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**BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**

**DIRECT TESTIMONY OF JOHN W HENDRICKS**

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COMMUNICATIONS SECTION

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1 **1. INTRODUCTION**

2

3 **Q Please state your name and address.**

4 **A** My name is John W Hendricks. My address is 367 S. Shore Drive, Sarasota, FL  
5 34234.

6 **Q By whom are you employed and what is your position?**

7 **A** I am the Managing Partner of a small technology strategy consulting firm, Strategic  
8 Technologies International, LLC. In this case I am appearing to represent my own  
9 interest, as a citizen of Florida and a customer of Florida Power & Light, in securing  
10 a reasonable outcome of this rate case that will efficiently and effectively support a  
11 reliable, low cost supply of electricity for FPL customers.

12 **Q Please describe your educational background and business experience.**

13 **A** I have a B.S. degree in Electrical Engineering from the University of Texas at Austin  
14 and a M. Phil. Degree in Political Science (concentrating on planning and  
15 economics) from Yale University. My business experience includes engineering,  
16 product management and marketing in the computer industry, research on energy  
17 policy and management consulting on information technology strategy, business  
18 operations and planning.

19 **Q Are you sponsoring any exhibits in this case?**

20 **A** Yes. I am sponsoring the following exhibits.

- 21 • JWH-1 – Components of the Cost of Investor Capital
- 22 • JWH-2 – Utility Proxy Group 2D View
- 23 • JWH-3 – Utility Proxy Group with FPL & NEE N-R

- 1 • JWH-4 – Historical Utility and Treasury Bond Yields
- 2 • JWH-5 – Historical Relationship between Utility Allowed ROE and
- 3 Bond Yields
- 4 • JWH-6 – Customer View of Cost of Capital vs. Equity Percentage
- 5

6 **Q What is the purpose of your testimony?**

7 **A** The purpose of my testimony is to recommend looking at the interrelated issues of  
8 allowed return on equity (ROE) and regulatory capital structure more from a  
9 customer (ratepayer) point of view and in the context of current opportunities. This  
10 could identify outcomes that will be better for most, if not all, parties, but might not  
11 be recognized by only following the usual rate hearing routine.

12  
13 I have observed that FPL is doing a good job of modernizing its generation assets as  
14 required to deliver cost-efficient energy to Florida customers, but I am concerned  
15 that the cost of capital may make continued investments in improvements too  
16 burdensome for customers in this difficult economy. This would lead to higher costs  
17 for consumers a few years in the future and lower returns for FPL investors. Pushing  
18 hard for the most cost effective capital structure now could be worth the extra effort  
19 for all parties.

## 2. ROE AND CAPITAL STRUCTURE

1  
2 **Q Please discuss why these factors and their relationships may not be fully taken**  
3 **into account.**

4 **A** The importance of the allowed rate of return on shareholder equity (ROE) in directly  
5 driving the cost of customer bills is generally recognized, as is its role in providing  
6 the returns that make utility stocks attractive to investors. ROE is often a headline  
7 number in describing and discussing a utility rate issue. However, the importance of  
8 capital structure and other incentives as well as the relationships between all these  
9 factors is less straightforward and often difficult to visualize. Failure to take into  
10 account the impact of all these factors can lead to decisions that leave “money on the  
11 table” by failing to get the best outcomes that are feasible, given the balance being  
12 struck between, for example, the interest of customers in lower bills and the interest  
13 of stockholders in higher returns on their investments.

14 **Q How do the allowed ROE and regulatory capital structure relate to the effective**  
15 **cost of capital that drives customer bill costs?**

16 **A** Exhibit JH-1 presents a simple graphical representation of a Customer View of the  
17 cost of investor capital, assuming FPL’s proposed full rate increase. This chart  
18 shows how the proposed 11.5% full increase ROE and the approximately 60%  
19 equity ratio for investor capital would combine to create a weighted average cost of  
20 capital of about 9.1% as seen by investors. Interest payments made to debt holders  
21 are not subject to income tax (either state or federal) at the FPL level, but returns on  
22 equity are. The approximately 40% income tax rate that is built into the Revenue

1 Multiplier for equity creates an additional cost of about 4.1% to cover the income tax  
2 FPL will have to pay before providing the approved 11.5% return on equity to their  
3 investors. These components add up to about a 13.2% weighted cost of investor  
4 capital before income taxes. This is the cost of capital that drives customer bills and  
5 is labeled Customer View Total in Exhibit JWH-1.

6 **Q Does the much higher cost of equity capital mean that more debt and less equity  
7 are always better for customers?**

8 **A** No. If it were possible to just shift more capital from equity to debt without  
9 changing any of the other parameters, this would reduce costs because the debt  
10 yields are lower and debt has no income tax revenue requirement. However, since  
11 the yields on both debt and equity typically change as the capital structure and other  
12 variables change, finding the most cost effective capital structure is a more complex  
13 problem.

