BEFORE THE FLORIDA
PUBLIC SERVICE COMMISSION

DOCKET NOS. 050045-EI AND 050188-EI
FLORIDA POWER & LIGHT COMPANY

JULY 28, 2005

IN RE: PETITION FOR RATE INCREASE BY FLORIDA POWER & LIGHT COMPANY
AND
IN RE: 2005 COMPREHENSIVE DEPRECIATION STUDY BY FLORIDA POWER & LIGHT COMPANY

REBUTTAL TESTIMONY & EXHIBIT OF:

WILLIAM E. AVERA

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

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INTRODUCTION

Q. Please state your name and business address.

A. William E. Avera, 3907 Red River, Austin, Texas, 78751.

Q. Did you previously submit direct testimony in this proceeding?

A. Yes, I did.

Q. What is the purpose of your rebuttal testimony in this case?

A. My purpose here is to respond to the testimony of Dr. J. Randall Woolridge, submitted on behalf of the Office of Public Counsel (OPC), Mr. Matthew I. Kahal, on behalf of the Federal Executive agencies, Mr. Richard A. Baudino, on behalf of the South Florida Hospital and Healthcare Association, and Mr. James T. Selecky, on behalf of the Commercial Group (collectively, Intervenors) concerning a fair rate of return on equity (ROE) for Florida Power & Light Company (FPL). In addition, I also respond to the capital structure recommendations of Mr. Lane Kollen, on behalf of the South Florida Hospital and Healthcare Association, and the testimony of Kimberly Dismukes, on behalf of OPC, concerning the appropriate cost of capital to determine costs charged to FPL by FiberNet.

Q. Are you sponsoring an exhibit to your rebuttal testimony?

A. Yes. I am sponsoring an exhibit consisting of one document, Document WEA-13, which is attached to my direct testimony.

Q. What is your conclusion regarding Intervenors' ROE recommendations?

A. Investors have many potential options for their funds and competition for investment dollars is intense. As documented in my rebuttal testimony, Intervenors' cost of equity recommendations are significantly downward-biased and out of touch with the requirements of real-world investors in the capital markets. Considering investors' heightened awareness of the risks associated with the utility industry, supportive regulation remains crucial to maintaining FPL's access to capital and ensuring the Company's continued ability to meet customer needs, especially considering the challenges of its growing service area. Intervenors' recommendations would compromise these regulatory objectives and deny FPL the opportunity to earn its required rate of return.

DISCOUNTED CASH FLOW MODEL

Q. What cost of equity estimates were produced by Intervenors' application of the DCF method?

A. Based on his application of the constant growth DCF model to the 21 electric utilities in my proxy group, Dr. Woolridge concluded that the cost of equity for FPL is currently 8.8%, which was equal to his recommendation in this case. Meanwhile, Mr. Kahal concluded that the results of his DCF application indicated a midpoint cost of equity of 9.5%, while Mr. Baudino based his recommended rate of return on equity of 8.70% on a range of DCF cost of equity estimates from 8.39% to 9.02%.

Q. Is it reasonable to base FPL's fair rate of return solely on the results of the DCF method, as Dr. Woolridge and Mr. Baudino recommend?

A. No. As I noted in my direct testimony, because the cost of equity is unobservable, no single method should be viewed in isolation. While the DCF model has been

routinely relied on in regulatory proceedings as one guide to investors' required return, it is a blunt tool that should never be used exclusively, and regulators have customarily considered the results of alternative approaches in determining allowed returns. The need to consider alternative methods is especially important where the results of one approach deviate significantly from cost of equity estimates produced by other applications, with risk premium methods suggesting a cost of equity far in excess of DCF values. Indeed, Mr. Baudino's alternative application of the Capital Asset Pricing Model (CAPM) resulted in indicated cost of equity estimates for his reference group of electric utilities of 11.32% and 11.55%, which he summarily rejected.

Q. Do you believe that the results of Intervenors' DCF analyses mirror investors' long-term expectations in the capital markets?

A. No. There is every indication that Intervenors' results are biased downward and fail to reflect investors' required rate of return. Short-term projected growth rates may be colored by current uncertainties regarding the near-term direction of the economy in general and the spate of challenges faced by utilities specifically. This short-term "hangover" is exemplified by Value Line, which has assigned its Utilities sector the lowest ranking of all 10 sectors it covers for year-ahead stock price performance,[1] while noting that "[t]he industry's Timeliness rank remains near the bottom of all industries we follow."[2] While this cautious outlook may be indicative of relatively

[1] The Value Line Investment Survey, *Selection & Opinion* (Feb. 11, 2005) at 1878.
[2] The Value Line Investment Survey (Apr. 1, 2005) at 695.

low near-term growth projections, it is not necessarily indicative of investors' long-term expectations for the industry.

