrealistic.
11		
12	Q.	**WHAT LEVEL OF GDP GROWTH IS FORECASTED BY ECONOMISTS AND**
13		**VARIOUS GOVERNMENT AGENCIES?**
14	A.	As previously discussed, there are several forecasts of annual GDP growth that are
15		available from economists and government agencies. These are listed in page 5 of Exhibit
16		JRW-13. These forecasts suggest long-term GDP growth rates in the 4.2% to 4.5% range.
17	Q.	**WHY IS GDP GROWTH RELEVANT IN YOUR DISCUSSION OF MR.**
18		**HEVERT'S USE OF THE LONG-TERM EPS GROWTH RATES IN**
19		**DEVELOPING A MARKET RISK PREMIUM FOR HIS CAPM?**
20	A.	As indicated in recent research, the long-term earnings growth rates of companies are, on
21		average, limited to the growth rate in GDP.

1 Q.   **PLEASE EXPLAIN THE LINK BETWEEN ECONOMIC AND EARNINGS**

2   **GROWTH AND EQUITY RETURNS.**

3 A.   Brad Cornell of the California Institute of Technology recently published a study on

4   GDP growth, earnings growth, and equity returns. He finds that long-term EPS growth

5   in the U.S. is directly related to GDP growth, with GDP growth providing an upward

6   limit on EPS growth. In addition, he finds that long-term stock returns are determined

7   by long-term earnings growth. He concludes with the following observations:[54]

8   The long-run performance of equity investments is fundamentally
9   linked to growth in earnings. Earnings growth, in turn, depends on
10   growth in real GDP. This article demonstrates that both theoretical
11   research and empirical research in development economics suggest
12   relatively strict limits on future growth. In particular, real GDP
13   growth in excess of 3 percent in the long run is highly unlikely in the
14   developed world. In light of ongoing dilution in earnings per share,
15   this finding implies that investors should anticipate real returns on
16   U.S. common stocks to average no more than about 4–5 percent in
17   real terms.
18

19   Given current inflation in the 2% to 3% range and real returns in the 4% to 5%

20   range, the results imply nominal expected stock market returns in the 6% to 8% range.

21   As such, Mr. Hevert's projected earnings growth rates and implied expected stock

22   market returns and equity risk premiums are not indicative of the realities of the U.S.

23   economy and stock market.   As such, his expected CAPM equity cost rate is

24   significantly overstated.

---

[54] Bradford Cornell, "Economic Growth and Equity Investing", *Financial Analysts Journal* (January-February 2010), p. 63.

1   Q.   **PLEASE PROVIDE A SUMMARY ASSESSMENT OF MR. HEVERT'S**

2   **PROJECTED EQUITY RISK PREMIUM DERIVED FROM EXPECTED**

3   **MARKET RETURNS.**

4   A.   Mr. Hevert's market risk premium derived from his DCF application to the S&P 500

5   is inflated due to errors and bias in his study. Investment banks, consulting firms, and

6   CFOs use the equity risk premium concept every day in making financing, investment,

7   and valuation decisions. Thus, the opinions of CFOs and financial forecasters are

8   especially relevant. CFOs deal with capital markets on an ongoing basis since they must

9   continually assess and evaluate capital costs for their companies. They are also well

10   aware of the historical stock and bond return studies of Ibbotson. Duke University's

11   Survey of approximately 500 CFOs, in the June 2016 *CFO Magazine,* shows an

12   expected return on the S&P 500 of 6.3% over the next ten years. In addition, the

13   financial forecasters in the February 2016 Federal Reserve Bank of Philadelphia survey

14   expect an annual nominal market return of 5.34% over the next ten years. As such,

15   with a more realistic equity or market risk premium, the appropriate equity cost rate for

16   a public utility should be in the **8.0% to 9.0%** range, and not in the 10.0% to 11.0%

17   range.

18   **D.   Mr. Hevert's Risk Premium Approach**

19
20   Q.   **PLEASE REVIEW MR. HEVERT'S RP ANALYSIS.**

21   A.   On pages 23-26 of his testimony and in Exhibit RBH-3, Mr. Hevert estimates an equity

22   cost rate using a RP model. Mr. Hevert develops an equity cost rate by: (1) regressing

23   the commission-authorized returns on equity for electric utility companies from the

1		January 1, 1980 to September 2015 time period on the thirty-year Treasury Yield; and (2)
2		then adding the risk premium established in (1) to three different thirty-year Treasury
3		yields: (a) a current yield of 2.96% and a near-term projected yield of 4.00%; and (b)
4		a long-term projected yield of 4.80%. Mr. Hevert's RP results are provided in Panel C
5		of Exhibit JRW-12. He reports RP equity cost rates ranging from 10.04% to 10.53%.
6		
7	Q.	**WHAT ARE THE ERRORS IN MR. HEVERT'S RP ANALYSIS?**
8	A.	The two errors are: (1) the long-term projected 30-Year Treasury yield of 4.80%; and (2)
9		primarily, the excessive risk premium.
10		
11		1. Base Yield
12		
13	Q.	**WHAT IS THE ISSUE WITH THE PROJECTED LONG-TERM TREASURY**
14		**RATE OF 4.80%?**
15	A.	This figure is more than <u>200 basis points</u> above the current 30-year Treasury rate. This
16		figure is simply not reasonable. Thirty-year Treasury bonds are currently yielding about
17		2.50%. Institutional investors would not be buying bonds at this yield if they expected
18		interest rates to increase so dramatically in the coming years. Moreover, an increase of
19		yields of 200 basis points on 30-year Treasury bonds in the next couple of years would
20		result in significant capital losses for investors buying bonds today at current market
21		yields.

2

3   Q.   **WHAT ARE THE ISSUES WITH MR. HEVERT'S RISK PREMIUM?**

4   A.   There are several problems with this approach. His methodology produces an inflated

5   measure of the risk premium because the approach uses historic commission-authorized

6   ROEs and historic Treasury yields, and the resulting risk premium is applied to projected

7   Treasury Yields. And since Treasury yields are always forecasted to increase, the

8   resulting risk premium would be smaller if done correctly, and would require the use of

9   projected Treasury yields in the analysis rather than historic Treasury yields.[55] This

10   mismatch, use of historic Treasury yields then applied to projected Treasury yields, results

11   in a higher measure of the risk premium.

12   In addition, Mr. Hevert's RP approach is a gauge of *utility regulatory*

13   *commission* behavior and not *investor* behavior. Capital costs are determined in the

14   marketplace through the financial decisions of investors and are reflected in such

15   fundamental factors as dividend yields, expected growth rates, interest rates, investors'

16   assessment of the risk, and the expected return of different investments. Regulatory

17   commissions evaluate capital market data in setting authorized ROEs, but also take into

18   account other utility- and rate case-specific information in setting ROEs. As such, Mr.

19   Hevert's approach and results reflect other factors such as: capital structure, credit

20   ratings and other risk measures, service territory, capital expenditures, energy supply

---

[55] For example, on Exhibit RBH-3, page 19, Mr. Hevert reports a commission-authorized ROE of 9.50% on December 30, 2015. On that day, the 30-year Treasury yield was 2.93%. Hence, Mr. Hevert reports a risk premium of 6.57% (9.50% minus 2.93%). However, projected interest rates are always higher than current rates. If the projected long-term Treasury rate was 4.80% at the time, as Mr. Hevert uses in this case, the risk premium would only be 4.70% (9.50% minus 4.80%).

1   issues, rate design, investment and expense trackers, and other factors used by utility

2   commissions in determining an appropriate ROE, in addition to capital costs. This is

3   especially true when the authorized ROE data includes the results of rate cases that are

4   settled and not fully litigated.

5   Finally, Mr. Hevert's methodology produces an inflated required rate of return

6   since electric utilities have been selling at market-to-book ratios in excess of 1.0 for

7   many years. This indicates that the authorized rates of return have been greater than

8   the return that investors require. The relationship between ROE, the equity cost rate,

9   and market-to-book ratios was explained earlier in this testimony. In short, a market-

10 to-book ratio above 1.0 indicates that a company's ROE is above its equity cost rate.

11 Therefore, the risk premium produced from Mr. Hevert's study is overstated as a

12 measure of investor return requirements and produces an inflated equity cost rate.

13

14   **E.   Flotation Costs**

15

16 Q. **PLEASE DISCUSS MR. HEVERT'S ADJUSTMENT FOR FLOTATION COSTS.**

17 A. Mr. Hevert includes an explicit ROE adjustment for equity flotation costs of 0.12%.

18   This adjustment is erroneous for several reasons. First, he has not identified any current

19   or prospective equity issues by FPL or its parent company, NextEra, to justify this

20   adjustment. As such, the Company is requesting higher revenues in the form of a ROE

21   adjusted for flotation costs, even though the Company has not identified any such costs.

1   Beyond this issue, it is commonly argued that a flotation cost adjustment is

2   necessary to prevent the dilution of the existing shareholders. However, this is

3   incorrect for several reasons:

4   (1)   If an equity flotation cost adjustment is similar to a debt flotation cost

5   adjustment, the fact that the market-to-book ratios for electric utility companies are

6   over 1.5X (as shown on page 3 of Exhibit JRW-7) actually suggests that there should

7   be a flotation cost *reduction* (and not an increase) to the equity cost rate. This is because

8   when (a) a bond is issued at a price in excess of face or book value; and (b) the

9   difference between its market price and the book value is greater than the flotation or

10   issuance costs, the cost of that debt is lower than the coupon rate of the debt. As a

11   result, the amount by which market values of electric utility companies are in excess of

12   book values is much greater than flotation costs. Hence, if common stock flotation

13   costs were exactly like bond flotation costs, and one was making an explicit flotation

14   cost adjustment to the cost of common equity, the adjustment would be downward;

15   (2)   If a flotation cost adjustment is needed to prevent dilution of existing

16   stockholders' investment, then the reduction of the book value of stockholder

17   investment associated with flotation costs can occur only when a company's stock is

18   selling at a market price at or below its book value. As noted above, electric utility

19   companies are selling at market prices well in excess of book value. Hence, when new

20   shares are sold, existing shareholders realize an increase in the book value per share of

21   their investment, not a decrease;

22   (3)   Flotation costs consist primarily of the underwriting spread (or fee)

23   rather than out-of-pocket expenses. On a per-share basis, the underwriting spread is

1   the difference between the price the investment banker receives from investors and the

2   price the investment banker pays to the company. Therefore, these are not expenses

3   that must be recovered through the regulatory process. Furthermore, the underwriting

4   spread is known to the investors who are buying the new issue of stock, and who are

5   well aware of the difference between the price they are paying to buy the stock and the

6   price that the company is receiving. The offering price which they pay is what matters

7   when investors decide to buy a stock based on its expected return and risk prospects.

8   Therefore, the Company is not entitled to an adjustment to the allowed return to account

9   for those costs; and

10   (4)   Flotation costs, in the form of the underwriting spread, are a form of a

11   transaction cost in the market. They represent the difference between the price paid by

12   investors and the amount received by the issuing company. Whereas FPL believes that

13   it should be compensated for these transaction costs, it has not accounted for *other*

14   market transaction costs in determining its cost of equity. Most notably, brokerage fees

15   that investors pay when they buy shares in the open market are another market

16   transaction cost. Brokerage fees increase the effective stock price paid by investors to

17   buy shares. If the Company had included these brokerage fees or transaction costs in

18   its DCF analysis, the higher effective stock prices paid for stocks would lead to lower

19   dividend yields and equity cost rates. This would result in a downward adjustment to

20   their DCF equity cost rate.

21

22 Q   **DOES THIS CONCLUDE YOUR TESTIMONY?**

23 A.   Yes, it does.

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a copy of the foregoing Direct Testimony of J. Randall Woolridge has been furnished by electronic mail on this 7th day of July, 2016, to the following:

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Appendix A
Educational Background, Research, and Related Business Experience
J. Randall Woolridge

J. Randall Woolridge is a Professor of Finance and the Goldman, Sachs & Co. and Frank P. Smeal Endowed Faculty Fellow in Business Administration in the College of Business Administration of the Pennsylvania State University in University Park, PA. In addition, Professor Woolridge is Director of the Smeal College Trading Room and President and CEO of the Nittany Lion Fund, LLC.

Professor Woolridge received a Bachelor of Arts degree in Economics from the University of North Carolina, a Master of Business Administration degree from the Pennsylvania State University, and a Doctor of Philosophy degree in Business Administration (major area-finance, minor area-statistics) from the University of Iowa. He has taught Finance courses including corporation finance, commercial and investment banking, and investments at the undergraduate, graduate, and executive MBA levels.

Professor Woolridge's research has centered on empirical issues in corporation finance and financial markets. He has published over 35 articles in the best academic and professional journals in the field, including the *Journal of Finance*, the *Journal of Financial Economics*, and the *Harvard Business Review*. His research has been cited extensively in the business press. His work has been featured in the *New York Times, Forbes, Fortune, The Economist, Barron's, Wall Street Journal, Business Week, Investors' Business Daily, USA Today*, and other publications. In addition, Dr. Woolridge has appeared as a guest to discuss the implications of his research on CNN's *Money Line*, CNBC's *Morning Call* and *Business Today*, and Bloomberg's *Morning Call*.

Professor Woolridge's stock valuation book, *The StreetSmart Guide to Valuing a Stock* (McGraw-Hill, 2003), was released in its second edition. He has also co-authored *Spinoffs and Equity Carve-Outs: Achieving Faster Growth and Better Performance* (Financial Executives Research Foundation, 1999) as well as a textbook entitled *Basic Principles of Finance* (Kendall Hunt, 2011).

Professor Woolridge has also consulted with corporations, financial institutions, and government agencies. In addition, he has directed and participated in university- and company-sponsored professional development programs for executives in 25 countries in North and South America, Europe, Asia, and Africa.

Over the past twenty-five years Dr. Woolridge has prepared testimony and/or provided consultation services in regulatory rate cases in the rate of return area in following states: Alaska, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Hawaii, Indiana, Kansas, Kentucky, Maryland, Massachusetts, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New Mexico, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, South Carolina, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, and Washington, D.C. He has also testified before the Federal Energy Regulatory Commission.

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Academic Experience

Professor of Finance, the Smeal College of Business Administration, the Pennsylvania State University (July 1, 1990 to the present).
> **President, Nittany Lion Fund LLC,** (January 1, 2005 to the present)
> **Director, the Smeal College Trading Room** (January 1, 2001 to the present)
> **Goldman, Sachs & Co. and Frank P. Smeal Endowed University Fellow in Business Administration** (July 1, 1987 to the present).

Associate Professor of Finance, College of Business Administration, the Pennsylvania State University (July 1, 1984 to June 30, 1990).

Assistant Professor of Finance, College of Business Administration, the Pennsylvania State University (September, 1979 to June 30, 1984).

Education

Doctor of Philosophy in Business Administration, the University of Iowa (December, 1979). Major field: Finance.

Master of Business Administration, the Pennsylvania State University (December, 1975).

Bachelor of Arts, the University of North Carolina (May, 1973) Major field: Economics.

Books

James A. Miles and J. Randall Woolridge, *Spinoffs and Equity Carve-Outs: Achieving Faster Growth and Better Performance* (Financial Executives Research Foundation), 1999

Patrick Cusatis, Gary Gray, and J. Randall Woolridge, *The StreetSmart Guide to Valuing a Stock* (2nd Edition, McGraw-Hill), 2003.

J. Randall Woolridge and Gary Gray, *The New Corporate Finance, Capital Markets, and Valuation: An Introductory Text* (Kendall Hunt, 2003).