14 **Q Can we rely principally on general guidelines such as ‘maintaining a supportive  
15 regulatory environment’, a “strong capital structure” or an “equity cushion” to  
16 determine the appropriate capital structure?**

17 **A** No. The higher equity percentages and ROE that these objectives are often used to  
18 justify are undoubtedly attractive for utility investors and can provide utility  
19 management more flexibility for future financing, but their costs are borne by  
20 customers as substantially higher capital costs in the present. It is not reasonable for  
21 customers to accept higher capital costs now unless it can be convincingly shown  
22 that these costs (and any other disadvantages of a particular proposal) are less than  
23 the expected present value of the longer-term benefits of the proposed choice over a

1 reasonable time horizon. Many documents have been produced in this case (and I  
2 may have missed some), but I don't recall seeing any quantitative analysis that  
3 addressed the net value question for the requested combination of ROE and capital  
4 structure or compared its expected net value to alternative ROE and capital structure  
5 choices.

### 3. PROXY GROUP COMPARISONS

1  
2 **Q What about the several proxy group comparisons provided in testimony by FPL**  
3 **witness Avera?**

4 **A** The proxy group comparisons are an important source of information about market  
5 expectations at the holding company level, but the results depend on the analyst's  
6 choice of a specific set of assumptions and they only establish a range of possibly  
7 reasonable ROE and capital structure. The Avera analysis (1) uses proxy group  
8 selection criteria that impair their relevance for identifying FPL returns that are  
9 reasonable from the ratepayers' perspective, and (2) the analysis does not appear to  
10 adequately recognize the impact of interaction between ROE and investor  
11 debt/equity ratios among all operating units of each holding company in translating  
12 the results from the holding company level to the utility operating companies.

13 **Q What are the issues with the proxy group selection criteria?**

14 **A** Three out of the four utility proxy group selection criteria tend to exclude most  
15 holding companies that use lower percentages of equity capital, so it is not surprising  
16 that the utility proxy group contains companies that yield an average ROE and  
17 capital structure that is almost identical to that of NextEra Energy (NEE). These  
18 particular selection criteria and use of average comparisons almost presuppose the  
19 answer that NEE requires a continuation of its previous combination of ROE and  
20 capital structure. Most companies that use a higher debt/equity ratio are simply  
21 excluded from the proxy group by the selection criteria. This biases the range of  
22 ROE and equity percentage that are identified as "reasonable" and centers them on

1 the existing NEE position

2

3 Even with this narrow proxy group, however, we can see some interesting  
4 relationships in a two dimensional view that shows both ROE and capital structure  
5 (see Exhibit JWH-2). The “Linear Trend Line” illustrates a substantial relationship  
6 ( $R^2=0.5$ ) between the percent of common equity and ROE. As we would expect,  
7 lower ROE is associated with higher equity percentages and higher ROE with lower  
8 equity percentages. There are a few examples of holding companies with a capital  
9 structure similar that of NEE, but a substantially lower ROE. There is only one  
10 rather odd example of a company with a much lower equity percentage.

11

12 **Q What are the issues with translating between NEE and FPL requirements?**

13 **A** The second major problem with the utility proxy group analysis lies in translating the  
14 NEE equity requirements (as determined by the comparisons to other publically  
15 traded corporations selected for the proxy group) into reasonable equity requirements  
16 for FPL.

17

18 Exhibit JH-3 adds points for FPL data to the previous exhibit of holding company  
19 data. Shown are FPL (2010) (with ROE based on witness Dewhurst’s testimony,  
20 page 37, line 20) and the FPL Full Request (2013). This graph (Exhibit JH-3)  
21 illustrates how far removed the FPL capital structure is (at almost 60% equity) from  
22 that of NEE and the group average (at about 45% equity), as well as all of the  
23 individual proxy group companies.



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A proxy for the NEE Non-Regulated operations (2010) is also shown, based on their reported percent of common equity (about 24%) and an ROE calculated to yield the total NEE position. A proxy for NEE Non-Regulated operations in the case of the FPL Full Request (2013) cannot be estimated since the required data in Schedule D-2 is redacted, but the last year for which data is shown indicates that the NEE Non-Regulated operations percentage of equity was continuing to decline.

Reviewing Exhibit WEA-3 (Comparison of Proxy Group Risk Indicators), I was curious how the FPL risk data was sourced since FPL is not a publically traded company. I was surprised to find that the data in this exhibit is mislabeled (and misleading) with three of the four metrics for FPL actually reporting data for NEE, not FPL. Witness Avera does note this fact in his testimony (page 38, lines 8-10), but then proceeds to state that the comparisons in WEA-3 indicate that investors would view the firms in the proxy groups as risk-comparable to FPL (page 38, lines 11-23), and conclude “that investors would likely conclude that the overall investment risks for FPL are comparable to those of the firms in the Utility and non-Utility Proxy Groups.” (Page 39, lines 1-5).