As Dr. Woolridge correctly observed:

> [T]o best estimate the cost of common equity capital using the conventional DCF model, one must look to long-term growth rate expectations. (p. 25)

But as Mr. Kahal recognized (p. 23), "[t]here are a number of reasons why investor expectations of long-run growth could differ from the limited, five-year earnings projections from securities analysts." If the near-term earnings growth projections used to apply the DCF model do not fully reflect the long-term expectations investors have built into stock prices, the resulting cost of equity estimates will be biased downward. Mr. Kahal noted (p. 22) that "historic measures have become quite volatile in recent years and therefore provide little (or questionable) useful guidance concerning expected long-term growth trends."

Indeed, as shown on Exhibit__(JRW-7), Dr. Woolridge's DCF cost of equity recommendation was based in part on a 2.6% average historical growth rate. Combining this growth rate with Dr. Woolridge's 4.00% average dividend yield results in a cost of equity estimate based on his historical growth measures of 6.6%. Meanwhile, Moody's reported an average yield on public utility bonds of approximately 5.6 percent for May 2005,[3] with the DCF estimate implied by Dr. Woolridge's historical growth rate exceeding this threshold by about 100 basis points. Considering the risk-return tradeoff principle fundamental to financial theory, it is

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[3] Moody's Investors Service, *Credit Perspectives* (Apr. 18, 2005).

inconceivable that investors are not requiring a substantially higher rate of return for holding residual common stock, the riskiest of a utility's securities.

Q. Does the fact that analysts' projections may deviate from actual results hamper the use of earnings growth rates in applying the DCF model, as Dr. Woolridge contends (p. 56)?

A. No. In applying the DCF model to estimate the cost of equity, the only relevant growth rate is the forward-looking expectations of investors that are captured in current stock prices. Investors, just like securities analysts and others in the investment community, do not know how the future will actually turn out. They can only make investment decisions based on their best estimate of what the future holds in the way of long-term growth for a particular stock, and securities prices are constantly adjusting to reflect their assessment of available information.

The continued success of investment services such as IBES and Value Line, and the fact that projected growth rates from such sources are widely referenced, provides strong evidence that investors give considerable weight to analysts' earnings projections in forming their expectations for future growth. While the projections of securities analysts may be proven optimistic or pessimistic in hindsight, this is irrelevant in assessing the expected growth that investors have incorporated into current stock prices, and any bias in analysts' forecasts – whether pessimistic or optimistic – is irrelevant if investors share analysts' views. Earnings growth projections of security analysts provide the most frequently referenced guide to investors' views and are widely accepted in applying the DCF model. As explained in *Regulatory Finance: Utilities' Cost of Capital*:

> Because of the dominance of institutional investors and their influence on individual investors, analysts' forecasts of long-run growth rates provide a sound basis for estimating required returns. Financial analysts also exert a strong influence on the expectations of many investors who do not possess the resources to make their own forecasts, that is, they are a cause of *g* [growth]. ... Published studies in the academic literature demonstrate that growth forecasts made by securities analysts represent an appropriate source of DCF growth rates, are reasonable indicators of investor expectations and are more accurate than forecasts based on historical growth. ... Cragg and Malkiel (1982) presented detailed empirical evidence that the average analyst's expectation is more similar to expectations being reflected in the marketplace than are historical growth rates, and that they represent the best possible source of DCF growth rates.[4]

Similarly, Mr. Baudino noted in his testimony (p. 28) that "[t]he finance literature has shown that analysts' forecasts provide better predictions of future growth than do estimates based on historical growth alone," while Mr. Kahal recognized (p. 23) that earnings growth projections of securities analysts are "one particularly useful source of information on prospective growth."

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[4] Morin, Roger A., "Regulatory Finance: Utilities' Cost of Capital," Public Utilities Reports, Inc. (1994) at 154-155.

Q. What about Dr. Woolridge's contention (p. 56-60) that the analysts' earnings growth projections you used in applying the DCF model are biased?

A. First, in contrast to Dr. Woolridge's allegations, a study reported in "Analyst Forecasting Errors: Additional Evidence" found no optimistic bias in earnings projections for large firms (market capitalization of $500-$3,000 million), with data for the largest firms (market capitalization > $3,000 million) demonstrating a *pessimistic* bias.[5]

More importantly, however, any bias in analysts' forecasts – whether pessimistic or optimistic – is irrelevant if investors share analysts' views. In using the DCF model to estimate investors' required returns, the purpose is not to prejudge the accuracy or rationality of investors' growth expectations. Instead, to accurately estimate the cost of equity we must base our analyses on the growth expectations investors actually used in determining the price they are willing to pay for common stocks – even if we do not agree with their assumptions. As Robert Harris and Felicia Marston noted in their article in *Journal of Applied Finance*:

> There is very little research on the properties of five-year growth forecasts, as opposed to short-term predictions.
>
> ...Analysts' optimism, if any, is not necessarily a problem for the analysis in this paper. If investors share analysts' views, our

[5] Brown, Lawrence D., "Analyst Forecasting Errors: Additional Evidence," *Financial Analysts Journal* (November/December 1997).

procedures will still yield unbiased estimates of required returns and risk premia.[6]

Dr. Woolridge's figures and graphs notwithstanding, the earnings growth projections of security analysts provide the most frequently referenced guide to the views of real-world investors in the capital markets. As a result, Dr. Woolridge's criticism of the use of analysts' growth rates in applying the DCF model lacks any meaningful foundation.