Research

Dr. Woolridge has published over 35 articles in the best academic and professional journals in the field, including the *Journal of Finance,* the *Journal of Financial Economics,* and the *Harvard Business Review.*

Appendix B
Historic Interest Rates and Capital Costs

Q. PLEASE DISCUSS LONG-TERM INTEREST RATES AND CAPITAL COSTS IN U.S. MARKETS.

A.   Long-term capital cost rates for U.S. corporations are a function of the required returns on risk-free securities plus a risk premium. The risk-free rate of interest is the yield on long-term U.S. Treasury bonds. The yields on 10-year U.S. Treasury bonds from 1953 to the present are provided on Panel A of Exhibit JRW-2. These yields peaked in the early 1980s and have generally declined since that time. These yields fell to below 3.0% in 2008 as a result of the financial crisis. From 2008 until 2011, these rates fluctuated between 2.5% and 3.5%. In 2012, the yields on 10-year Treasuries declined from 2.5% to 1.5% as the Federal Reserve initiated its Quantitative Easing III ("QEIII") program to support a low interest rate environment. These yields increased from mid-2012 to about 3.0% as of December of 2013 on speculation of a tapering of the Federal Reserve's QEIII policy. Since that time, the ten-year Treasury yield declined and bottomed out at 1.7% in January of 2015. These yields increased in 2015 to over 2.20% based on speculation an increase in the Federal Funds rate. After the Federal Reserve did indeed increase the Federal Funds rate in December of 2015, the 10-year rate declined due to continued low economic growth and inflation. The yield is now about 1.7%.

Panel B on Exhibit JRW-2 shows the differences in yields between ten-year Treasuries and Moody's Baa-rated bonds since the year 2000. This differential primarily reflects the additional risk premium required by bond investors for the risk associated with investing in corporate bonds as opposed to obligations of the U.S. Treasury. The difference also reflects, to some degree, yield curve changes over time. The Baa rating is the lowest of the investment grade bond ratings for corporate bonds. The yield differential hovered

Appendix B
Historic Interest Rates and Capital Costs

in the 2.0% to 3.5% range until 2005, declined to 1.5% until late 2007, and then increased

significantly in response to the financial crisis. This differential peaked at 6.0% at the

height of the financial crisis in early 2009 due to tightening in credit markets, which

increased corporate bond yields, and the "flight to quality," which decreased Treasury

yields. The differential subsequently declined and bottomed out at 2.4%. The differential

has since increased to the 3.2% range.

Q. **YOU MENTIONED RISK PREMIUM BEING REFLECTED AS THE DIFFERENTIAL BETWEEN THE TEN-YEAR TREASURIES AND MOODY'S Baa-RATED BONDS. PLEASE EXPLAIN WHAT THE RISK PREMIUM IS AND HOW IT AFFECTS YOUR ANALYSIS?**

A. The risk premium is the return premium required by investors to purchase riskier securities.

The risk premium required by investors to buy corporate bonds is observable based on

yield differentials in the markets. The market risk premium is the return premium required

to purchase stocks as opposed to bonds. The market or equity risk premium is not readily

observable in the markets (like bond risk premiums) since expected stock market returns

are not readily observable. As a result, equity risk premiums must be estimated using

market data. There are alternative methodologies to estimate the equity risk premium, and

these alternative approaches and equity risk premium results are subject to much debate.

One way to estimate the equity risk premium is to compare the mean returns on bonds and

stocks over long historical periods. Measured in this manner, the equity risk premium has

been in the 5% to 7% range.[1] However, studies by leading academics indicate that the

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[1] See Exhibit JRW-11, p. 5-6.

Appendix B
Historic Interest Rates and Capital Costs

forward-looking equity risk premium is actually in the 4.0% to 6.0% range. These lower equity risk premium results are in line with the findings of equity risk premium surveys of CFOs, academics, analysts, companies, and financial forecasters.

Q.   TELL US ABOUT INTEREST RATES ON LONG-TERM UTILITY BONDS.

A.   Panel A of Exhibit JRW-3 provides the yields on A-rated public utility bonds. These yields peaked in November 2008 at 7.75% and henceforth declined significantly. These yields declined to below 4.0% in mid-2013, and then increased with interest rates in general to the 4.85% range as of late 2013. These rates dropped significantly during 2014 due to economic growth concerns and were bottomed out below 4.0% in the first quarter of 2015. They increased with interest rates in general to 4.4% in the summer of 2015, and have since declined to 4.0% due to continued low economic growth and inflation.

Panel B of Exhibit JRW-3 provides the yield spreads between long-term A-rated public utility bonds relative to the yields on 20-year U.S. Treasury bonds. These yield spreads increased dramatically in the third quarter of 2008 during the peak of the financial crisis and have decreased significantly since that time. The yield spreads between 20-year U.S. Treasury bonds and A-rated utility bonds peaked at 3.4% in November 2008, declined to about 1.5% in the summer of 2012 as investor return requirements declined. The differential has gradually increased in recent years, and is now close to 2.0%.

Exhibit JRW-1

Florida Power & Light Company
Recommended Cost of Capital

Capital Source	Capitalization Ratio	Cost Rate	Weighted Cost Rate
Long-Term Debt	50.45%	5.48%	2.76%
Common Equity	49.55%	8.75%	4.34%
Total	100.00%		7.10%

Exhibit JRW-2

Panel A
Ten-Year Treasury Yields
1953-Present
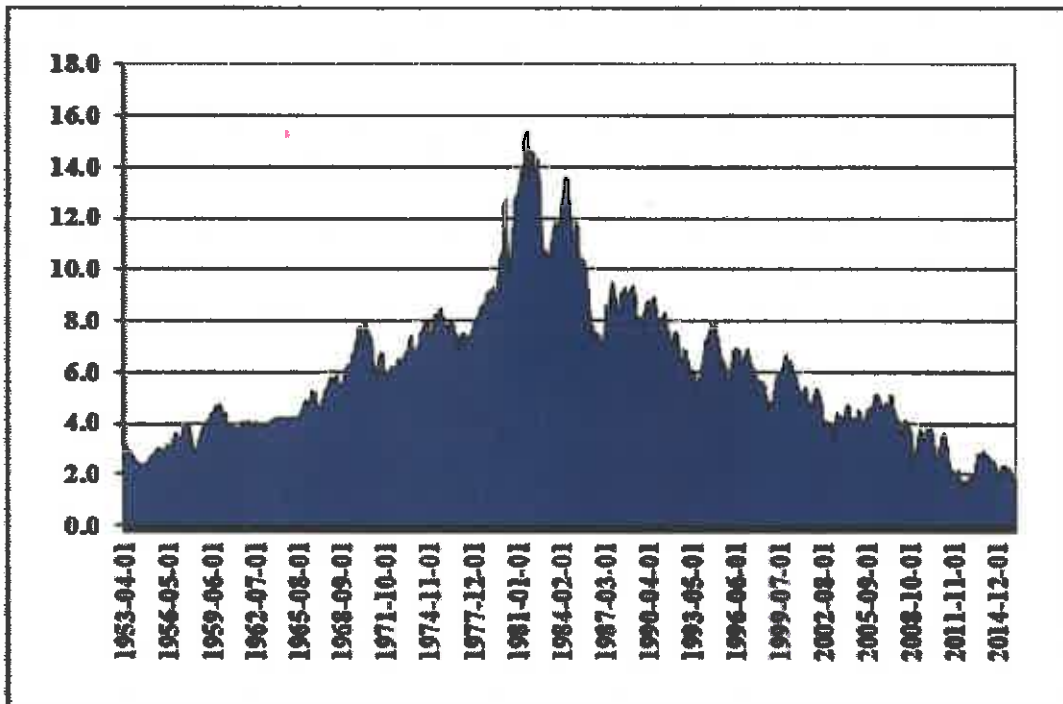
Panel B
Long-Term Moody's Baa Yields Minus Ten-Year Treasury Yields
2000-Present
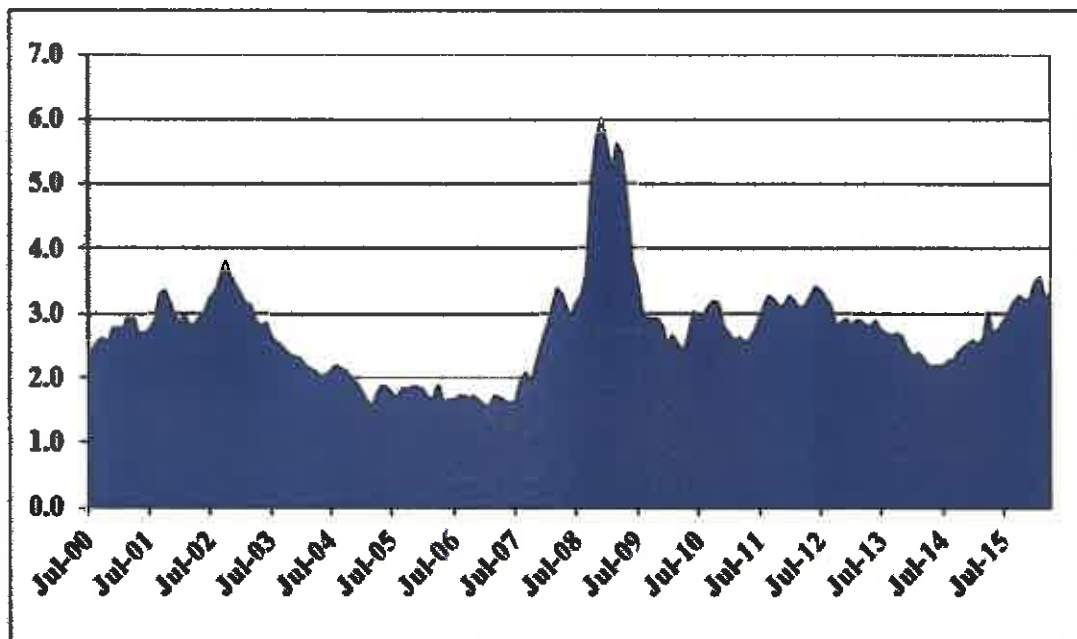
Source: Federal Reserve Bank of St. Louis, FRED Database.

Exhibit JRW-3
Panel A
Long-Term, A-Rated Public Utility Yields
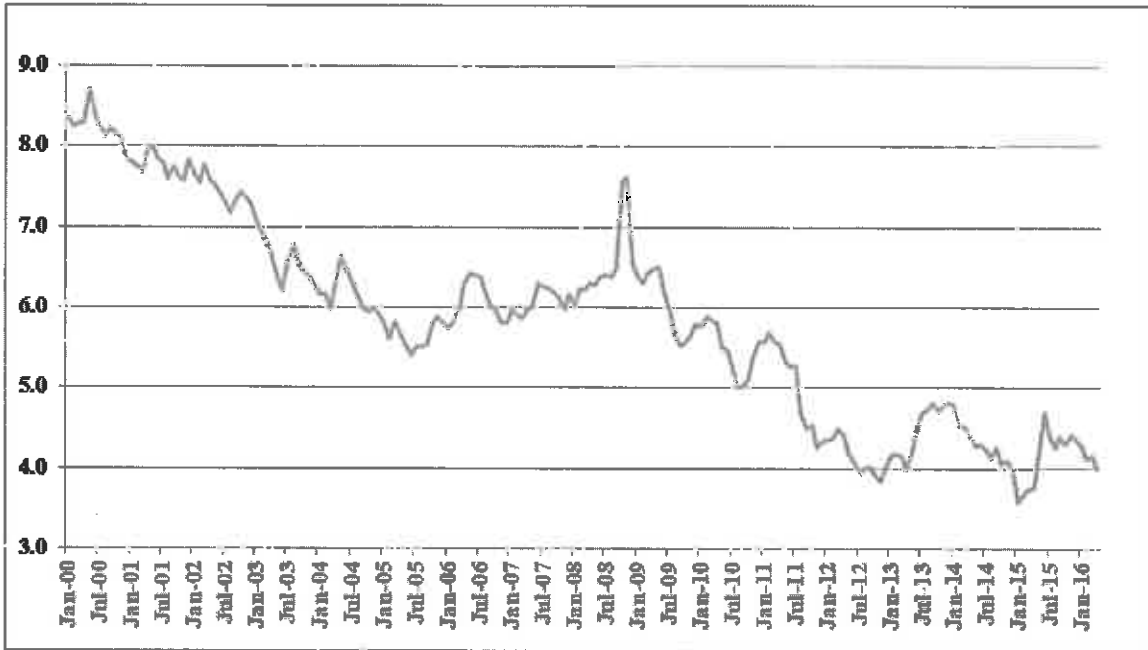
Panel B
Long-Term, A-Rated Public Utility Yields minus Twenty-Year Treasury Yields
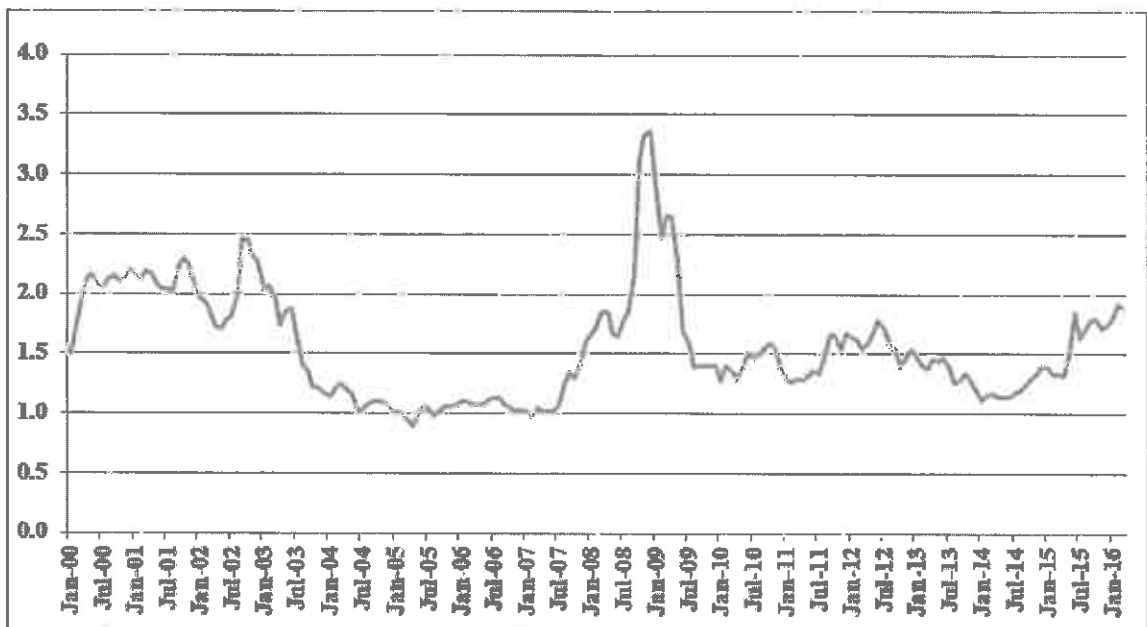
Source: Mergent Bond Record, Federal Reserve Bank of St. Louis, FRED Database.