Exhibit JWH-3 illustrates the fact that this conclusion would support an ROE in the neighborhood of the FPL full rate request of 11.5%, but paired with a common equity percentage in the neighborhood of 45%, far from the almost 60% equity requested. If the investor perceived risk for FPL is identical to that of NEE and the

1 NEE ROE is appropriate for FPL, why are different capital structures required?

2

3 **Q Why is there this apparent disconnect between the requested ROE and capital**  
4 **structure?**

5 **A** That is a difficult question because a number of complex adjustments, calculations  
6 and comparisons are involved in the FPL analysis, but one key issue appears to be  
7 developing the requested ROE primarily from holding company data (as graphed in  
8 Exhibit JWH-3 and discussed above) and developing the requested capital structure  
9 primarily from utility operating company data.

10

11 In Interrogatory No. 3 to FPL I requested data about the operating companies used in  
12 the Avera analysis, but the FPL response was that, "Dr. Avera has not compiled data  
13 regarding the allowed ROEs or embedded debt costs of the individual utility  
14 operating companies listed in Exhibit WEA-15, as this information was not  
15 necessary to support his analyses and conclusions." This implies that the allowed  
16 ROEs that were approved in combination with the regulatory capital structure at  
17 these proxy operating companies are not of any interest in determining a reasonable  
18 combination of ROE and equity percentage for FPL. This may be standard operating  
19 procedure, but it makes the analysis a black box lacking transparency. If the  
20 requested rates are reasonable, why not confirm the ROE and equity percentage  
21 requested by engaging with this rather obvious data about the proxy utility operating  
22 companies used for comparison?

23

#### 4. CURRENT FINANCIAL CONDITIONS

**Q Should the current financial conditions and those reasonably expected during the next three years or so be taken into account in assessing the reasonableness of proposed rates?**

**A** Yes. The FPL witness statements I have reviewed quite reasonably refer to difficult financial conditions and risks of future disruptions as reasons for the requested ROE and capital structure. I suggest that we also should take into account some of the historical financial trends as a context for our current conditions and those that might reasonably be expected over the next few years.

Exhibit JWH-4 shows historical data from 1974 to 2011 for average utility ROE and bond yields (sourced from Exhibit WEA-11, Page 3) and Treasury bond rates from the US Federal Reserve website. The most striking feature of this data is the long term downward trend in Treasury bond yield which has descended to historic lows this year. The Fed has also repeatedly stated they expect to have a similar policy through at least 2014, which makes it likely that Treasury yields will remain near their historic lows for several more years.

Average utility bond yields have followed long term Treasury yields down with some increase in spread over long Treasuries, but not a dramatic one. Average utility allowed ROE has trended down at a much more modest rate. FPL ROE has tended to be around a percent or so above the average. There has been a long term

1 trend for the spread between average utility bonds and average allowed ROE to  
2 widen, with an acceleration of this trend in the last several years.

3

4 **Q What are the implications of these long term financial trends for this rate case?**

5 **A** Exhibit JWH-5A isolates the average allowed ROE and utility bond yield data from  
6 the clutter of the previous chart. It clearly shows the substantial and accelerating  
7 trend for the margin of ROE over bond yield. Exhibit JWH-5B presents the utility  
8 equity premium over utility bonds as a percent of the utility bond yield. Over the last  
9 ten years or so, this premium has doubled, moving the cost of equity from being  
10 about 50% higher than the cost of debt to being about 100% higher.

11

12 With the cost of equity now averaging about twice that of debt, the incentives to  
13 reduce the percentage of equity are much higher now than they have been in the last  
14 forty years. Add to this the tax advantages of debt as illustrated in Exhibit JWH-1  
15 and the effective cost differences from the ratepayer view now approach a 3:1 ratio,  
16 which certainly should merit some consideration in determining the regulatory  
17 capital structure. The next section describes an idealized model that can illustrate the  
18 tradeoffs involved in considering alternative debt/equity ratios.