Q. Did Dr. Woolridge provide any support for his allegation that Value Line forecasts are "upward biased" (p. 60)?

A. No. After noting that he was unaware of any studies to support his conclusion, Dr. Woolridge simply asserted his personal belief that Value Line projections are "inflated and unrealistic." But Dr. Woolridge's personal opinions are irrelevant to a determination of what investors expect and, contrary to his conclusion, Value Line is a well-recognized source in the investment and regulatory communities. Given the fact that Value Line is perhaps the most widely available source of information on common stocks, the projections of Value Line analysts provide an important guide to investors' expectations. Moreover, in contrast to Dr. Woolridge's unsupported assertion, the fact that Value Line is not engaged in investment banking or other relationships with the companies that it follows reinforces its impartiality in the minds of investors.

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[6] Harris, Robert S. and Marston, Felicia C., "The Market Risk Premium: Expectational Estimates Using Analysts' Forecasts," *Journal of Applied Finance* 11 (2001) at 8.

Q. Is there a downward bias inherent in Intervenors' application of the DCF model based on the internal, br+sv growth rate?

A. Yes. Dr. Woolridge and Mr. Baudino based their calculation of the internal, "br" growth rate on projection from Value Line, which reports end-of-period results. If the rate of return, or "r" component of the "br" growth rate is based on end-of-year book values, such as those reported by Value Line, it will understate actual returns because of growth in common equity over the year. This downward bias, which has been recognized by regulators,[7] is illustrated in the table below.

Consider a hypothetical firm that begins the year with a net book value of common equity of $100. During the year the firm earns $15 and pays out $5 in dividends, with the ending net book value being $110. Using the year-end book value of $110 to calculate the rate of return produces an "r" of 13.6 percent. As the Federal Energy Regulatory Commission (FERC) recognized, however, this year-end return "must be adjusted by the growth in common equity for the period to derive an average yearly return."[8] In the example below, this can be accomplished by using the *average* net book value over the year ($105) to compute the rate of return, which results in a value for "r" of 14.3 percent. Use of the average rate of return over the year is consistent with the theory underlying this approach to estimating investors' growth expectations, and as illustrated below, it can have a significant impact on the calculated br+sv growth rate:

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[7] See, *e.g.*, *Southern California Edison Company,* Opinion No. 445 (Jul. 26, 2000), 92 FERC ¶ 61,070.

[8] *Id.*

Beginning Net Book Value	$100
Earnings	
Dividends	
Retained Earnings	$ 10
Ending Net Book Value	$110
"br" Growth – End of Year	
Earnings	$ 15
Book Value	$110
"r"	13.6%
"b"	66.7%
"br" Growth	**9.1%**
"br" Growth – Average	
Earnings	$ 15
Book Value	$105
"r"	14.3%
"b"	66.7%
"br" Growth	**9.5%**

Because Dr. Woolridge and Mr. Baudino did not adjust to account for this reality in their analysis, their "br" growth rates are downward-biased and the resulting DCF cost of equity is understated.

Q. What other consideration leads to a downward bias in Intervenors' DCF analyses using internal, "br" growth?

A. Intervenors failed to consider the impact of additional issuances of common stock in their analysis of the internal growth rate. As discussed in my direct testimony (p. 40) under DCF theory, the "sv" factor is a component of the growth rate designed to capture the impact of issuing new common stock at a price above, or below, book value. As noted by Myron J. Gordon in his 1974 study:

> When a new issue is sold at a price per share P = E, the equity of the new shareholders in the firm is equal to the funds they contribute, and the equity of the existing shareholders is not changed. However, if P > E, part of the funds raised accrues to the existing shareholders.

> Specifically...[v] is the fraction of the funds raised by the sale of stock that increases the book value of the existing shareholders' common equity. Also, "v" is the fraction of earnings and dividends generated by the new funds that accrues to the existing shareholders.[9]

In other words, the "sv" factor is an adjustment required by the DCF approach to ensure that the growth rate "g" is properly calculated for firms that plan to issue new common stock in the coming years. Ignoring these planned stock issues that are projected by Value Line distorts internal growth rates since investors using Value Line would incorporate the impact of future stock issues in making their assessment of the growth they expect when they purchase the company's common stock.

Q. Did Intervenors adequately recognize the importance associated with reliance on multiple methods and approaches in estimating the cost of equity?

A. No. Apart from applications of the CAPM approach, which I address subsequently, Intervenors' ignored the results of other risk premium methods to check or validate their results. And even though Dr. Woolridge and Mr. Baudino apply the CAPM, their recommendations were based only on the results of the constant growth DCF model. As I explained in my direct testimony, however, no single method or model should be relied upon to determine a utility's cost of equity because no single approach can be regarded as wholly reliable. Considering the results of alternative methods and approaches provides greater confidence that the end result is reflective of investors' required rate of return. *Regulatory Finance: Utilities' Cost of Capital* (Public Utilities Reports, Inc., 1994) concluded that:

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[9] Gordon, Myron J., "The Cost of Capital to a Public Utility," MSU Public Utilities Studies (1974), at 31 –32.