Exhibit JRW-4

Florida Power & Light Company
Summary Financial Statistics for Proxy Groups

Panel A
Electric Proxy Group

Company	Operating Revenue ($mil)	Percent Elec Revenue	Percent Gas Revenue	Net Plant ($mil)	Market Cap ($mil)	S&P Issuer Credit Rating	Moody's Long Term Rating	Pre-Tax Interest Coverage	Primary Service Area	Common Equity Ratio	Return on Equity	Market to Book Ratio
ALLETE, Inc. (NYSE-ALE)	1,486.4	67		3,669.1	2.72	BBB+	A3	4.1	MN, WI	53.1	8.2	1.5
Alliant Energy Corporation (NYSE-LNT)	3,253.6	85	12	9,519.1	8.36	A-	A3	3.6	WI,IA,IL,MN	48.3	10.0	2.1
Ameren Corporation (NYSE-AEE)	6,098.0	85	20	18,799.0	11.82	BBB+	Baa1	3.8	IL,MO	47.4	9.3	1.7
American Electric Power Co. (NYSE-AEP)	16,696.0	81		46,133.2	32.56	BBB	Baa1	3.8	10 States	46.7	11.8	1.8
Avista Corporation (NYSE-AVA)	1,484.8	67	35	3,898.6	2.52	BBB	Baa1	3.4	WA,ID,AK	49.1	8.2	1.6
Black Hills Corporation (NYSE-BKH)	1,304.6	55	39	3,259.1	0.00	BBB	Baa1	3.8		43.0	NM	2.1
Consolidated Edison, Inc. (NYSE-ED)	12,554.0	70	14	31,377.0	0.00	A-	A3	3.5	NY,PA	49.2	8.5	1.52
CMS Energy Corporation (NYSE-CMS)	6,456.0	66	30	14,705.0	11.56	BBB+	Baa2	2.8		28.7	13.7	2.9
Dominion Resources, Inc. (NYSE-D)	11,683.0	64	2	41,554.0	43.64	BBB+	Baa2	3.9		29.8	15.7	3.4
Duke Energy Corporation (NYSE-DUK)	23,459.0	91	2	75,709.0	55.19	A-	A3	3.1	CA	47.9	7.0	1.4
Edison International (NYSE-EIX)	11,524.0	100		34,945.0	23.13	BBB+	A3	3.9	TX,NM	44.9	9.1	2.0
El Paso Electric Company (NYSE-EE)	849.9	100		2,695.5	1.83	BBB	Baa1	2.4		44.3	8.2	1.8
Entergy Corporation (NYSE-ETR)	11,513.3	81	1	27,824.4	13.66	BBB	Baa3	2.4	LA,AR,MS,TX	39.5	NM	1.5
Eversource Energy (NYSE-ES)	7,954.8	88	13	19,892.4	17.98	A	Baa1	4.8	CT,NH,MA	50.4	8.6	1.7
FirstEnergy Corporation (ASE-FE)	15,026.0	71		37,214.0	15.14	BBB-	Baa3	2.1	OH,PA,NY,NJ,WV,MD	36.0	4.7	1.2
IDACORP, Inc. (NYSE-IDA)	1,270.3	100		3,992.4	3.70	BBB	Baa1	3.5	ID	54.0	9.7	1.8
MGE Energy, Inc. (NYSE-MGEE)	564.0	73	25	1,243.4	1.74	AA-	A1	6.6	WI	63.6	10.6	2.5
NextEra Energy (NYSE-NEE)	17,485.0	67		61,386.0	53.96	A-	Baa1	4.0		42.8	13.0	2.4
NorthWestern Corporation (NYSE-NWE)	1,214.3	78	22	4,059.5	3.16	BBB	A3	2.8	SD,MT,NE	44.0	9.8	2.0
OGE Energy Corp. (NYSE-OGE)	2,196.9	100		7,322.4	5.61	A-	A3	4.0	OK,AR	54.7	8.3	1.7
Otter Tail Corporation (NDQ-OTTR)	779.8	52		1,387.8	1.09	BBB	A3	3.6	MN,ND,SD	51.1	10.1	1.8
PG&E Corporation (NYSE-PCG)	16,833.0	81	19	46,723.0	29.13	BBB	Baa1	2.1	CA	48.7	5.4	1.8
Pinnacle West Capital Corp. (NYSE-PNW)	3,495.4	100		11,685.0	8.29	A-	Baa1	5.0	AZ	53.7	9.8	1.8
PNM Resources, Inc. (NYSE-PNM)	1,439.1	100		4,535.4	2.60	BBB+	Baa3	2.4	NM,TX	40.6	0.9	1.6
Portland General Electric Company (NYSE-POR)	1,898.0	100		6,012.0	3.49	BBB	A3	2.5	OR	50.5	8.3	1.5
SCANA Corporation (NYSE-SCG)	4,381.0	58	19	13,145.0	9.97	BBB+	Baa3	3.6	SC,NC,GA	45.5	14.3	1.8
Southern Company (NYSE-SO)	17,489.0	94		61,114.0	46.28	A-	Baa1	5.3		45.6	11.0	2.1
WEC Energy Group (NYSE-WEC)	5,926.1	68	19	19,189.7	18.67	A-	A3	4.5	WI,IL,MN, MI	45.5	9.7	2.1
Xcel Energy Inc. (NYSE-XEL)	11,024.5	84	15	31,205.9	20.80	A-	A3	3.8	MN,WI,ND,SD,MI	43.1	9.5	2.0
Mean	7,494.5	80	18	22,213.7	15.5	BBB+	Baa1	3.6		46.3	9.4	1.91
Median	5,926.1	81	19	14,705.0	10.0	BBB+	Baa1	3.6		46.7	9.5	1.80

Data Source: *AUS Utility Reports*, May, 2016; Pre-Tax Interest Coverage and Primary Service Territory are from *Value Line Investment Survey*, 2016.

Panel B
Hevert Proxy Group

Company	Operating Revenue ($mil)	Percent Elec Revenue	Percent Gas Revenue	Net Plant ($mil)	Market Cap ($mil)	S&P Issuer Credit Rating	Moody's Long Term Rating	Pre-Tax Interest Coverage	Primary Service Area	Common Equity Ratio	Return on Equity	Market to Book Ratio
ALLETE, Inc. (NYSE-ALE)	1,396.5	71		3,639.1	2.43	BBB+	A3	4.1	MN, WI	53.2	9.3	1.33
Alliant Energy Corporation (NYSE-LNT)	3,317.6	84	13	9,366.5	7.08	A-	A3	3.6	WI,IA,IL,MN	48.6	10.7	1.79
Ameren Corporation (NYSE-AEE)	6,160.0	83	17	18,307.0	10.56	BBB+	Baa1	3.8	IL,MO	49.0	9.5	1.51
American Electric Power Co. (NYSE-AEP)	17,108.0	81		45,238.0	28.81	BBB	Baa1	3.8	10 States	46.7	10.2	1.63
Avista Corporation (NYSE-AVA)	1,509.3	69	36	3,784.1	2.19	BBB	Baa1	3.4	WA,ID,AK	49.8	7.8	1.45
CMS Energy Corporation (NYSE-CMS)	6,705.0	64	32	14,160.0	10.03	BBB+	Baa2	2.8	MI	30.4	13.5	2.57
Dominion Resources, Inc. (NYSE-D)	11,683.0	64	2	41,554.0	43.64	BBB+	Baa2	3.9		29.8	15.7	3.4
DTE Energy Company (NYSE-DTE)	10,928.0	35	16	17,867.0	14.46	BBB+	A3	3.4	MI	48.0	11.1	1.64
IDACORP, Inc. (NYSE-IDA)	1,274.7	100		3,978.5	3.34	BBB	Baa1	3.5	ID	53.9	9.9	1.63
NorthWestern Corporation (NYSE-NWE)	1,202.3	72	23	4,004.5	2.72	BBB	A3	2.8	SD,MT,NE	42.8	11.0	1.79
OGE Energy Corp. (NYSE-OGE)	2,276.0	100		7,166.5	4.99	A-	A3	4.0	OK,AR	54.9	9.1	1.49
Otter Tail Corporation (NDQ-OTTR)	672.8	61		1,361.5	0.99	BBB	A3	3.6	MN,ND,SD	50.5	9.5	1.65
Pinnacle West Capital Corp. (NYSE-PNW)	3,487.5	100		11,467.8	7.09	A-	Baa1	5.0	AZ	54.6	8.8	1.53
PNM Resources, Inc. (NYSE-PNM)	1,450.0	100		4,551.2	2.41	BBB	Baa3	2.4	NM,TX	43.5	7.2	1.36
Portland General Electric Company (NYSE-POR)	1,899.0	100		5,920.0	3.26	BBB	A3	2.5	OR	50.3	8.0	1.46
SCANA Corporation (NYSE-SCG)	4,639.0	56	19	12,729.0	8.65	BBB+	Baa3	3.6	SC,NC,GA	46.2	14.5	1.60
Xcel Energy Inc. (NYSE-XEL)	11,307.3	83	17	29,828.6	18.52	A-	A3	3.8	MN,WI,ND,SD,MI	44.4	9.4	1.76
Mean	5,118.6	78	19	13,819.0	10.1	BBB+	Baa1	3.5		46.9	10.3	1.74
Median	3,317.6	81	17	9,366.5	7.1	BBB+	Baa1	3.6		48.6	9.5	1.63

Data Source: *AUS Utility Reports*, May, 2016; Pre-Tax Interest Coverage and Primary Service Territory are from *Value Line Investment Survey*, 2016.

Exhibit JRW-5

Florida Power & Light Company
Value Line Risk Metrics

Panel A
Electric Proxy Group

Company	Beta	Financial Strength	Safety	Earnings Predictability	Stock Price Stability
ALLETE, Inc. (NYSE-ALE)	0.75	A	2	85	95
Alliant Energy Corporation (NYSE-LNT)	0.75	A	2	85	100
Ameren Corporation (NYSE-AEE)	0.75	A	2	85	95
American Electric Power Co. (NYSE-AEP)	0.70	A	2	90	100
Avista Corporation (NYSE-AVA)	0.75	A	2	80	95
Black Hills Corporation (NYSE-BKH)	0.90	A	2	45	80
Consolidated Edison, Inc. (NYSE-ED)	0.55	A+	1	95	100
CMS Energy Corporation (NYSE-CMS)	0.70	B++	2	80	100
Dominion Resources, Inc. (NYSE-D)	0.70	B++	2	80	100
Duke Energy Corporation (NYSE-DUK)	0.60	A	2	80	100
Edison International (NYSE-EIX)	0.70	A	2	65	95
El Paso Electric Company (NYSE-EE)	0.75	B++	2	85	90
Entergy Corporation (NYSE-ETR)	0.70	B++	3	75	95
Eversource Energy (NYSE-ES)	0.75	A	1	85	95
FirstEnergy Corporation (ASE-FE)	0.70	B+	3	45	90
IDACORP, Inc. (NYSE-IDA)	0.80	A	2	95	95
MGE Energy, Inc. (NYSE-MGEE)	0.70	A	1	90	95
NextEra Energy (NYSE-NEE)	0.70	A	2	75	100
NorthWestern Corporation (NYSE-NWE)	0.70	B+	3	95	95
OGE Energy Corp. (NYSE-OGE)	0.95	A	2	85	85
Otter Tail Corporation (NDQ-OTTR)	0.80	B++	2	50	90
PG&E Corporation (NYSE-PCG)	0.70	B+	3	55	95
Pinnacle West Capital Corp. (NYSE-PNW)	0.75	A+	1	75	100
PNM Resources, Inc. (NYSE-PNM)	0.80	B	3	35	85
Portland General Electric Company (NYSE-POR	0.80	B++	2	70	95
SCANA Corporation (NYSE-SCG)	0.70	B++	2	100	100
Southern Company (NYSE-SO)	0.55	A	2	100	100
WEC Energy Group (NYSE-WEC)	0.65	A+	1	90	100
Xcel Energy Inc. (NYSE-XEL)	0.65	A+	1	100	100
Mean	0.72	A	2.0	78	95

Data Source: *Value Line Investment Survey*, 2016.

Panel B
Hevert Proxy Group

Company	Beta	Financial Strength	Safety	Earnings Predictability	Stock Price Stability
ALLETE, Inc. (NYSE-ALE)	0.75	A	2	85	95
Alliant Energy Corporation (NYSE-LNT)	0.75	A	2	85	100
Ameren Corporation (NYSE-AEE)	0.75	A	2	85	95
American Electric Power Co. (NYSE-AEP)	0.70	A	2	90	100
Avista Corporation (NYSE-AVA)	0.75	A	2	80	95
CMS Energy Corporation (NYSE-CMS)	0.70	B++	2	80	100
Dominion Resources, Inc. (NYSE-D)	0.70	B++	2	80	100
DTE Energy Company (NYSE-DTE)	0.70	B++	2	90	100
IDACORP, Inc. (NYSE-IDA)	0.80	A	2	95	95
NorthWestern Corporation (NYSE-NWE)	0.70	B+	3	95	95
OGE Energy Corp. (NYSE-OGE)	0.95	A	2	85	85
Otter Tail Corporation (NDQ-OTTR)	0.80	B++	2	50	90
Pinnacle West Capital Corp. (NYSE-PNW)	0.75	A+	1	75	100
PNM Resources, Inc. (NYSE-PNM)	0.80	B	3	35	85
Portland General Electric Company (NYSE-POR	0.80	B++	2	70	95
SCANA Corporation (NYSE-SCG)	0.70	B++	2	100	100
Xcel Energy Inc. (NYSE-XEL)	0.65	A	1	100	100
Mean	0.75	A	2.0	81	96

Data Source: *Value Line Investment Survey*, 2016.

Value Line Risk Metrics

Beta

A relative measure of the historical sensitivity of a stock's price to overall fluctuations in the New York Stock Exchange Composite Index. A Beta of 1.50 indicates a stock tends to rise (or fall) 50% more than the New York Stock Exchange Composite Index. The "Beta coefficient" is derived from a regression analysis of the relationship between weekly percentage changes in the price of a stock and weekly percentage changes in the NYSE Index over a period of five years. In the case of shorter price histories, a smaller time period is used, but two years is the minimum. Betas are adjusted for their long-term tendency to converge toward 1.00.

Financial Strength

A relative measure of the companies reviewed by Value Line. The relative ratings range from A++ (strongest) down to C (weakest).

Safety Rank

A measurement of relative potential risk associated with individual common stocks. The Safety Rank is computed by averaging two other Value Line indexes, the Price Stability Index, and the Financial Strength Rating. Safety Ranks range from 1 (Highest) to 5 (Lowest). Conservative investors should try to limit their purchases to equities ranked 1 (Highest) and 2 (Above Average) for Safety.

Earnings Predictability

A measure of the reliability of an earnings forecast. Earnings Predictability is based upon the stability of year-to-year comparisons, with recent years being weighted more heavily than earlier ones. The most reliable forecasts tend to be those with the highest rating (100); the least reliable, the lowest (5). The earnings stability is derived from the standard deviation of percentage changes in quarterly earnings over an eight-year period. Special adjustments are made for comparisons around zero and from plus to minus.

Stock Price Stability

A measure of the stability of a stock's price It includes sensitivity to the market (see Beta as well as the stock's inherent volatility. Value Line Stability ratings range from 1 (highest) to 5 (lowest).

Source: *Value Line Investment Analyzer* .

Exhibit JRW-6
Electric Utilities
Panel A

Market-to-Book

Expected Return on Equity
R-Square = .77, N=42
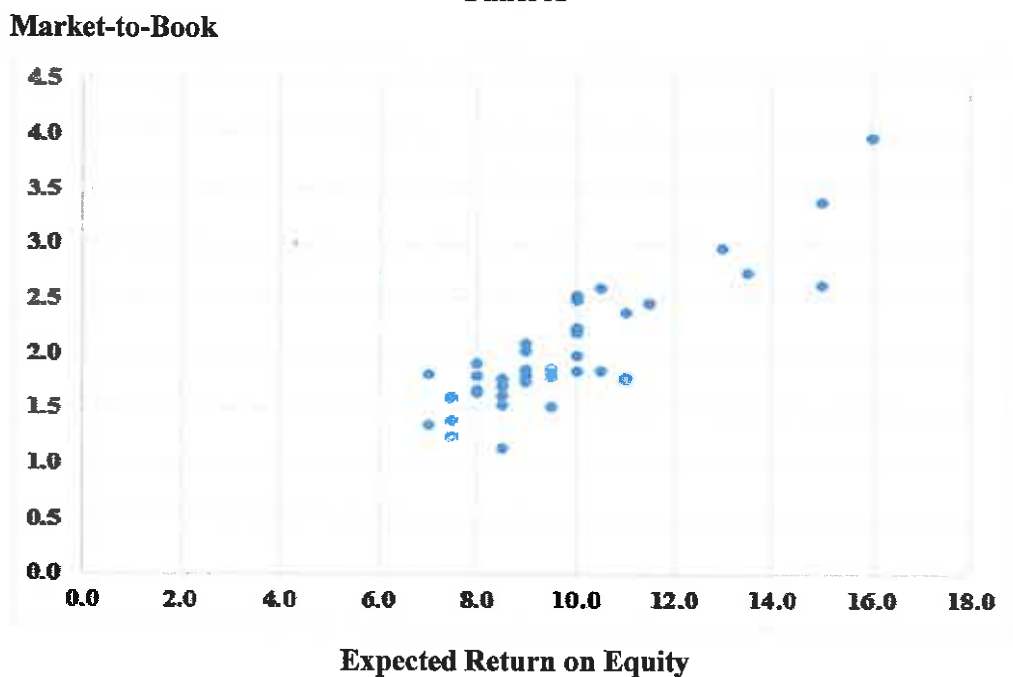
Source: *Value Line Investment Survey*, 2016.