## 5. ILLUSTRATING CAPITAL STRUCTURE TRADEOFFS

**Q How can we think about quantifying some of the tradeoffs in decisions about regulatory capital structure?**

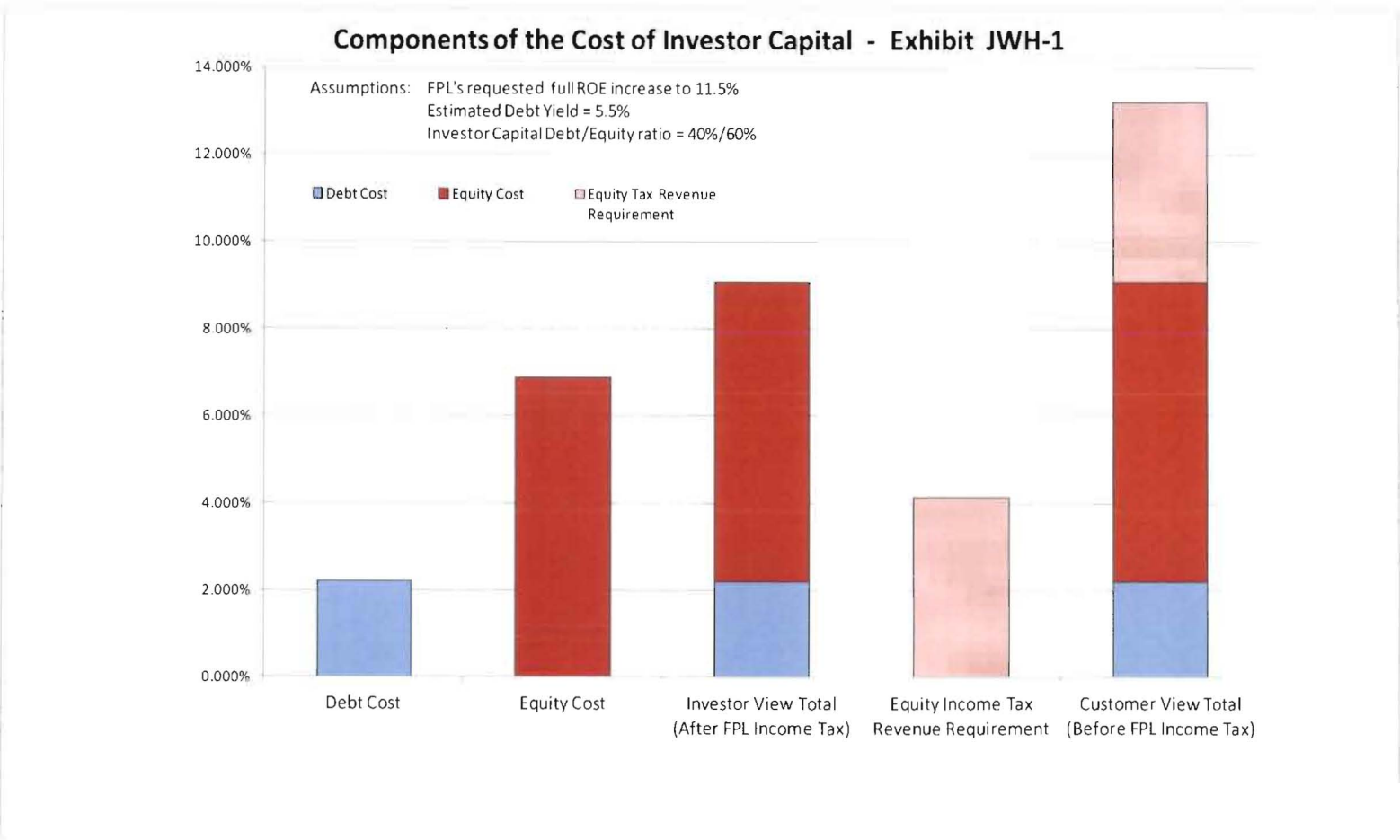
**A** I will describe a very simple model that represents some key tradeoffs based several idealized assumptions. It is not intended to be an authentic representation of the details of this case. The most important assumption is that the investor view of a capital investment (for example FPL's new Cape Canaveral plant) has a total risk that does not change with the capital structure used to finance it. If markets are efficient and investors are rational, they are not fooled by capital structure. The total cost of investor capital for a given facility will stay the same because the rates of return will change to reflect the amount of risk being shouldered by each type of investor.