When measuring equity costs, which essentially deal with the measurement of investor expectations, no one single methodology provides a foolproof panacea. If the cost of equity estimation process is limited to one methodology, such as DCF, it may severely bias the results. (p. 238)

Q. Do the results of alternative methods support Intervenors' cost of equity recommendations in this case?

A. No. Even without incorporating expectations for higher interest rates, as noted in my direct testimony, application of the risk premium approach based on allowed rates of return for electric utilities resulted in a current cost of equity of 10.6% (p. 45), while applying the CAPM based on forward-looking expectations that are more consistent with the underlying theory of this approach produced an estimated cost of equity of 11.8 percent (p. 49). Similarly, Mr. Baudino concluded that the CAPM approach implied a cost of equity for FPL on the order of 11.32% to 11.55% (p. 38). These estimates confirm the downward bias present in Intervenors' DCF results.

Q. What other evidence indicates that Intervenors' cost of equity recommendations for FPL are biased downward?

A. Reference to allowed rates of return for other utilities also provides further confirmation that Intervenors' recommendations fall significantly short of a reasonable rate of return. The rates of return on common equity authorized electric utilities by regulatory commissions across the U.S. are compiled by Regulatory Research Associates (RRA) and published in its *Regulatory Focus* report. RRA reported average authorized ROEs of 10.91 and 10.36 percent for electric utilities for the fourth quarter of 2004 and first half of 2005, respectively. Meanwhile, Mr.

Selecky noted (p. 5) that the average return authorized for electric utilities in 2004 was 10.7%. These recent authorized returns exceed Intervenors' recommendations by 100 to 200 basis points.

Reference to rates of return available from alternative investments of comparable risk can also provide a useful guideline in assessing the return necessary to assure confidence in the financial integrity of a firm and its ability to attract capital. This comparable earnings approach is consistent with the economic underpinnings for a fair rate of return established by the Supreme Court. Moreover, it avoids the complexities and limitations of capital market methods and instead focuses on the returns earned on book equity, which are readily available to investors. The most recent edition of Value Line (July 1, 2005) reports that its analysts expect an average rate of return on common equity for the electric utility industry of 11.5% over its three-to-five year forecast horizon. Even Dr. Woolridge was forced to grant (p. 48) that his recommendation "is low by historic standards."

Q. Did Mr. Selecky conduct any independent analyses of the cost of equity to FPL?

A. No. While Mr. Selecky implied (p. 5) that FPL's requested ROE was "excessive," he conducted no independent analyses or research to estimate investors' required rate of return. Rather, Mr. Selecky merely observed that FPL's request exceeded recent authorized returns. I agree that authorized rates of return can provide a meaningful benchmark in evaluating investors' required rates of return; however, the study that was included as Document WEA-6 to my direct testimony presents a comprehensive evaluation of this information, with the results supporting my recommendations and conclusions.

Q. Do Intervenors present any meaningful evidence that would warrant their decision to ignore the results of alternative approaches to estimate the cost of equity?

A. No. Dr. Woolridge argues (p. 32) that the CAPM is "difficult to measure because it requires an estimate of the expected return on the market." Similarly, Mr. Baudino observes (pp. 34-35) that applying the CAPM requires "a considerable amount of judgment," which "can significantly influence the results." Of course, this comes as no surprise given that investors' expectations and their required rate of return are both unobservable. In fact, the very same criticisms can be leveled at the DCF model, which requires an estimate of investors' growth expectations and the exercise of considerable judgment in order to estimate the cost of equity. The fact that risk premium methods, like the DCF model, require estimates and cannot be applied in a mechanical manner provides no basis to ignore these widely-recognized approaches to estimate the cost of equity.

Q. Do you agree with the assertions of Mr. Baudino and Mr. Kahal that certain companies should be excluded from your proxy group?

A. No. While Dr. Woolridge adopted my proxy group for purposes of his analysis, Mr. Baudino argued that certain companies should be dropped, largely based on subjective arguments concerning the impact of non-regulated operations. Similarly, Mr. Kahal argued for the elimination of companies based on an assessment of the degree of regulatory restructuring at the retail level. However, neither witness demonstrated how their subjective criteria translate into differences in the investment risks perceived by investors. Moreover, there are significant errors and

inconsistencies associated with their approach that justify rejecting their proxy groups altogether.

Q. Did Mr. Baudino and Mr. Kahal demonstrate a nexus between the subjective criteria they used to define their proxy groups and objective measures of investment risk?