Panel B
Gas Companies

Market-to-Book

Expected Return on Equity
R-Square = .56, N=12
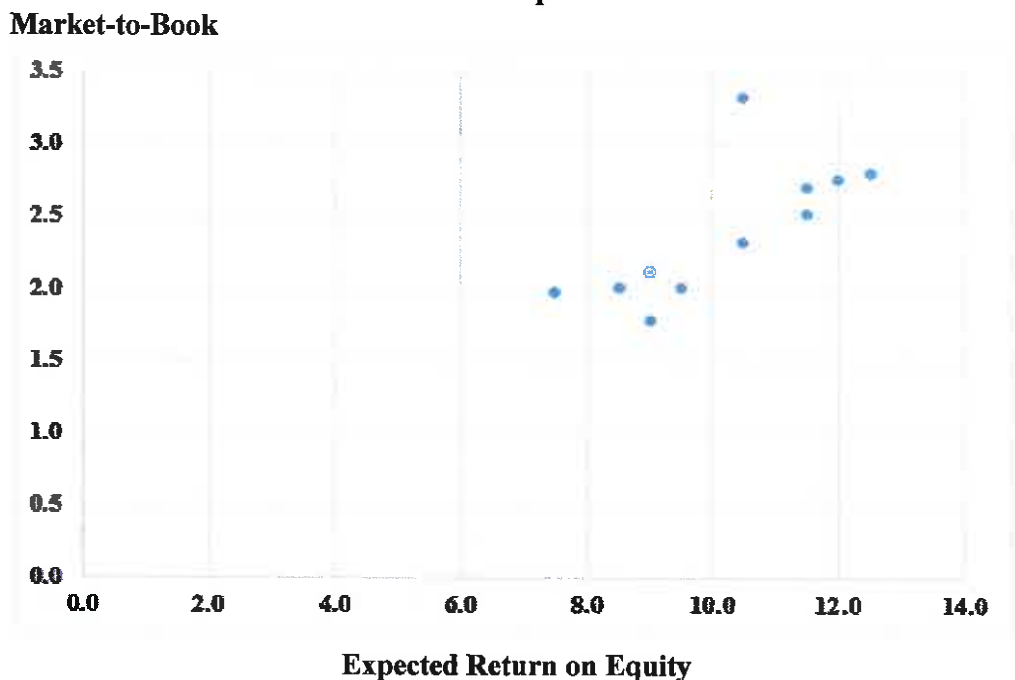
Source: *Value Line Investment Survey*, 2016.

Exhibit JRW-6
Water Companies
Panel C

Market-to-Book
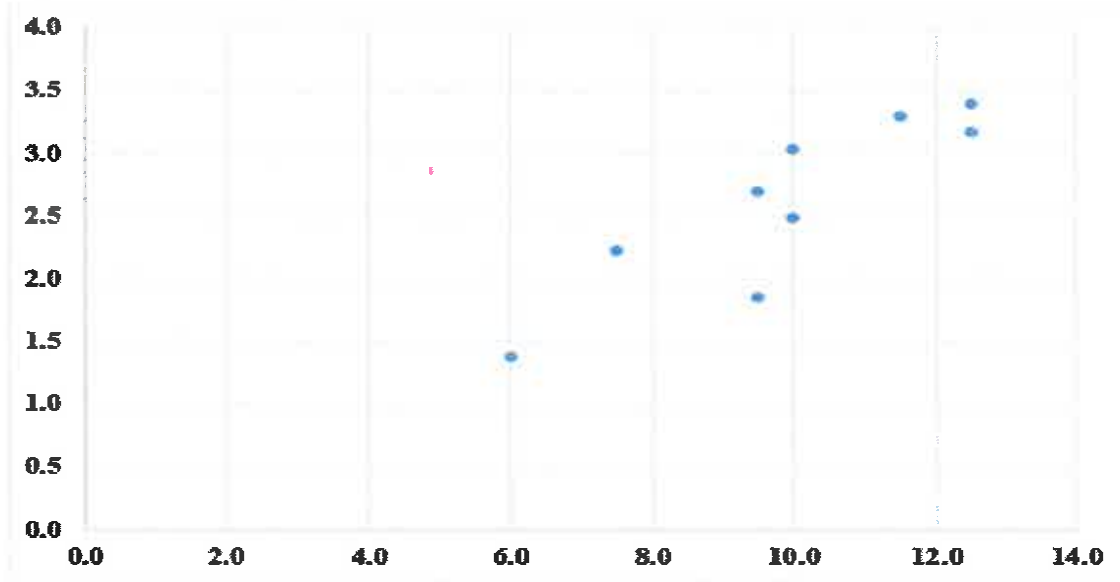
Expected Return on Equity
R-Square = .75, N=9

Source: *Value Line Investment Survey*, 2016.

Exhibit JRW-7
Long-Term 'A' Rated Public Utility Bonds
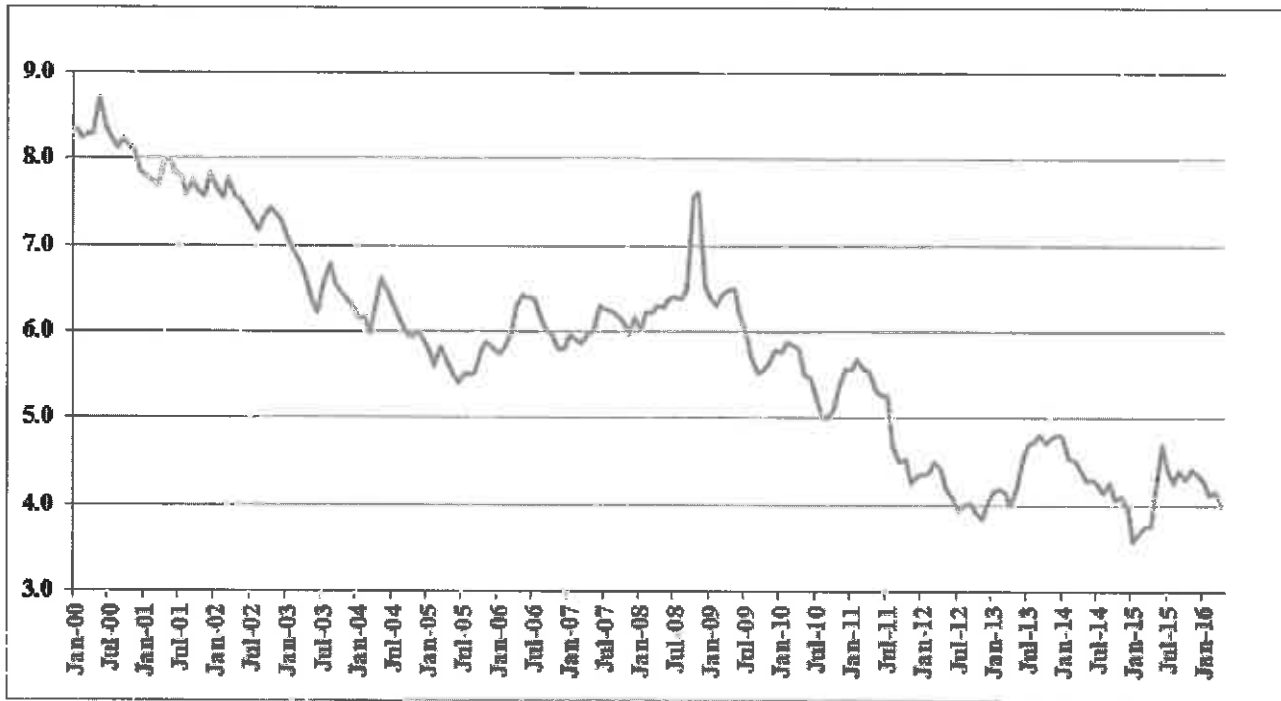
Data Source: Mergent Bond Record

Exhibit JRW-7

Electric Utility Average Dividend Yield
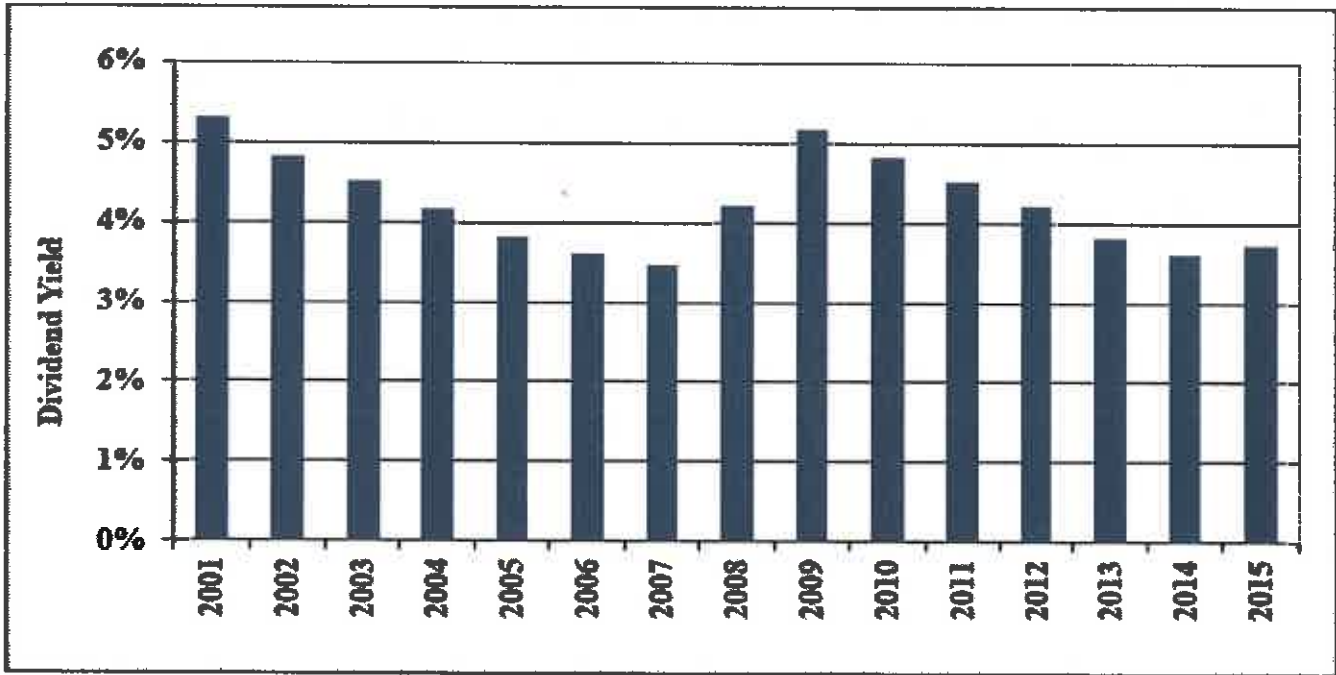
Data Source: *Value Line Investment Survey.*

Exhibit JRW-7

Electric Utility Average Return on Equity and Market-to-Book Ratios
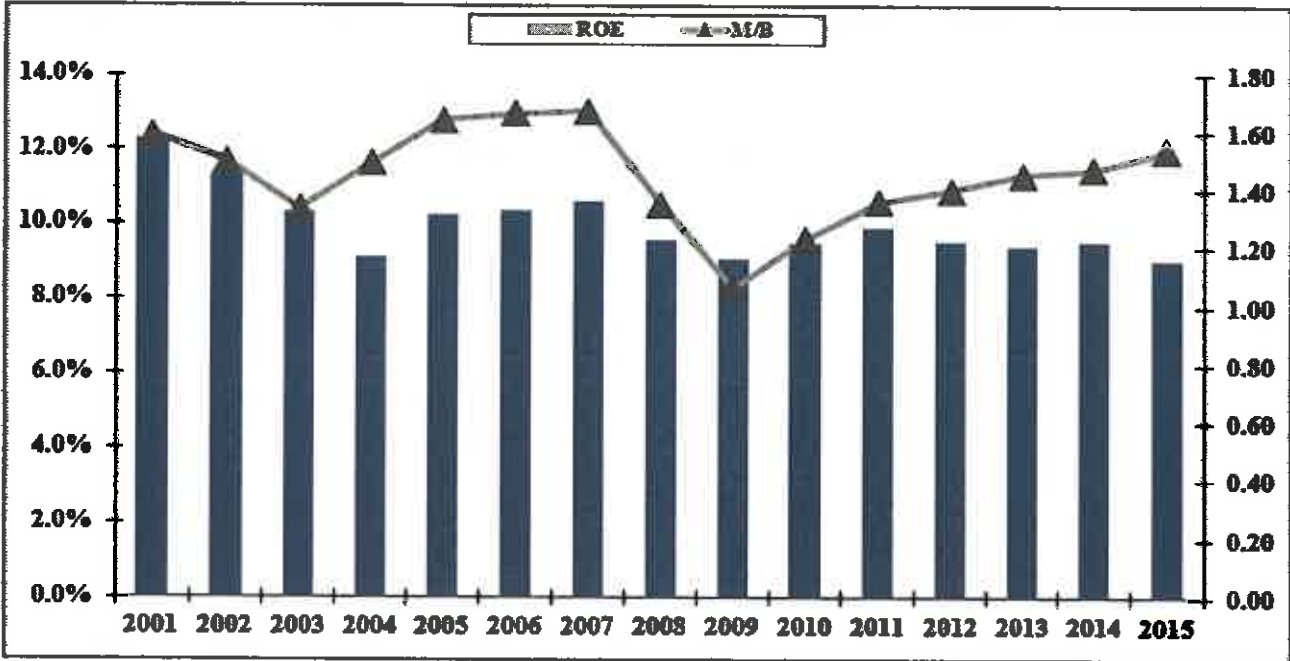
Data Source: *Value Line Investment Survey.*