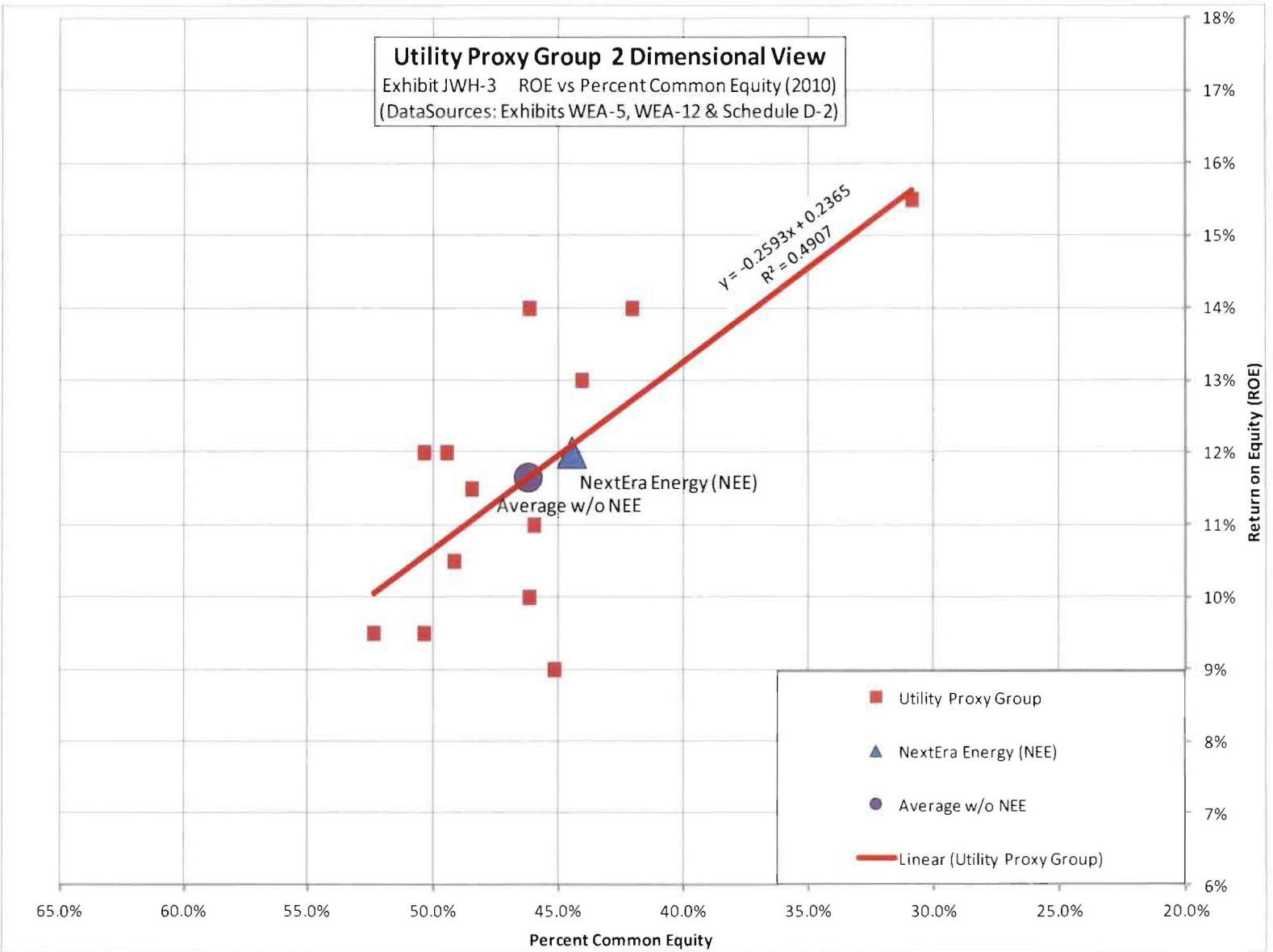
Exhibit JWH-6 shows the components of the "customer view of the cost of investor capital" assuming that the FPL requested full rate increase at a 60% equity percentage is the appropriate starting point, the increase in equity cost with increasing use of debt is quite steep and that results in a debt interest rate that is relatively flat. The investor income shifts in favor of more debt, but the total remains almost the same because the total investor risk has not changed. There is a small increase due to the assumption that the debt is long term fixed rate with a

1 much longer maturity than the equity financing (assuming 30 year debt and the  
2 equivalent fixed rate period for equity at about three years).