A. No. Under the regulatory standards established by *Hope* and *Bluefield*, the salient criteria in establishing a meaningful proxy group to estimate investors' required return is relative risk, not the source of the revenue stream or the degree of regulatory restructuring. As Mr. Baudino correctly recognized (p. 17):

> The key element in deciding whether to invest, however, is based on comparative levels of risk. One hypothetical investor would not invest in a particular electric company stock if it offered a return lower than other investments of similar risk.

Neither Mr. Baudino nor Mr. Kahal presented any evidence that there is a connection between the subjective criteria that they employed and the views of real-world investors in the capital markets.

Q. What objective evidence can be evaluated to confirm the conclusion that these subjective criteria are not synonymous with comparable risk in the minds of investors?

A. Bond ratings are perhaps the most objective guide to utilities' overall investment risks and they are widely cited in the investment community and referenced by investors. While the bond rating agencies are primarily focused on the risk of default associated with the firm's debt securities, bond ratings and the risks of common stock are closely related. As noted in Regulatory Finance: Utilities' Cost of Capital:

> Concrete evidence supporting the relationship between bond ratings and the quality of a security is abundant. ... The strong association between bond ratings and equity risk premiums is well documented in a study by Brigham and Shome (1982).[10]

Indeed, Mr. Baudino stated (p. 19) that:

> Bond ratings are another good tool that investors may utilize to determine the risk comparability of firms.

While credit ratings provide the most widely referenced benchmark for investment risks, other quality rankings published by investment advisory services and rating agencies also provide relative assessments of risk that are considered by investors in forming their expectations. For example, Value Line's Safety Rank, which ranges from "1" (Safest) to "5" (Riskiest), is intended to capture the total risk of a stock, and incorporates elements of stock price stability and financial strength. Mr. Baudino (p. 19) characterized the Safety Rank as "[o]ne of the best-known and most widely available" measures of investment risk.

As I noted in my direct testimony (p. 33), my proxy group of 21 electric utilities had corporate credit ratings of "BBB+" or above, with an average rating of single-A. As shown in the table below, credit ratings assigned to the nine utilities excluded by Mr. Baudino based on his revenue test ranged from "BBB" to "A", while the Safety Rank ranged from "1" to "3":

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[10] Morin, Roger A., "Regulatory Finance: Utilities' Cost of Capital," *Public Utility Reports* (1994) at 81.

Group	S&P Credit Rating Higher Risk	S&P Credit Rating Lower Risk	Value Line Safety Higher Risk	Value Line Safety Lower Risk
Excluded by Baudino (Revenue)	BBB	A	3	1
Baudino Proxy Group	BBB+	A	3	1

As shown in the table above, a comparison of these objective risk indicators demonstrates that the range of risks for the companies eliminated under the subjective criteria proposed by Mr. Baudino are virtually identical to measures for the companies included in their proxy groups.

Q. What do you conclude from the analysis of different independent, objective risk factors used by the investment community?

A. Contrary to the allegations of Mr. Baudino, comparisons of objective, published indicators that incorporate consideration of a broad spectrum of risks, confirm that there is no link between the subjective test he applied to define his proxy groups and the risk perceptions of investors. Similarly, Mr. Kahal has presented no evidence to demonstrate any link between his proxy group criteria and investment risk.

Q. What errors and inconsistencies are associated with the proxy groups proposed by Mr. Baudino and Mr. Kahal?

A. While Mr. Baudino proposes to eliminate nine companies from my proxy group based on the proportion of revenues from regulated utility operations, many of the figures he relied on to make this discrimination are incorrect. For example, DTE Energy reported in its 2004 Form-10K report (Note 16) that operating revenues from "utility" sources totaled approximately $5.3 billion, or 75% of total operating revenues of $7.1 billion – not the 18% relied on by Mr. Baudino. Meanwhile, SCANA reported that revenues from its regulated electric utility, gas distribution, and gas transmission

operations totaled $2.8 billion in 2004, or 72% of total consolidated revenues of $3.9 billion (2004 Form 10-K at Note 11), while Sempra Energy recorded revenues from regulated utility operations of approximately $6.3 billion during 2004, or 67% of total revenues of $9.4 billion (2004 Form-10K Report at Note 17). Meanwhile, Mr. Baudino erroneously reported that regulated revenues for SCANA and Sempra Energy amounted to 43% and 48% of total revenues, respectively. Similarly, Vectren Corporation's utility group posted 2004 revenues of $1.5 billion, or 88% of the $1.7 billion in total revenues (2004 Form-10K at Note 16), while Mr. Baudino mistakenly claimed that regulated revenues amounted to only 22%. Thus, even accepting his erroneous revenue criteria, Mr. Baudino should not have excluded DTE Energy, SCANA, Sempra Energy, and Vectren Corporation.