Exhibit JRW-8

Industry Average Betas

Industry Name	Beta	Industry Name	Beta	Industry Name	Beta
Petroleum (Producing)	1.62	Office Equip/Supplies	1.17	Foreign Electronics	1.01
Maritime	1.54	Furn/Home Furnishings	1.16	Retail (Softlines)	1.00
Homebuilding	1.48	Precision Instrument	1.16	Cable TV	0.99
Oilfield Svcs/Equip.	1.47	Entertainment	1.16	Information Services	0.99
Metals & Mining (Div.)	1.44	Advertising	1.16	Drug	0.99
Steel	1.43	Biotechnology	1.15	Healthcare Information	0.98
Natural Gas (Div.)	1.41	Trucking	1.15	Investment Co.(Foreign)	0.98
Metal Fabricating	1.36	Diversified Co.	1.14	Med Supp Non-Invasive	0.98
Auto Parts	1.35	Financial Svcs. (Div.)	1.14	Telecom. Utility	0.97
Heavy Truck & Equip	1.35	Computer Software	1.14	Precious Metals	0.97
Building Materials	1.34	Internet	1.14	R.E.I.T.	0.96
Engineering & Const	1.30	Newspaper	1.13	Med Supp Invasive	0.96
Hotel/Gaming	1.30	Apparel	1.13	Funeral Services	0.94
Railroad	1.30	Retail (Hardlines)	1.12	Environmental	0.94
Petroleum (Integrated)	1.29	Computers/Peripherals	1.12	Retail Store	0.93
Chemical (Diversified)	1.27	Educational Services	1.11	Restaurant	0.90
Insurance (Life)	1.26	Paper/Forest Products	1.10	Pharmacy Services	0.89
Electrical Equipment	1.26	Wireless Networking	1.10	Thrift	0.89
Public/Private Equity	1.26	Air Transport	1.09	Reinsurance	0.88
Power	1.25	Bank	1.09	Beverage	0.88
Chemical (Specialty)	1.25	Bank (Midwest)	1.08	Food Processing	0.86
Semiconductor	1.24	Recreation	1.07	Insurance (Prop/Cas.)	0.85
Oil/Gas Distribution	1.24	Medical Services	1.06	Investment Co.	0.85
Chemical (Basic)	1.22	Industrial Services	1.06	Household Products	0.84
E-Commerce	1.22	Retail Building Supply	1.06	Retail/Wholesale Food	0.80
Electronics	1.21	Pipeline MLPs	1.05	Tobacco	0.75
Human Resources	1.20	Packaging & Container	1.04	Electric Util. (Central)	0.75
Automotive	1.19	Toiletries/Cosmetics	1.04	Electric Utility (West)	0.74
Machinery	1.19	Shoe	1.02	Natural Gas Utility	0.74
Entertainment Tech	1.18	Retail Automotive	1.02	Water Utility	0.71
Semiconductor Equip	1.18	Telecom. Services	1.01	Electric Utility (East)	0.68
Telecom. Equipment	1.17	IT Services	1.01		
Publishing	1.171	Aerospace/Defense	1.01		

Exhibit JRW-9
DCF Model

Growth Stage
Earnings Grow
Faster Than
Dividends

$

Earnings

Transition Stage
Dividends Grow
Faster Than
Earnings

Maturity Stage
Dividends and
Earnings Grow
At Same Rate

Dividends

Time
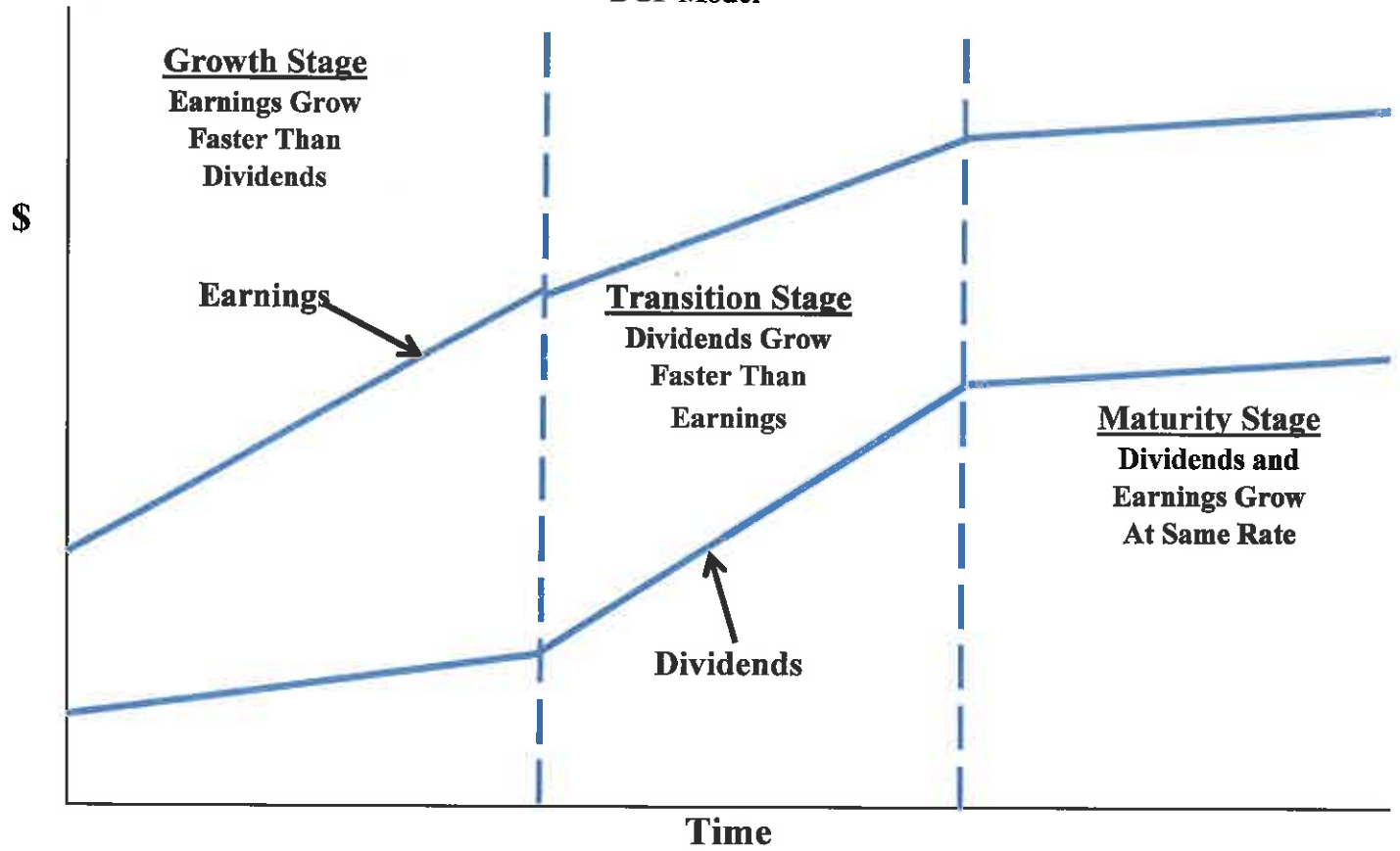
Source: William F. Sharpe, Gordon J. Alexander, and Jeffrey V. Bailey, Investments (Prentice-Hall, 1995), pp. 590-91.

Exhibit JRW-9

DCF Model
Consensus Earnings Per Share Estimates
Alliant Energy Corp. (LNT)
www.reuters.com
6/5/2016

Line	Date	# of Estimates	Mean	High	Low
1	Quarter Ending Jun-16	2	0.33	0.38	0.28
2	Quarter Ending Sep-16	2	0.92	0.98	0.86
3	Year Ending Dec-16	8	1.89	1.92	1.88
4	Year Ending Dec-17	9	2.01	2.12	1.97
5	LT Growth Rate (%)	2	6.60	7.20	6.00

Exhibit JRW-10

Florida Power & Light Company
Discounted Cash Flow Analysis

Panel A
Electric Proxy Group

Dividend Yield*	3.50%
Adjustment Factor	1.024375
Adjusted Dividend Yield	3.6%
Growth Rate**	4.88%
Equity Cost Rate	8.45%

*   Page 2 of Exhibit JRW-10

** Based on data provided on pages 3, 4, 5, and
   6 of Exhibit JRW-10

Panel B
Hevert Proxy Group

Dividend Yield*	3.50%
Adjustment Factor	1.02625
Adjusted Dividend Yield	3.6%
Growth Rate**	5.25%
Equity Cost Rate	8.85%

*   Page 2 of Exhibit JRW-10

** Based on data provided on pages 3, 4, 5, and
   6 of Exhibit JRW-10

Exhibit JRW-10

Florida Power & Light Company
Monthly Dividend Yields

Panel A
Electric Proxy Group

Company	Annual Dividend		Dividend Yield 30 Day	Dividend Yield 90 Day	Dividend Yield 180 Day
ALLETE, Inc. (NYSE-ALE)	$	2.08	3.7%	3.8%	4.0%
Alliant Energy Corporation (NYSE-LNT)	$	1.18	3.3%	3.3%	3.6%
Ameren Corporation (NYSE-AEE)	$	1.70	3.5%	3.6%	3.8%
American Electric Power Co. (NYSE-AEP)	$	2.24	3.5%	3.5%	3.8%
Avista Corporation (NYSE-AVA)	$	1.37	3.4%	3.5%	3.8%
Black Hills Corporation (NYSE-BKH)	$	1.68	2.8%	2.9%	3.4%
Consolidated Edison, Inc. (NYSE-ED)	$	2.68	3.7%	3.7%	3.9%
CMS Energy Corporation (NYSE-CMS)	$	1.24	3.0%	3.1%	3.3%
Dominion Resources, Inc. (NYSE-D)	$	2.80	4.0%	4.0%	4.1%
Duke Energy Corporation (NYSE-DUK)	$	3.30	4.2%	4.3%	4.5%
Edison International (NYSE-EIX)	$	1.92	2.7%	2.8%	3.0%
El Paso Electric Company (NYSE-EE)	$	1.24	2.8%	2.9%	3.1%
Entergy Corporation (NYSE-ETR)	$	3.40	4.5%	4.6%	4.9%
Eversource Energy (NYSE-ES)	$	1.78	3.2%	3.2%	3.4%
FirstEnergy Corporation (ASE-FE)	$	1.44	4.3%	4.3%	4.5%
IDACORP, Inc. (NYSE-IDA)	$	2.04	2.8%	2.8%	3.0%
MGE Energy, Inc. (NYSE-MGEE)	$	1.18	2.3%	2.4%	2.5%
NextEra Energy (NYSE-NEE)	$	3.48	2.9%	3.0%	3.2%
NorthWestern Corporation (NYSE-NWE)	$	2.00	3.5%	3.4%	3.6%
OGE Energy Corp. (NYSE-OGE)	$	1.10	3.7%	3.9%	4.1%
Otter Tail Corporation (NDQ-OTTR)	$	1.25	4.3%	4.4%	4.6%
PG&E Corporation (NYSE-PCG)	$	1.96	3.3%	3.4%	3.6%
Pinnacle West Capital Corp. (NYSE-PNW)	$	2.50	3.4%	3.5%	3.7%
PNM Resources, Inc. (NYSE-PNM)	$	0.88	2.7%	2.7%	2.9%
Portland General Electric Company (NYSE-POR)	$	1.28	3.2%	3.3%	3.4%
SCANA Corporation (NYSE-SCG)	$	2.30	3.3%	3.4%	3.7%
Southern Company (NYSE-SO)	$	2.24	4.5%	4.6%	4.8%
WEC Energy Group (NYSE-WEC)	$	1.98	3.4%	3.4%	3.7%
Xcel Energy Inc. (NYSE-XEL)	$	1.36	3.3%	3.4%	3.6%
Mean			3.4%	3.5%	3.7%
Median			3.4%	3.4%	3.7%

Data Sources: http://quote.yahoo.com, June 5, 2016.

Panel B
Hevert Proxy Group

Company	Annual Dividend		Dividend Yield 30 Day	Dividend Yield 90 Day	Dividend Yield 180 Day
ALLETE, Inc. (NYSE-ALE)	$	2.08	3.7%	3.8%	4.0%
Alliant Energy Corporation (NYSE-LNT)	$	1.18	3.3%	3.3%	3.6%
Ameren Corporation (NYSE-AEE)	$	1.70	3.5%	3.6%	3.8%
American Electric Power Co. (NYSE-AEP)	$	2.24	3.5%	3.5%	3.8%
Avista Corporation (NYSE-AVA)	$	1.37	3.4%	3.5%	3.8%
CMS Energy Corporation (NYSE-CMS)	$	1.24	3.0%	3.1%	3.3%
Dominion Resources, Inc. (NYSE-D)	$	2.80	4.0%	4.0%	4.1%
DTE Energy Company (NYSE-DTE)	$	2.92	3.3%	3.3%	3.5%
IDACORP, Inc. (NYSE-IDA)	$	2.04	2.8%	2.8%	3.0%
NorthWestern Corporation (NYSE-NWE)	$	2.00	3.5%	3.4%	3.6%
OGE Energy Corp. (NYSE-OGE)	$	1.10	3.7%	3.9%	4.1%
Otter Tail Corporation (NDQ-OTTR)	$	1.25	4.3%	4.4%	4.6%
Pinnacle West Capital Corp. (NYSE-PNW)	$	2.50	3.4%	3.5%	3.7%
PNM Resources, Inc. (NYSE-PNM)	$	0.88	2.7%	2.7%	2.9%
Portland General Electric Company (NYSE-POR)	$	1.28	3.2%	3.3%	3.4%
SCANA Corporation (NYSE-SCG)	$	2.30	3.3%	3.4%	3.7%
Xcel Energy Inc. (NYSE-XEL)	$	1.36	3.3%	3.4%	3.6%
Mean			3.4%	3.5%	3.7%
Median			3.4%	3.4%	3.7%

Data Sources: http://quote.yahoo.com, June 5, 2016.

Exhibit JRW-10

Florida Power & Light Company
DCF Equity Cost Growth Rate Measures
***Value Line* Historic Growth Rates**

Panel A
Electric Proxy Group

| Company | *Value Line* Historic Growth | | | | | |
| | Past 10 Years | | | Past 5 Years | | |
	Earnings	Dividends	Book Value	Earnings	Dividends	Book Value
ALLETE, Inc. (NYSE-ALE)	4.5	9.5	5.5	5.0	2.5	6.0
Alliant Energy Corporation (NYSE-LNT)	6.0	7.0	4.0	7.0	6.5	4.0
Ameren Corporation (NYSE-AEE)	-2.5	-4.5	-0.5	-4.0	-3.0	-3.0
American Electric Power Co. (NYSE-AEP)	2.5	3.0	5.0	3.5	4.0	5.0
Avista Corporation (NYSE-AVA)	7.5	9.5	4.0	4.0	9.0	4.0
Black Hills Corporation (NYSE-BKH)	4.0	2.5	3.0	15.0	2.0	1.5
Consolidated Edison, Inc. (NYSE-ED)	3.5	1.0	4.0	3.0	1.5	3.5
CMS Energy Corporation (NYSE-CMS)	13.0		2.5	8.5	16.5	4.0
Dominion Resources, Inc. (NYSE-D)	5.5	6.5	2.5	1.5	7.0	1.5
Duke Energy Corporation (NYSE-DUK)				3.0	2.5	3.0
Edison International (NYSE-EIX)	6.5	9.5	6.0	3.5	4.0	1.5
El Paso Electric Company (NYSE-EE)	12.0		8.0	4.0		7.5
Entergy Corporation (NYSE-ETR)	3.0	6.0	3.5	-3.0	1.5	3.5
Eversource Energy (NYSE-ES)	9.5	9.5	6.0	6.0	11.0	9.0
FirstEnergy Corporation (ASE-FE)	-2.0	-1.0	1.0	-12.0	-7.5	1.5
IDACORP, Inc. (NYSE-IDA)	9.5	2.5	5.0	8.0	8.0	6.0
MGE Energy, Inc. (NYSE-MGEE)	6.5	2.0	6.0	7.0	2.5	5.5
NextEra Energy (NYSE-NEE)	8.5	8.0	8.5	5.0	8.5	7.5
NorthWestern Corporation (NYSE-NWE)		13.0	4.0	7.0	4.5	7.0
OGE Energy Corp. (NYSE-OGE)	7.5	3.5	8.5	6.5	6.0	8.5
Otter Tail Corporation (NDQ-OTTR)	-0.5	1.0	0.5	15.5	0.5	-3.5
PG&E Corporation (NYSE-PCG)	0.5		7.0	-5.5	1.5	3.5
Pinnacle West Capital Corp. (NYSE-PNW)	4.5	2.5	2.0	8.5	2.0	3.5
PNM Resources, Inc. (NYSE-PNM)	1.5	1.0	2.0	23.5		1.0
Portland General Electric Company (NYSE-POR)	7.0		2.5	6.5	2.5	3.0
SCANA Corporation (NYSE-SCG)	3.5	3.5	5.0	4.5	2.5	5.0
Southern Company (NYSE-SO)	3.0	4.0	5.0	3.5	3.5	4.0
WEC Energy Group (NYSE-WEC)	8.5	14.0	7.5	8.0	18.5	7.5
Xcel Energy Inc. (NYSE-XEL)	5.0	4.0	4.5	6.0	4.5	4.5
Mean	5.1	4.9	4.4	5.1	4.5	4.0
Median	5.0	3.8	4.3	5.0	3.5	4.0