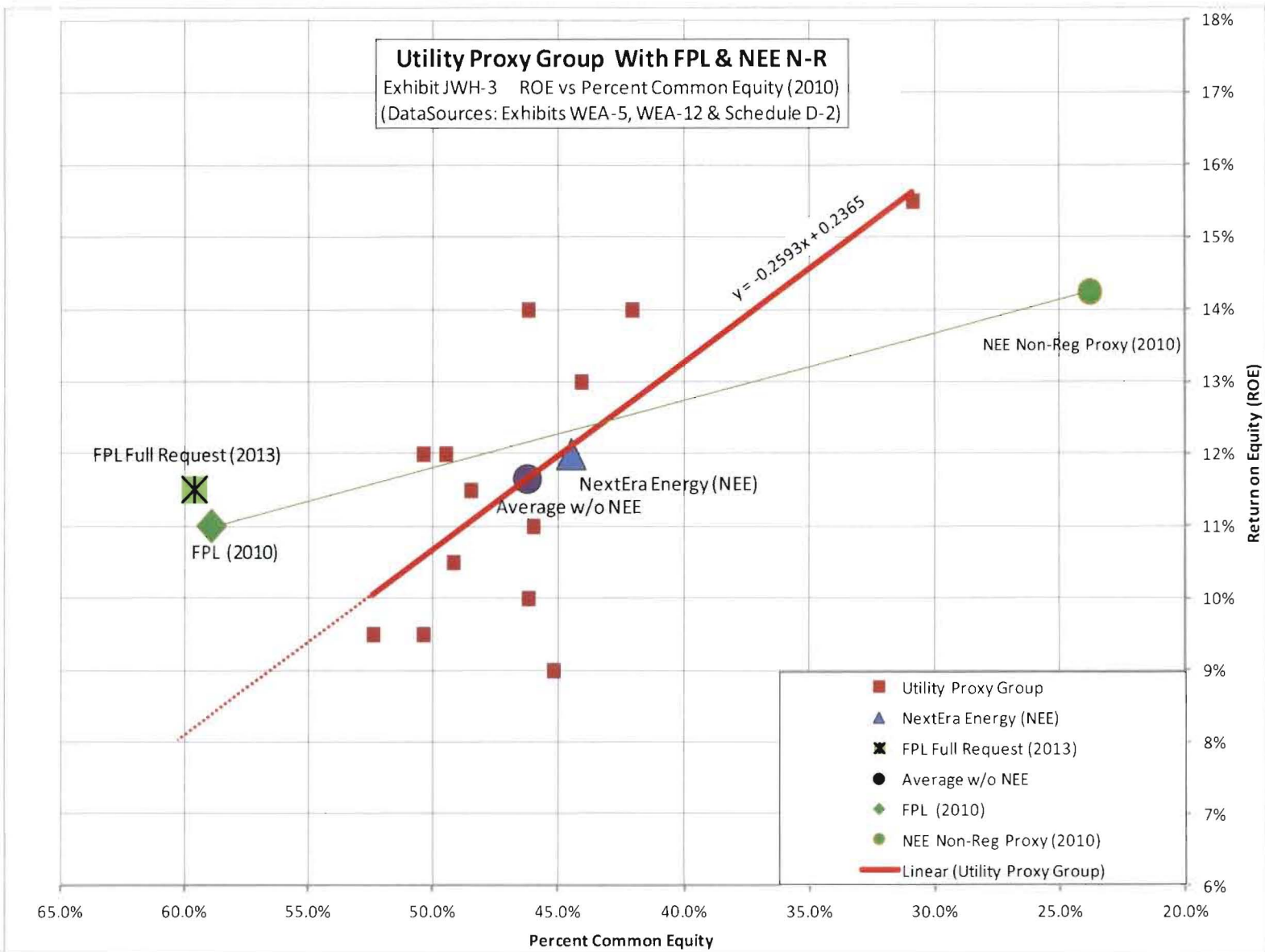
3 In this simple example the total cost of capital from the utility customer point of  
4 view is reduced by a modest, but meaningful amount for each incremental move to a  
5 lower equity percentage, due entirely to the tax advantage of debt. The savings in  
6 money sent to Washington more than makes up the added cost of the longer maturity  
7 of debt. Even more important at a time of historically low utility debt costs, the  
8 percentage of investment financed with fixed rate debt could increase from 40% to a  
9 total of 60%. Locking in a historically low fixed rate for a much larger part of the  
10 capital is a major advantage now and by most estimates this advantage will be  
11 available for new investments for at least the next several years. It removes the rate  
12 risk associated with equity and short-term debt for the life of the debt term (assumed  
13 to be 30 years, approximately the working life of many facilities). The example of a  
14 30 year fixed mortgage versus an adjustable mortgage that is at risk for periodic rate  
15 adjustments is a reasonable analogy. The historical data in Exhibit JWH-4  
16 illustrates how dramatically variable rates can change over a 30 year period.

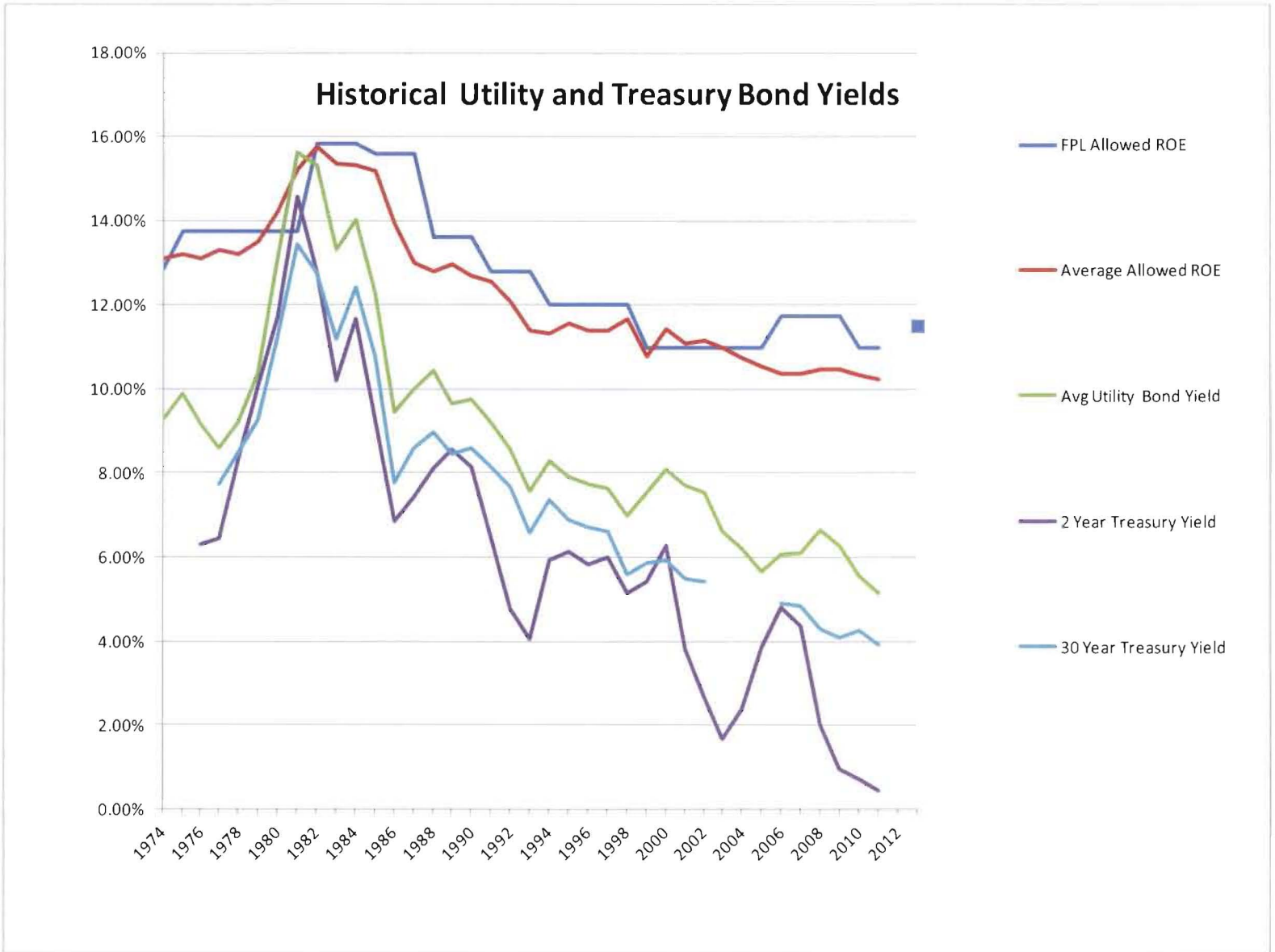
17  
18 This model illustrates the two most important advantages of using more debt  
19 financing: (1) Tax savings that arise from investors not having to compensate utility  
20 equity holders for the costs of the FPL corporate income tax and (2) locking in more  
21 fixed rate financing to replace risky variable rate equity. These factors should to be  
22 taken into account, preferably in a quantitative analysis, when considering high  
23 equity capital structures, especially with the current economic conditions.