Q. Apart from these errors are there problems associated with the revenue criteria proposed by Mr. Baudino?

A. Yes. Due to differences in business segment definition and reporting between utilities, it is often impossible to accurately apportion financial measures, such as total revenues, between utility and non-utility sources. Consider the example of OGE Energy, which Mr. Baudino argued should be excluded from the proxy group. OGE Energy classifies its operations into two primary segments – Electric Utility and Natural Gas Pipeline, with revenues attributable to the electric utility segment accounting for approximately 32% of consolidated revenues in 2004 (Form 10-K at Note 16). However, this does not present an accurate picture of "revenues coming from regulated utility operations" because a portion of the revenues included in the Natural Gas Pipeline segment also relate to rate regulated operations. As ONG Energy reported to investors in its 2004 Form-10K:

> The operations of the Natural Gas Pipeline segment are conducted through Enogex Inc. and its subsidiaries ("Enogex") and consist of three related businesses: (i) the transportation and storage of natural gas, (ii) the gathering and processing of natural gas and (iii) the marketing of natural gas. ... Enogex also owns a controlling interest in and operates Ozark Gas Transmission, L.L.C. ("Ozark"), a FERC regulated interstate pipeline that extends from southeast Oklahoma through Arkansas to southeast Missouri.

As a result, even ignoring the fact that there is no clear link between the source of a utility's revenues and investors' risk perceptions, it is not possible to accurately apply Mr. Baudino's criteria.

Q. What other inconsistencies argue for rejecting the proxy groups proposed by Mr. Baudino and Mr. Kahal?

A. Not surprisingly, the result of the subjective criteria proposed by Mr. Baudino and Mr. Kahal is a hodgepodge of conflicting recommendations as to what constitutes a "comparable" utility. For example, Mr. Baudino rejects SCANA, Vectren Corporation, and WPS Resources from consideration, while Mr. Kahal includes all of these firms in his proposed proxy group. Meanwhile, Mr. Baudino asserts (p. 26) that the bond ratings of the firms in his proxy group are comparable to FPL, while Mr. Kahal ignores credit ratings altogether. Indeed, one of the companies that Mr. Kahal includes in his proxy group – Westar Energy – is actually rated "BB+" by S&P. While Westar Energy has recently made progress in improving its finances, this below investment grade credit rating places it in the same category as speculative grade, or "junk" securities. Aside from the fact that Westar's credit rating is not at all

comparable to FPL, the disruptions that accompany a speculative grade rating can hinder the application of quantitative methods, such as the DCF model, to estimate investors' required return. Given these errors and inconsistencies, the proxy groups proposed by Mr. Baudino and Mr. Kahal should be rejected.

RISK PREMIUM

Q. What is the fundamental problem associated with Dr. Woolridge's approach to applying the CAPM?

A. Like the DCF model, the CAPM is an *ex-ante,* or forward-looking model based on expectations of the future. As a result, in order to produce a meaningful estimate of investors' required rate of return the CAPM must be applied using data that reflects the expectations of actual investors in the market. However, while Dr. Woolridge concluded (p. 64-65) that "historic data does not provide a realistic or accurate barometer of expectations of the future," his application of the CAPM method was entirely premised on *historical* – not projected – rates of return. By failing to look directly at the returns investors are currently requiring in the capital markets, as I did on Document WEA-9, Dr. Woolridge's CAPM estimate significantly understates investors' required rate of return.

Q. Is there anything forward-looking about the academic studies referenced by Dr. Woolridge?

A. No. As Dr. Woolridge explained (p. 44), his CAPM analysis was based in part on a 4.0 percent risk premium determined from his review of an August 2003 working paper that summarized the risk premiums reported in various academic studies. Rather than looking directly at the returns investors might currently be requiring in

the capital markets, Dr. Woolridge predicated his CAPM study on a summary of *historical* results from selected studies reported in the academic and trade literature.

These selected studies do not examine the forward-looking expectations of today's investors to estimate the required market rate of return in current capital markets. Instead of directly considering requirements in today's capital markets, Dr. Woolridge is implicitly asserting that events and expectations for the time periods covered by these selected studies are more representative of what is likely to occur going forward. This assertion runs counter to the assumptions underlying the use of the CAPM to estimate investors' required return. The primacy of current expectations was recognized by Ibbotson Associates in their *2003 Yearbook, Valuation Edition*:

> The cost of capital is always an expectational or forward-looking concept. While the past performance of an investment and other historical information can be good guides and are often used to estimate the required rate of return on capital, the expectations of future events are the only factors that actually determine cost of capital. (p. 23)

Moreover, even if historical studies were relevant in this context, there are any number of other such studies of equity risk premiums published in academic journals that imply required rates of return considerably in excess of those relied on by Dr. Woolridge. For example, a study reported in the *Financial Analysts' Journal* noted that the real risk premium for U.S. stocks averaged 6.9 percent over the period 1889 through 2000 and concluded that:

> Over the long term, the equity risk premium is likely to be similar to what is has been in the past and returns to investment in equity will

continue to substantially dominate returns to investments in T-bills for investors with a long planning horizon.[11]

Combining this 6.9% risk premium with a 3.0% inflation rate and Dr. Woolridge's 4.50% risk-free rate implies a current required rate of return on equity for the market as a whole of 14.4% – far in excess Dr. Woolridge's 8.2%, computed as the sum of his 3.7% market risk premium and 4.5% risk-free rate (p. 44).