Data Source: *Value Line Investment Survey.*

Average of Median Figures =	4.3

Panel B
Hevert Proxy Group

| Company | *Value Line* Historic Growth | | | | | |
| | Past 10 Years | | | Past 5 Years | | |
	Earnings	Dividends	Book Value	Earnings	Dividends	Book Value
ALLETE, Inc. (NYSE-ALE)	4.5	9.5	5.5	5.0	2.5	6.0
Alliant Energy Corporation (NYSE-LNT)	6.0	7.0	4.0	7.0	6.5	4.0
Ameren Corporation (NYSE-AEE)	-2.5	-4.5	-0.5	-4.0	-3.0	-3.0
American Electric Power Co. (NYSE-AEP)	2.5	3.0	5.0	3.5	4.0	5.0
Avista Corporation (NYSE-AVA)	7.5	9.5	4.0	4.0	9.0	4.0
CMS Energy Corporation (NYSE-CMS)	13.0		2.5	8.5	16.5	4.0
Dominion Resources, Inc. (NYSE-D)	5.5	6.5	2.5	1.5	7.0	1.5
DTE Energy Company (NYSE-DTE)	4.5	3.0	4.0	6.5	5.0	4.0
IDACORP, Inc. (NYSE-IDA)	9.5	2.5	5.0	8.0	8.0	6.0
NorthWestern Corporation (NYSE-NWE)		13.0	4.0	7.0	4.5	7.0
OGE Energy Corp. (NYSE-OGE)	7.5	3.5	8.5	6.5	6.0	8.5
Otter Tail Corporation (NDQ-OTTR)	-0.5	1.0	0.5	15.5	0.5	-3.5
Pinnacle West Capital Corp. (NYSE-PNW)	4.5	2.5	2.0	8.5	2.0	3.5
PNM Resources, Inc. (NYSE-PNM)	1.5	1.0	2.0	23.5		1.0
Portland General Electric Company (NYSE-POR)	7.0		2.5	6.5	2.5	3.0
SCANA Corporation (NYSE-SCG)	3.5	3.5	5.0	4.5	2.5	5.0
Xcel Energy Inc. (NYSE-XEL)	5.0	4.0	4.5	6.0	4.5	4.5
Mean	4.9	4.3	3.6	6.9	4.9	3.6
Median	4.8	3.5	4.0	6.5	4.5	4.0

Data Source: *Value Line Investment Survey.*

Average of Median Figures =	4.5

Exhibit JRW-10

Florida Power & Light Company
DCF Equity Cost Growth Rate Measures
***Value Line* Projected Growth Rates**

Panel A
Electric Proxy Group

Company	*Value Line* Projected Growth Est'd. '13-'15 to '19-'21*			*Value Line* Sustainable Growth		
	Earnings	Dividends	Book Value	Return on Equity	Retention Rate	Internal Growth
ALLETE, Inc. (NYSE-ALE)	4.0	3.5	4.0	8.5%	37.0%	3.1%
Alliant Energy Corporation (NYSE-LNT)	6.0	4.5	4.0	12.5%	39.0%	4.9%
Ameren Corporation (NYSE-AEE)	6.0	4.0	3.5	9.5%	36.0%	3.4%
American Electric Power Co. (NYSE-AEP)	4.0	5.0	4.0	9.5%	33.0%	3.1%
Avista Corporation (NYSE-AVA)	5.0	4.0	3.5	9.0%	37.0%	3.3%
Black Hills Corporation (NYSE-BKH)	6.5	6.0	5.0	10.5%	47.0%	4.9%
Consolidated Edison, Inc. (NYSE-ED)	1.5	3.0	3.5	8.5%	31.0%	2.6%
CMS Energy Corporation (NYSE-CMS)	6.0	6.5	6.0	13.5%	38.0%	5.1%
Dominion Resources, Inc. (NYSE-D)	8.0	8.0	5.0	18.5%	27.0%	5.0%
Duke Energy Corporation (NYSE-DUK)	4.0	3.5	1.5	8.0%	25.0%	2.0%
Edison International (NYSE-EIX)	3.5	9.0	5.5	11.5%	46.0%	5.3%
El Paso Electric Company (NYSE-EE)	2.5	5.0	3.5	8.5%	39.0%	3.3%
Entergy Corporation (NYSE-ETR)	3.5	3.0	3.0	11.0%	41.0%	4.5%
Eversource Energy (NYSE-ES)	6.0	6.0	4.0	9.5%	42.0%	4.0%
FirstEnergy Corporation (ASE-FE)	9.0	1.0	3.5	9.0%	52.0%	4.7%
IDACORP, Inc. (NYSE-IDA)	3.0	7.5	4.0	9.0%	40.0%	3.6%
MGE Energy, Inc. (NYSE-MGEE)	7.0	4.0	5.0	13.0%	56.0%	7.3%
NextEra Energy (NYSE-NEE)	6.0	11.0	5.5	12.5%	31.0%	3.9%
NorthWestern Corporation (NYSE-NWE)	6.5	5.5	4.5	10.0%	41.0%	4.1%
OGE Energy Corp. (NYSE-OGE)	3.0	9.5	3.5	12.0%	30.0%	3.6%
Otter Tail Corporation (NDQ-OTTR)	6.0	1.5	4.5	10.5%	37.0%	3.9%
PG&E Corporation (NYSE-PCG)	12.0	4.5	5.0	10.0%	48.0%	4.8%
Pinnacle West Capital Corp. (NYSE-PNW)	4.0	5.0	3.5	10.0%	35.0%	3.5%
PNM Resources, Inc. (NYSE-PNM)	9.0	10.0	3.5	9.5%	45.0%	4.3%
Portland General Electric Company (NYSE-POR)	5.5	6.0	4.0	9.0%	44.0%	4.0%
SCANA Corporation (NYSE-SCG)	4.5	5.0	5.0	10.0%	40.0%	4.0%
Southern Company (NYSE-SO)	2.5	3.0	3.0	12.5%	25.0%	3.1%
WEC Energy Group (NYSE-WEC)	6.0	7.0	7.0	11.0%	33.0%	3.6%
Xcel Energy Inc. (NYSE-XEL)	5.5	6.0	4.0	10.5%	37.0%	3.9%
Mean	5.4	5.4	4.2	10.6%	38.3%	4.0%
Median	5.5	5.0	4.0	10.0%	38.0%	3.9%
Average of Median Figures =		4.8			Median =	3.9%

* 'Est'd. '13-'15 to '19-'21' is the estimated growth rate from the base period 2013 to 2015 until the future period 2019 to 2021.
Data Source: *Value Line Investment Survey.*

Panel B
Hevert Proxy Group

Company	*Value Line* Projected Growth Est'd. '13-'15 to '19-'21*			*Value Line* Sustainable Growth		
	Earnings	Dividends	Book Value	Return on Equity	Retention Rate	Internal Growth
ALLETE, Inc. (NYSE-ALE)	4.0	3.5	4.0	8.5%	37.0%	3.1%
Alliant Energy Corporation (NYSE-LNT)	6.0	4.5	4.0	12.5%	39.0%	4.9%
Ameren Corporation (NYSE-AEE)	6.0	4.0	3.5	9.5%	36.0%	3.4%
American Electric Power Co. (NYSE-AEP)	4.0	5.0	4.0	9.5%	33.0%	3.1%
Avista Corporation (NYSE-AVA)	5.0	4.0	3.5	9.0%	37.0%	3.3%
CMS Energy Corporation (NYSE-CMS)	6.0	6.5	6.0	13.5%	38.0%	5.1%
Dominion Resources, Inc. (NYSE-D)	8.0	8.0	5.0	18.5%	27.0%	5.0%
DTE Energy Company (NYSE-DTE)	5.0	5.5	4.5	10.0%	39.0%	3.9%
IDACORP, Inc. (NYSE-IDA)	3.0	7.5	4.0	9.0%	40.0%	3.6%
NorthWestern Corporation (NYSE-NWE)	6.5	5.5	4.5	10.0%	41.0%	4.1%
OGE Energy Corp. (NYSE-OGE)	3.0	9.5	3.5	12.0%	30.0%	3.6%
Otter Tail Corporation (NDQ-OTTR)	6.0	1.5	4.5	10.5%	37.0%	3.9%
Pinnacle West Capital Corp. (NYSE-PNW)	4.0	5.0	3.5	10.0%	35.0%	3.5%
PNM Resources, Inc. (NYSE-PNM)	9.0	10.0	3.5	9.5%	45.0%	4.3%
Portland General Electric Company (NYSE-POR)	5.5	6.0	4.0	9.0%	44.0%	4.0%
SCANA Corporation (NYSE-SCG)	4.5	5.0	5.0	10.0%	40.0%	4.0%
Xcel Energy Inc. (NYSE-XEL)	5.5	6.0	4.0	10.5%	37.0%	3.9%
Mean	5.4	5.7	4.2	10.7%	37.4%	3.9%
Median	5.5	5.5	4.0	10.0%	37.0%	3.9%
Average of Median Figures =		5.0			Median =	3.9%

* 'Est'd. '13-'15 to '19-'21' is the estimated growth rate from the base period 2013 to 2015 until the future period 2019 to 2021.
Data Source: *Value Line Investment Survey.*

Exhibit JRW-10

Florida Power & Light Company
DCF Equity Cost Growth Rate Measures
Analysts Projected EPS Growth Rate Estimates

Panel A
Electric Proxy Group

Company	Yahoo	Reuters	Zacks	Mean
ALLETE, Inc. (NYSE-ALE)	3.0%	NA	4.5%	3.8%
Alliant Energy Corporation (NYSE-LNT)	6.6%	6.6%	6.1%	6.4%
Ameren Corporation (NYSE-AEE)	5.2%	5.2%	6.1%	5.5%
American Electric Power Co. (NYSE-AEP)	4.1%	4.1%	4.9%	4.4%
Avista Corporation (NYSE-AVA)	5.0%	NA	5.0%	5.0%
Black Hills Corporation (NYSE-BKH)	6.5%	NA	6.5%	6.5%
Consolidated Edison, Inc. (NYSE-ED)	1.9%	1.9%	2.3%	2.0%
CMS Energy Corporation (NYSE-CMS)	7.2%	7.2%	6.4%	7.0%
Dominion Resources, Inc. (NYSE-D)	5.9%	5.9%	6.8%	6.2%
Duke Energy Corporation (NYSE-DUK)	4.6%	4.6%	4.8%	4.7%
Edison International (NYSE-EIX)	2.5%	2.5%	4.9%	3.3%
El Paso Electric Company (NYSE-EE)	7.0%	NA	6.7%	6.9%
Entergy Corporation (NYSE-ETR)	-2.4%	-2.4%	-2.3%	-2.3%
Eversource Energy (NYSE-ES)	6.3%	6.3%	6.3%	6.3%
FirstEnergy Corporation (ASE-FE)	-2.5%	-2.5%	-1.0%	-2.0%
IDACORP, Inc. (NYSE-IDA)	4.0%	4.0%	4.0%	4.0%
MGE Energy, Inc. (NYSE-MGEE)	4.0%	NA	NA	4.0%
NextEra Energy (NYSE-NEE)	7.4%	7.4%	6.9%	7.3%
NorthWestern Corporation (NYSE-NWE)	5.0%	5.0%	5.0%	5.0%
OGE Energy Corp. (NYSE-OGE)	4.3%	4.3%	5.2%	4.6%
Otter Tail Corporation (NDQ-OTTR)	6.0%	NA	NA	6.0%
PG&E Corporation (NYSE-PCG)	6.1%	6.1%	5.1%	5.8%
Pinnacle West Capital Corp. (NYSE-PNW)	3.7%	3.7%	4.1%	3.8%
PNM Resources, Inc. (NYSE-PNM)	8.8%	8.8%	7.6%	8.4%
Portland General Electric Company (NYSE-POR)	6.6%	6.6%	6.4%	6.5%
SCANA Corporation (NYSE-SCG)	4.8%	4.8%	5.3%	5.0%
Southern Company (NYSE-SO)	3.3%	3.2%	4.1%	3.5%
WEC Energy Group (NYSE-WEC)	6.8%	6.8%	6.3%	6.6%
Xcel Energy Inc. (NYSE-XEL)	5.3%	5.3%	5.3%	5.3%
Mean	4.7%	4.6%	4.9%	4.8%
Median	5.0%	5.0%	5.2%	5.0%

Data Sources: www.reuters.com, www.zacks.com, http://quote.yahoo.com, June, 2016.

Panel B
Hevert Proxy Group

Company	Yahoo	Reuters	Zacks	Mean
ALLETE, Inc. (NYSE-ALE)	3.0%	NA	4.5%	3.8%
Alliant Energy Corporation (NYSE-LNT)	6.6%	6.6%	6.1%	6.4%
Ameren Corporation (NYSE-AEE)	5.2%	5.2%	6.1%	5.5%
American Electric Power Co. (NYSE-AEP)	4.1%	4.1%	4.9%	4.4%
Avista Corporation (NYSE-AVA)	5.0%	NA	5.0%	5.0%
CMS Energy Corporation (NYSE-CMS)	7.2%	7.2%	6.4%	7.0%
Dominion Resources, Inc. (NYSE-D)	5.9%	5.9%	6.8%	6.2%
DTE Energy Company (NYSE-DTE)	5.4%	5.4%	5.8%	5.5%
IDACORP, Inc. (NYSE-IDA)	4.0%	4.0%	4.0%	4.0%
NorthWestern Corporation (NYSE-NWE)	5.0%	5.0%	5.0%	5.0%
OGE Energy Corp. (NYSE-OGE)	4.3%	4.3%	5.2%	4.6%
Otter Tail Corporation (NDQ-OTTR)	6.0%	NA	NA	6.0%
Pinnacle West Capital Corp. (NYSE-PNW)	3.7%	3.7%	4.1%	3.8%
PNM Resources, Inc. (NYSE-PNM)	8.8%	8.8%	7.6%	8.4%
Portland General Electric Company (NYSE-POR)	6.6%	6.6%	6.4%	6.5%
SCANA Corporation (NYSE-SCG)	4.8%	4.8%	5.3%	5.0%
Xcel Energy Inc. (NYSE-XEL)	5.3%	5.3%	5.3%	5.3%
Mean	5.3%	5.5%	5.5%	5.4%
Median	5.2%	5.2%	5.3%	5.3%

Data Sources: www.reuters.com, www.zacks.com, http://quote.yahoo.com, June, 2016.