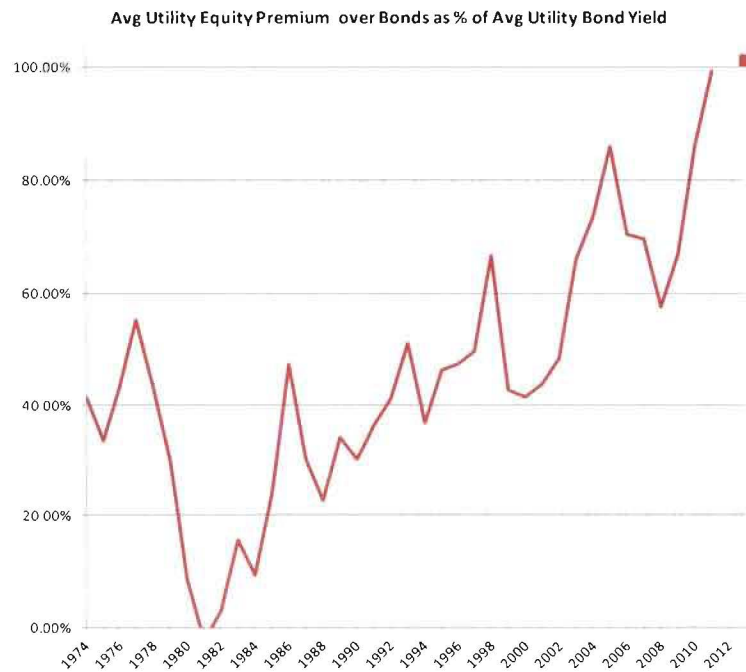
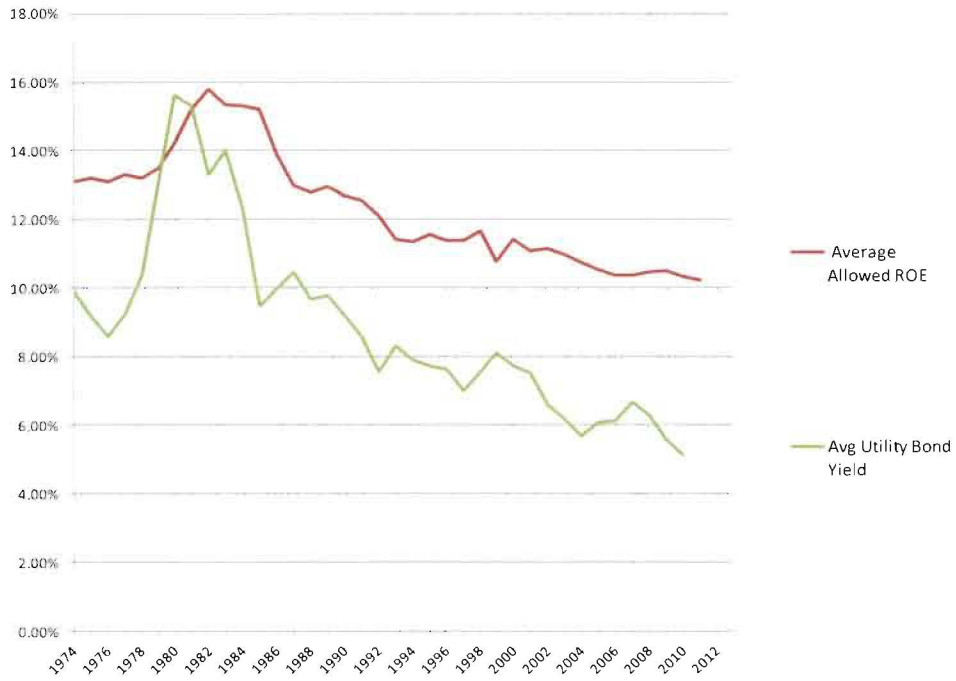