Q. Do the results of the underlying equity risk premium studies relied on by Dr. Woolridge all make economic sense?

A. No. In fact, three of the studies included on Exhibit __ (JRW-8) as support for Dr. Woolridge's CAPM analysis reported *negative* equity risk premiums. In other words, these studies apparently concluded that investors' required rate of return on common stocks was *below* the return on risk-free debt. Similarly, other historical studies included in Dr. Woolridge's assessment found market equity risk premiums of 3.0% or below. But multiplying a market equity risk premium of 3.0% by Dr. Woolridge's beta of 0.78 for the electric utility proxy group, and combining the resulting 2.34% risk premium with his 4.5% risk-free rate, results in an indicated cost of equity of approximately 6.8%. By any objective measure, such results fall woefully short of required returns from an investment in common equity and confirm that Dr. Woolridge's CAPM cost of equity has little relation to the expectation of real-world investors.

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[11] Mehra, Ranjnish, "The Equity Premium: Why Is It a Puzzle?", *Financial Analysts' Journal* (January/February 2003).

Q. Are the results of Dr. Woolridge's "building block" approach (pp. 36-43) any more indicative of forward-looking, *ex-ante* expectations?

A. No. Dr. Woolridge noted (p. 32-33) that historical results are not the same as future expectations, and that the risk premium approach – including the CAPM – should be applied using forward-looking information. Meanwhile, Dr. Woolridge applied his "building block" approach based on backward-looking, historical data for certain key variables. For example, Dr. Woolridge noted (p. 41) that the "RG" component of his estimated market return was based on "the average of the *historic* S&P EPS real growth and the *historic* real GDP growth." Similarly, his conclusion that investors would not expect any further increases in the P/E ratios of common stocks going forward was based largely on his review of P/E ratios for the S&P 500 over the last 25 years (p. 41-42).

Q. What evidence demonstrates that Dr. Woolridge's "building block" approach rests on a weak foundation?

A. Dr. Woolridge based his "building block" analysis of the market equity risk premium on an article by Roger G. Ibbotson and Peng Chen, published in *Financial Analysts' Journal* ["Long-Run Stock Returns: Participating in the Real Economy," January/February 2003]. But Dr. Woolridge's conclusions differ markedly from those of the article on which his "building blocks" approach was based. Based on the results of their study, Ibbotson and Chen concluded that:

> Our forecast of the equity risk premium is only slightly lower than the pure historical return estimate. We estimate the expected long-term equity risk premium ... to be about 6 percentage points arithmetically... (p. 88)

Meanwhile, Dr. Woolridge asserted that the methods outlined by Ibbotson and Chen currently suggest a market risk premium of 3.4%. In other words, Dr. Woolridge is contending that the market equity risk premium has decreased by approximately 2.6% -- a decline of over 43% -- since the time Ibbotson and Chen published their study in early 2003. Of course, there is no underlying capital market evidence for such a tremendous shift in the market equity risk premium. The fact that the results of Dr. Woolridge's "building blocks" approach cannot be reconciled to observable capital market trends or the results of the study on which it was based demonstrate the fatal flaws inherent in his method.

Q. Does the *Survey of Professional Forecasters*, cited repeatedly by Woolridge (p. 39, 41, 43, 74), provide any meaningful corroboration or guidance as to investors' required rate of return?

A. No. The *Survey of Professional Forecasters* is not an investment advisory publication; nor is this report focused on serving as a resource for stock market investors. Rather, this survey primarily targets broad indicators of macroeconomic performance, such as GDP and its components, unemployment rates, industrial production, and inflation. While the survey may provide a useful resource for policymakers and in general business planning, it is not widely referenced by investment professionals as a guide to stock market performance or routinely used in estimating investors' required rate of return.

Indeed, as Dr. Woolridge notes at pages 45-46, the *Survey of Professional Forecasters* apparently predicts that equity returns will exceed the yields on 10-year Treasury bonds by 200 basis points. But with 10-year Treasuries yielding an average of 4.13 percent in May 2005 (Moody's Credit Perspectives, June 20, 2005), this

implies an expected return on the S&P 500 of 6.13 percent under Dr. Woolridge's paradigm. Meanwhile, Moody's reported that the average yield on triple-B corporate bonds was 6.05 percent during May 2005 (Credit Perspectives, June 20, 2005 at 63). Why would rational investors buy a basket of common stocks, and assume all the inherent risk, when they could earn almost the same expected return with certainty by buying a bond? The answer, of course, is that rational investors would not. Considering that this return falls over 250 basis points below even Dr. Woolridge's meager 8.80 percent cost of equity recommendation for an electric utility, it is clearly nonsensical.

Q. Do the risk premiums "of leading investment firms" cited by Dr. Woolridge at pages 44-45 provide any support for his conclusions?