Exhibit JRW-10

Florida Power & Light Company
DCF Growth Rate Indicators

Electric and Hevert Proxy Groups

Growth Rate Indicator	Electric Proxy Group	Hevert Proxy Group
Historic *Value Line* Growth in EPS, DPS, and BVPS	4.3%	4.5%
Projected *Value Line* Growth in EPS, DPS, and BVPS	**4.8%**	5.0%
Sustainable Growth ROE * Retention Rate	3.9%	3.9%
Projected EPS Growth from Yahoo, Zacks, and Reuters - Mean/Median	4.8%/5.0%	5.4%/5.3%

Exhibit JRW-11

Florida Power & Light Company
Capital Asset Pricing Model

Panel A
Electric Proxy Group

Risk-Free Interest Rate	4.00%
Beta*	0.70
Ex Ante Equity Risk Premium**	5.50%
CAPM Cost of Equity	7.9%

* See page 3 of Exhibit JRW-11

** See pages 5 and 6 of Exhibit JRW-11

Panel B
Hevert Proxy Group

Risk-Free Interest Rate	4.00%
Beta*	0.75
Ex Ante Equity Risk Premium**	5.50%
CAPM Cost of Equity	8.1%

* See page 3 of Exhibit JRW-11

** See pages 5 and 6 of Exhibit JRW-11

Exhibit JRW-11

Thirty-Year U.S. Treasury Yields
2011-2016

Source: Federal Reserve Bank of St. Louis, FRED Database.
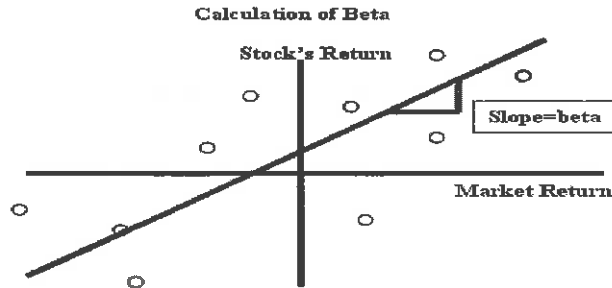
Calculation of Beta

Panel A
Electric Proxy Group

Company Name	Beta
ALLETE, Inc. (NYSE-ALE)	0.75
Alliant Energy Corporation (NYSE-LNT)	0.75
Ameren Corporation (NYSE-AEE)	0.75
American Electric Power Co. (NYSE-AEP)	0.70
Avista Corporation (NYSE-AVA)	0.75
Black Hills Corporation (NYSE-BKH)	0.90
Consolidated Edison, Inc. (NYSE-ED)	0.55
CMS Energy Corporation (NYSE-CMS)	0.70
Dominion Resources, Inc. (NYSE-D)	0.70
Duke Energy Corporation (NYSE-DUK)	0.60
Edison International (NYSE-EIX)	0.70
El Paso Electric Company (NYSE-EE)	0.75
Entergy Corporation (NYSE-ETR)	0.70
Eversource Energy (NYSE-ES)	0.75
FirstEnergy Corporation (ASE-FE)	0.70
IDACORP, Inc. (NYSE-IDA)	0.80
MGE Energy, Inc. (NYSE-MGEE)	0.70
NextEra Energy (NYSE-NEE)	0.70
NorthWestern Corporation (NYSE-NWE)	0.70
OGE Energy Corp. (NYSE-OGE)	0.95
Otter Tail Corporation (NDQ-OTTR)	0.80
PG&E Corporation (NYSE-PCG)	0.70
Pinnacle West Capital Corp. (NYSE-PNW)	0.75
PNM Resources, Inc. (NYSE-PNM)	0.80
Portland General Electric Company (NYSE-POR)	0.80
SCANA Corporation (NYSE-SCG)	0.70
Southern Company (NYSE-SO)	0.55
WEC Energy Group (NYSE-WEC)	0.65
Xcel Energy Inc. (NYSE-XEL)	0.65
Mean	0.72
Median	0.70

Data Source: *Value Line Investment Survey*, 2016.

Panel B
Hevert Proxy Group

Company Name	Beta
ALLETE, Inc. (NYSE-ALE)	0.75
Alliant Energy Corporation (NYSE-LNT)	0.75
Ameren Corporation (NYSE-AEE)	0.75
American Electric Power Co. (NYSE-AEP)	0.70
Avista Corporation (NYSE-AVA)	0.75
CMS Energy Corporation (NYSE-CMS)	0.70
Dominion Resources, Inc. (NYSE-D)	0.70
DTE Energy Company (NYSE-DTE)	0.70
IDACORP, Inc. (NYSE-IDA)	0.80
NorthWestern Corporation (NYSE-NWE)	0.70
OGE Energy Corp. (NYSE-OGE)	0.95
Otter Tail Corporation (NDQ-OTTR)	0.80
Pinnacle West Capital Corp. (NYSE-PNW)	0.75
PNM Resources, Inc. (NYSE-PNM)	0.80
Portland General Electric Company (NYSE-POR)	0.80
SCANA Corporation (NYSE-SCG)	0.70
Xcel Energy Inc. (NYSE-XEL)	0.65
Mean	0.75
Median	0.75

Data Source: *Value Line Investment Survey*, 2016.

Exhibit JRW-11
Risk Premium Approaches

	Historical Ex Post Returns	Surveys	Expected Return Models and Market Data
Means of Assessing The Market Risk Premium	Historical Average Stock Minus Bond Returns	Surveys of CFOs, Financial Forecasters, Companies, Analysts on Expected Returns and Market Risk Premiums	Use Market Prices and Market Fundamentals (such as Growth Rates) to Compute Expected Returns and Market Risk Premiums
Problems/Debated Issues	Time Variation in Required Returns, Measurement and Time Period Issues, and Biases such as Market and Company Survivorship Bias	Questions Regarding Survey Histories, Responses, and Representativeness Surveys may be Subject to Biases, such as Extrapolation	Assumptions Regarding Expectations, Especially Growth

Source: Adapted from Antti Ilmanen, Expected Returns on Stocks and Bonds," *Journal of Portfolio Management*, (Winter 2003).

Exhibit JRW-11

Capital Asset Pricing Model
Equity Risk Premium

Category	Study Authors	Publication Date	Time Period Of Study	Methodology	Return Measure	Low	High	Midpoint of Range	Mean	Median
Historical Risk Premium										
	Ibbotson	2015	1928-2014	Historical Stock Returns - Bond Returns	Arithmetic				6.00%	
					Geometric				4.40%	
	Damodaran	2015	1928-2014	Historical Stock Returns - Bond Returns	Arithmetic				6.25%	
					Geometric				4.60%	
	Dimson, Marsh, Staunton	2015	1900-2014	Historical Stock Returns - Bond Returns	Arithmetic					
					Geometric				4.40%	
	Bate	2008	1900-2007	Historical Stock Returns - Bond Returns	Geometric				4.50%	
	Shiller	2006	1926-2005	Historical Stock Returns - Bond Returns	Arithmetic				7.00%	
					Geometric				5.50%	
	Siegel	2005	1926-2005	Historical Stock Returns - Bond Returns	Arithmetic				6.10%	
					Geometric				4.60%	
	Dimson, Marsh, and Staunton	2006	1900-2005	Historical Stock Returns - Bond Returns	Arithmetic				5.50%	
	Goyal & Welch	2006	1872-2004	Historical Stock Returns - Bond Returns					4.77%	
	Median									5.14%
Ex Ante Models (Puzzle Research)										
	Claus Thomas	2001	1985-1998	Abnormal Earnings Model					3.00%	
	Arnott and Bernstein	2002	1810-2001	Fundamentals - Div Yld + Growth					2.40%	
	Constantinides	2002	1872-2000	Historical Returns & Fundamentals - P/D & P/E					6.90%	
	Cornell	1999	1926-1997	Historical Returns & Fundamental GDP/Earnings		3.50%	5.50%	4.50%	4.50%	
	Easton, Taylor, et al	2002	1981-1998	Residual Income Model					5.30%	
	Fama French	2002	1951-2000	Fundamental DCF with EPS and DPS Growth		2.55%	4.32%		3.44%	
	Harris & Marston	2001	1982-1998	Fundamental DCF with Analysts' EPS Growth					7.14%	
	Best & Byrne	2001								
	McKinsey	2002	1962-2002	Fundamental (P/E, D/P, & Earnings Growth)		3.50%	4.00%		3.75%	
	Siegel	2005	1802-2001	Historical Earnings Yield	Geometric				2.50%	
	Grabowski	2006	1926-2005	Historical and Projected		3.50%	6.00%	4.75%	4.75%	
	Maheu & McCurdy	2006	1885-2003	Historical Excess Returns, Structural Breaks,		4.02%	5.10%	4.56%	4.56%	
	Bostock	2004	1960-2002	Bond Yields, Credit Risk, and Income Volatility		3.90%	1.30%	2.60%	2.60%	
	Bakshi & Chen	2005	1982-1998	Fundamentals - Interest Rates					7.31%	
	Donaldson, Kamstra, & Kramer	2006	1952-2004	Fundamental, Dividend yld., Returns,, & Volatility		3.00%	4.00%	3.50%	3.50%	
	Campbell	2008	1982-2007	Historical & Projections (D/P & Earnings Growth)		4.10%	5.40%		4.75%	
	Best & Byrne	2001	Projection	Fundamentals - Div Yld + Growth					2.00%	
	Fernandez	2007	Projection	Required Equity Risk Premium					4.00%	
	DeLong & Magin	2008	Projection	Earnings Yield - TIPS					3.22%	
	Siegel - Rethink ERP	2011	Projection	Real Stock Returns and Components					5.50%	
	Duff & Phelps	2016	Projection	Normalized with 4.0% Long-Term Treasury Yield					5.50%	
	Mschchowski - VL - 2014	2014	Projection	Fundamentals - Expected Return Minus 10-Year Treasury Rate					5.50%	
	American Appraisal Quarterly ERP	2015	Projection	Fundamental Economic and Market Factors					6.00%	
	Damodaran	2016	Projection	Fundamentals - Implied from FCF to Equity Model					5.61%	
	Social Security									
	Office of Chief Actuary		1900-1995							
	John Campbell	2001	1860-2000	Historical & Projections (D/P & Earnings Growth)	Arithmetic	3.00%	4.00%	3.50%	3.50%	
			Projected for 75 Years		Geometric	1.50%	2.50%	2.00%	2.00%	
	Peter Diamond	2001	Projected for 75 Years	Fundamentals (D/P, GDP Growth)		3.00%	4.80%	3.90%	3.90%	
	John Shoven	2001	Projected for 75 Years	Fundamentals (D/P, P/E, GDP Growth)		3.00%	3.50%	3.25%	3.25%	
	Median									4.00%
Surveys										
	New York Fed	2015	Five-Year	Survey of Wall Street Firms					5.70%	
0	Survey of Financial Forecasters	2016	10-Year Projection	About 20 Financial Forecasters					1.90%	
	Duke - CFO Magazine Survey	2016	10-Year Projection	Approximately 500 CFOs					4.55%	
	Welch - Academics	2008	30-Year Projection	Random Academics		5.00%	5.74%	5.37%	5.37%	
	Fernandez - Academics, Analysts, and Compan	2016	Long-Term	Survey of Academics, Analysts, and Companies					5.30%	
	Median									5.30%
Building Blocks										
	Ibbotson and Chen	2015	Projection	Historical Supply Model (D/P & Earnings Growth)	Arithmetic			6.22%	5.21%	
					Geometric			4.20%		
	Chen - Rethink ERP	2010	20-Year Projection	Combination Supply Model (Historic and Projection)	Geometric				4.00%	
	Ilmanen - Rethink ERP	2010	Projection	Current Supply Model (D/P & Earnings Growth)	Geometric				3.00%	
	Grinold, Kroner, Siegel - Rethink ERP	2011	Projection	Current Supply Model (D/P & Earnings Growth)	Arithmetic			4.63%	4.12%	
					Geometric			3.60%		
	Woolridge	2015	Projection	Current Supply Model (D/P & Earnings Growth)					4.50%	
	Median									4.12%
Mean										4.64%
Median										4.63%

Exhibit JRW-11

Capital Asset Pricing Model
Equity Risk Premium

Summary of 2010-15 Equity Risk Premium Studies

Category	Study Authors	Publication Date	Time Period Of Study	Methodology	Return Measure	Range Low	High	Midpoint of Range	Mean	Average
Historical Risk Premium										
	Ibbotson	2015	1928-2014	Historical Stock Returns - Bond Returns	Arithmetic				6.00%	
					Geometric				4.40%	
	Damodaran	2015	1928-2014	Historical Stock Returns - Bond Returns	Arithmetic				6.25%	
					Geometric				4.60%	
	Dimson, Marsh, Staunton	2015	1900-2014	Historical Stock Returns - Bond Returns	Arithmetic					
					Geometric				4.40%	
	Median									5.13%
Ex Ante Models (Puzzle Research)										
	Siegel - Rethink ERP	2011	Projection	Real Stock Returns and Components					5.50%	
	Duff & Phelps	2016	Projection	Normalized with 4.0% Long-Term Treasury Yield					5.50%	
	Maohohowski - VL - 2014	2014	Projection	Fundamentals - Expected Return Minus 10-Year Treasury Rate					5.50%	
	American Appraisal Quarterly ERP	2015	Projection	Fundamental Economic and Market Factors					6.00%	
	Damodaran	2016	Projection	Fundamentals - Implied from FCF to Equity Model					5.61%	
	Median									5.50%
Surveys										
	Duarte & Rosa - NY Fed	2015	Projection	Projections from 29 Models					5.70%	
	Survey of Financial Forecasters	2016	10-Year Projection	About 20 Financial Forecasters					1.90%	
	Duke - CFO Magazine Survey	2016	10-Year Projection	Approximately 500 CFOs					4.55%	
	Fernandez - Academics, Analysts, and Companies	2016	Long-Term	Survey of Academics, Analysts, and Companies					5.30%	
	Median									4.93%
Building Blocks										
	Ibbotson and Chen	2015	Projection	Historical Supply Model (D/P & Earnings Growth)	Arithmetic			6.22%	5.21%	
					Geometric			4.20%		
	Chen - Rethink ERP	2010	20-Year Projection	Combination Supply Model (Historic and Projection)	Geometric				4.00%	
	Ilmanen - Rethink ERP	2010	Projection	Current Supply Model (D/P & Earnings Growth)	Geometric				3.00%	
	Grinold, Kroner, Siegel - Rethink ERP	2011	Projection	Current Supply Model (D/P & Earnings Growth)	Arithmetic			4.63%	4.12%	
					Geometric			3.60%		
	Woolridge	2015	Projection	Current Supply Model (D/P & Earnings Growth)	Geometric				4.50%	
	Median									4.12%
Mean										4.92%
Median										5.03%

Florida Power & Light Company

Panel A
Summary of Mr. Hevert's Constant Growth DCF Results

	Mean Low	Mean	Mean High
30-Day Average	8.61%	9.31%	10.09%
90-Day Average	8.64%	9.35%	10.12%
180-Day Average	8.72%	9.42%	10.20%

Summary of Mr. Hevert's Multi-Stage Growth DCF Results

	Mean Low	Mean	Mean High
30-Day Average	9.63%	9.84%	10.09%
90-Day Average	9.66%	9.88%	10.13%
180-Day Average	9.75%	9.96%	10.22%

Panel B
Summary of Mr. Hevert's CAPM Results

	Bloomberg Derived Market Risk Premium 10.68%	*Value Line* Derived Market Risk Premium 9.87%
Average Bloomberg Beta - 0.608		
Current 30-Year Treasury (2.96%)	9.45%	8.96%
Near-Term Projected 30-Year Treasury (4.00%)	10.50%	10.00%
Long-Term Projected 30-Year Treasury (4.80%)	11.30%	10.80%
Average Value Line Beta - 0.776		
Current 30-Year Treasury (2.96%)	11.24%	10.61%
Near-Term Projected 30-Year Treasury (4.00%)	12.29%	11.66%
Long-Term Projected 30-Year Treasury (4.80%)	13.09%	12.46%

Panel C
Summary of Mr. Hevert's Bond Yield RP Results

	Current	Near-Term	Long-Term
Long-Term Treasury Yield	2.96%	4.00%	4.80%
Risk Premium	7.08%	6.24%	5.73%
Bond Yield Plus Risk Premium	10.04%	10.24%	10.53%