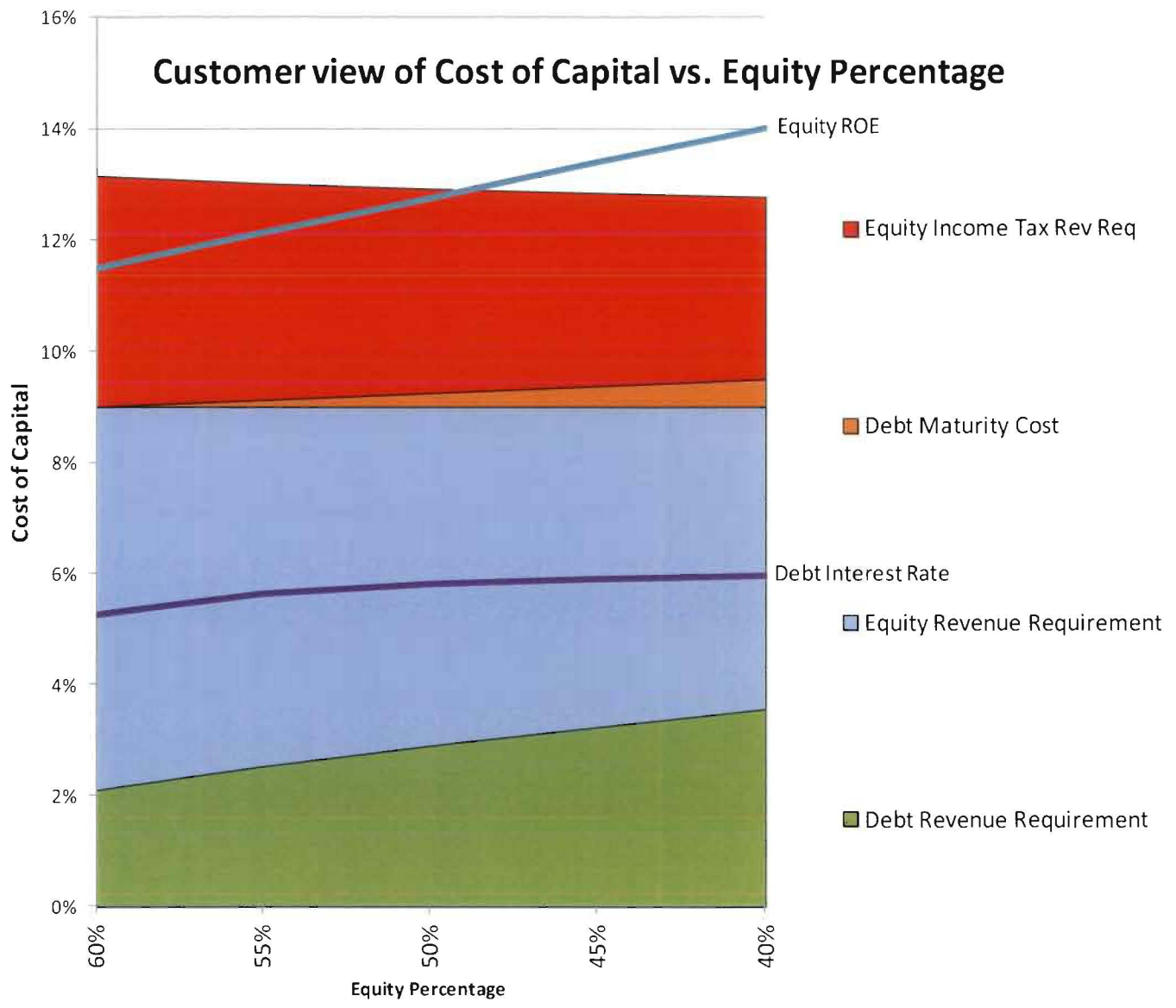






Docket No. 120015-EI  
 Historical Relationship between Utility Allowed ROE and Bond Yields  
 Exhibit JWH-5A & B







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