Growth Rates
GDP, S&P 500 Price, EPS, and DPS

	GDP	S&P 500	Earnings	Dividends	
1960	535.1	58.11	3.10	1.98	
1961	547.6	71.55	3.37	2.04	
1962	586.9	63.10	3.67	2.15	
1963	619.3	75.02	4.13	2.35	
1964	662.9	84.75	4.76	2.58	
1965	710.7	92.43	5.30	2.83	
1966	781.9	80.33	5.41	2.88	
1967	838.2	96.47	5.46	2.98	
1968	899.3	103.86	5.72	3.04	
1969	982.3	92.06	6.10	3.24	
1970	1049.1	92.15	5.51	3.19	
1971	1119.3	102.09	5.57	3.16	
1972	1219.5	118.05	6.17	3.19	
1973	1356.0	97.55	7.96	3.61	
1974	1486.2	68.56	9.35	3.72	
1975	1610.6	90.19	7.71	3.73	
1976	1790.3	107.46	9.75	4.22	
1977	2028.4	95.10	10.87	4.86	
1978	2278.2	96.11	11.64	5.18	
1979	2570.0	107.94	14.55	5.97	
1980	2796.8	135.76	14.99	6.44	
1981	3138.4	122.55	15.18	6.83	
1982	3313.9	140.64	13.82	6.93	
1983	3541.1	164.93	13.29	7.12	
1984	3952.8	167.24	16.84	7.83	
1985	4270.4	211.28	15.68	8.20	
1986	4536.1	242.17	14.43	8.19	
1987	4781.9	247.08	16.04	9.17	
1988	5155.1	277.72	24.12	10.22	
1989	5570.0	353.40	24.32	11.73	
1990	5914.6	330.22	22.65	12.35	
1991	6110.1	417.09	19.30	12.97	
1992	6434.7	435.71	20.87	12.64	
1993	6794.9	466.45	26.90	12.69	
1994	7197.8	459.27	31.75	13.36	
1995	7583.4	615.93	37.70	14.17	
1996	7978.3	740.74	40.63	14.89	
1997	8483.2	970.43	44.09	15.52	
1998	8954.8	1229.23	44.27	16.20	
1999	9510.5	1469.25	51.68	16.71	
2000	10148.2	1320.28	56.13	16.27	
2001	10564.6	1148.09	38.85	15.74	
2002	10876.9	879.82	46.04	16.08	
2003	11332.4	1111.91	54.69	17.88	
2004	12088.6	1211.92	67.68	19.41	
2005	12888.9	1248.29	76.45	22.38	
2006	13684.7	1418.30	87.72	25.05	
2007	14322.9	1468.36	82.54	27.73	
2008	14752.4	903.25	65.39	28.05	
2009	14414.6	1115.10	59.65	22.31	
2010	14798.5	1257.64	83.66	23.12	
2011	15379.2	1257.60	97.05	26.02	Average
2012	16027.2	1426.19	102.47	30.44	
2013	16498.1	1848.36	107.45	36.28	
2014	17183.5	2058.90	113.01	39.44	
2015	17803.4	2043.94	106.32	43.16	
Growth Rates	**6.58**	**6.69**	**6.64**	**5.76**	**6.42**

Nominal GDP Growth Rates
Annual Growth Rates - 1961-2015
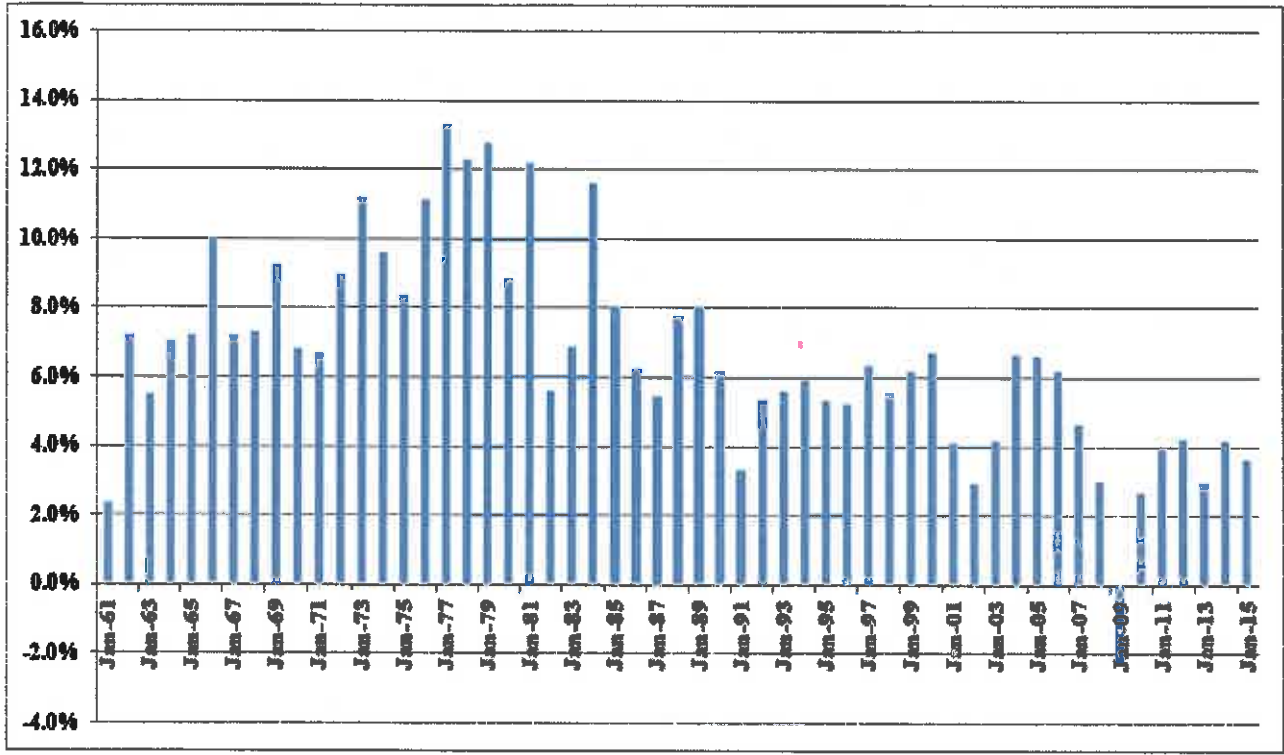
Data Sources: GDPA -http://research.stlouisfed.org/fred2/series/GDPA/downloaddata

Annual Real GDP Growth Rates
1961-2015

Data Sources: GDPC1 -http://research.stlouisfed.org/fred2/series/GDPC1/downloaddata
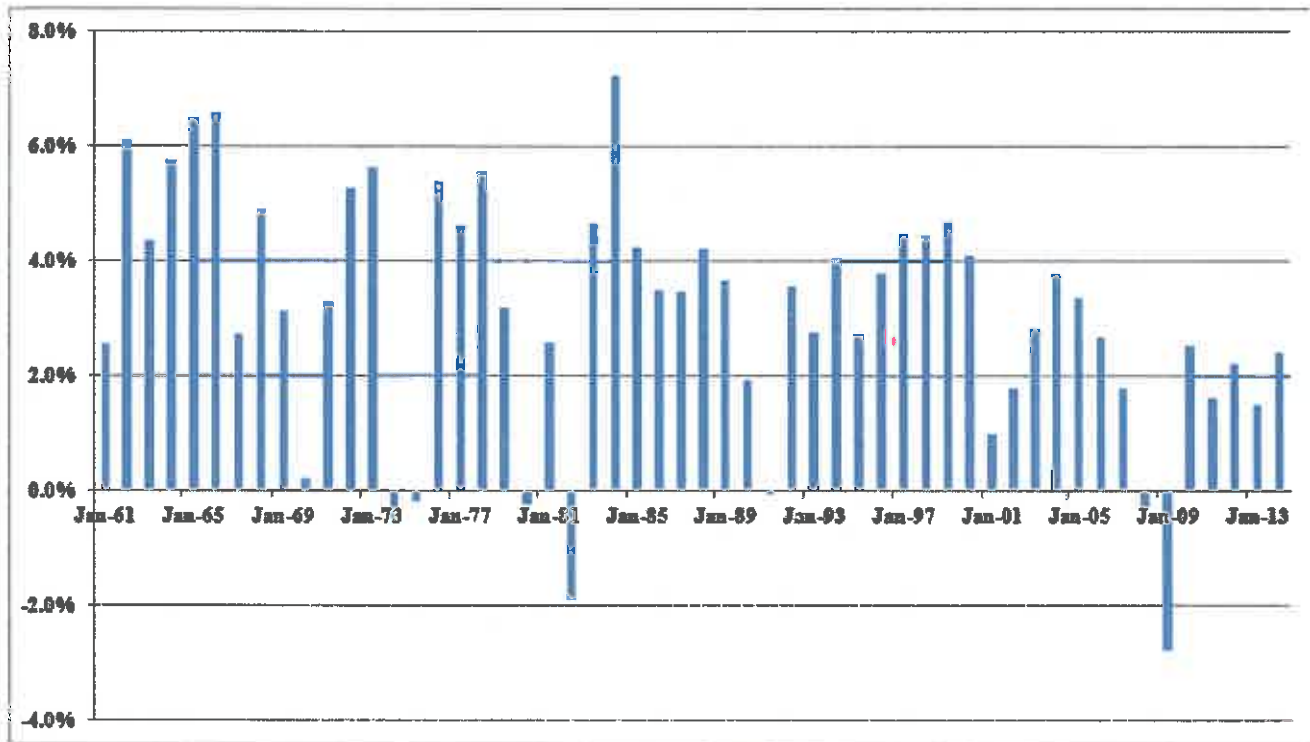
Annual Inflation Rates
1961-2015

Data Sources: CPIAUCSL -http://research.stlouisfed.org/fred2/series/CPIAUCSL/downloaddata
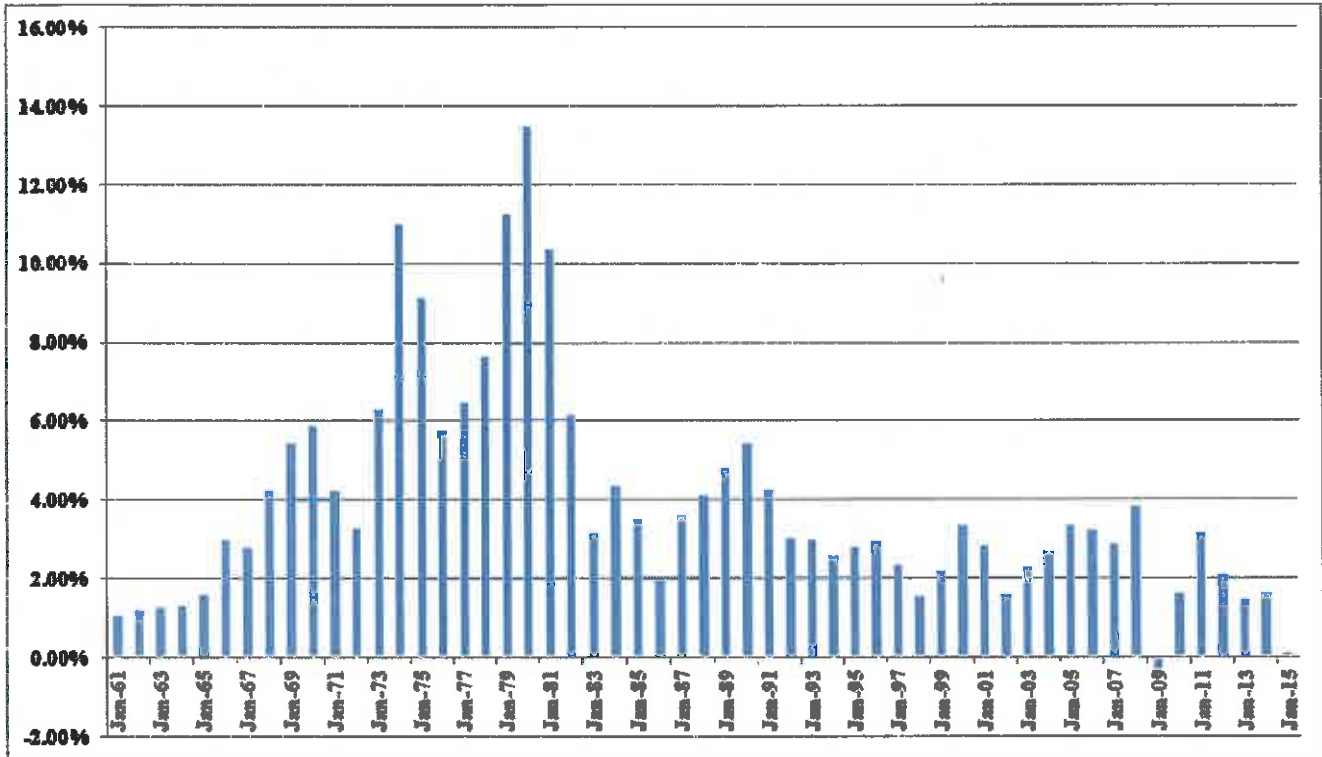
Panel A
Historic GDP Growth Rates

10-Year Average	3.28%
20-Year Average	4.36%
30-Year Average	4.87%
40-Year Average	6.19%
50-Year Average	6.65%

Calculated using GDP data on Page 1 of Exhibit JRW-13

Panel B
Projected GDP Growth Rates

|	Time Frame	Projected Nominal GDP Growth Rate
Congressional Budget Office	2015-2040	4.3%
Survey of Financial Forecasters	Ten Year	4.4%
Social Security Administration	2015-2090	4.5%
Energy Information Administration	2015-2040	4.2%

Sources:

http://www.cbo.gov/topics/budget/budget-and-economic-outlook
http://www.philadelphiafed.org/research-and-data/real-time-center/survey-of-professional-forecasters/
http://www.ssa.gov/oact/tr/2015/X1_trLOT.html
http://www.eia.gov/forecasts/aeo/tables_ref.cfm Table 20

Long-Term Growth of GDP, S&P 500, S&P 500 EPS, and S&P 500 DPS
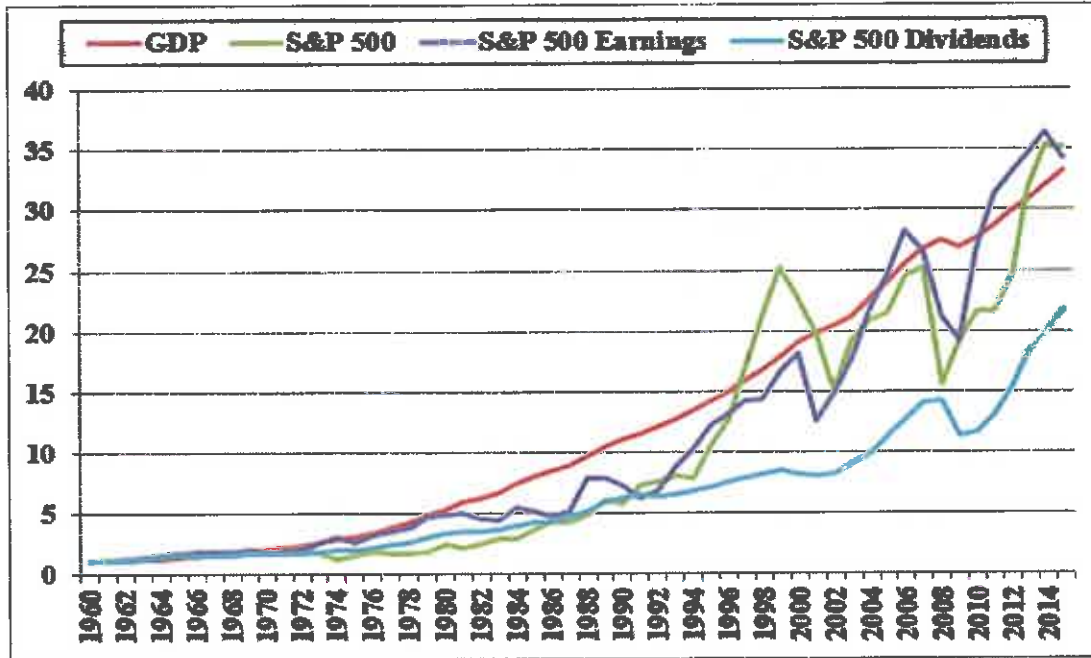
	GDP	S&P 500	S&P 500 EPS	S&P 500 DPS
Growth Rates	6.58%	6.69%	6.64%	5.76%