A. No. Like the data from the *Survey of Professional Forecasters*, these observations provide no meaningful guidance as to a fair rate of return for FPL. Dr. Woolridge cites a market risk premium "in the 2.0 to 3.0 percent range" (p. 45) based on his two selected sources. Multiplying the 2.5% midpoint of this range by Dr. Woolridge's beta value of 0.78, and then adding the resulting 1.95% risk premium to his 4.5% risk free rate, results in an implied cost of equity for an electric utility of 6.45%. In light of the yields available on long-term debt and recent authorized rates of return, plain common sense tells us that this result is simply meaningless. Rather than confirming Dr. Woolridge's testimony, it provides one more indication of just how far his analyses and opinions are from those of investors in the capital markets.

Q. What about Dr. Woolridge's reference to the risk premiums of "leading consulting firms" (p. 46)?

A. Dr. Woolridge's reference to a 2002 Mckinsey & Co. study demonstrates the fallacy of his focus on selected historical information to apply the CAPM. As Dr. Woolridge noted, in an effort to explain their observations regarding the behavior of equity risk premiums, McKinsey & Co. concluded that equities had not become less risky. Rather, they surmised that investors' required returns on government bonds had increased due to concerns over the potential impacts of "inflation shocks." Over the past several years, however, long-term government bonds have been largely viewed as a safe haven as stock market volatility and a resulting "flight to quality" drove bond yields steadily lower. While investors recognize the potential for inflation to increase as the economy strengthens, there is no evidence that an anticipated "inflation shock" similar to those of the 1970s has led to a secular decline in the equity risk premium going forward. As Dr. Woolridge noted:

> The equity risk premium is based on expectations of the future. When past market conditions vary significantly from the present, historic data does not provide a realistic or accurate barometer of the future. (p. 70)

Considering that the historical premise underlying the conclusions of the McKinsey study does not reflect current capital market expectations, this reference provides no useful information in gauging investors' current required rates of return.

Q. Does Dr. Woolridge (pp. 6-7) accurately characterize the statements of Alan Greenspan?

A. No. Dr. Woolridge's selective quotation ignores both the context and the message of Mr. Greenspan's remarks. First, it is important to note that Mr. Greenspan's comments were made in October 1999, at a time of when sharply rising equity valuation were giving rise to concern over "irrational exuberance." Rather than predicting continued expectations for lower risk premiums, Mr. Greenspan's October 1999 speech warned his audience not to be complacent. Mr. Greenspan noted that any decline in equity risk premiums could prove to be temporary – an observation that was borne out by the subsequent collapse in equity values – and he specifically predicted that sharply rising risk premiums could lead to crisis if not addressed beforehand. As Mr. Greenspan noted:

> ...history tells us that sharp reversals in confidence can occur abruptly, most often with little advance notice. These reversals can be self-reinforcing processes that can compress sizeable adjustments into a very short period. ... The uncertainties inherent in valuations of assets and the potential for abrupt changes in perceptions of those uncertainties clearly must be adjudged by risk managers...[12]

Rather than supporting Dr. Woolridge's anemic ROE recommendation, Mr. Greenspan's cautions over the potential for swift and sharp reversals is entirely consistent with my testimony that adequate support for FPL's financial integrity is

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[12] "Measuring Financial Risk in the Twenty-first Century," *Remarks by Alan Chairman Greenspan* (Oct. 14, 1999).

essential to ensure that customers continue to receive the high level of service they have come to expect from the Company.

Q. Is there anything wrong with the approach that you employed to determine the equity risk premium for your forward-looking CAPM analysis (Document WEA-9)?

A. No. As explain in my direct testimony, I estimated the current equity risk premium by first applying the DCF model to estimate investors' current required rate of return for the firms in the S&P 500 and then subtracting the yield on government bonds. Dr. Woolridge and Mr. Kahal contend that this CAPM analysis is flawed because of an alleged upward bias in the analysts' growth estimates used to estimate investors' expected return on the S&P 500.

The fallacy of these arguments was addressed earlier in my discussion of the DCF model. Moreover, Intervenors all rely on analysts estimates in applying the DCF model and the use of forward-looking expectations in estimating the market risk premium is well accepted in the financial literature. For example, in "The Market Risk Premium: Expectational Estimates Using Analysts' Forecasts" [*Journal of Applied Finance*, Vol. 11 No. 1, 2001], Robert S. Harris and Felicia C. Marston employed the DCF model and earnings growth projections from IBES – just as I did in Document WEA-9, to estimate the required rate of return on the S&P 500. Similarly, the table on page 33 of Dr. Woolridge's testimony noted that:

> Current financial market prices (simple valuation ratios or DCF-based measures) can give most objective estimate of feasible ex ante equity-bond risk premium.

Dr. Woolridge went on to note (p. 35) that "Fama and French conclude that ex ante equity risk premium estimates using DCF models and fundamental data are superior to those using ex post historic stock returns." In fact, this application of the DCF model to the S&P 500 using current financial market data is exactly the approach reflected in my forward-looking application of the CAPM presented in Document WEA-9.

Dr. Woolridge's complaints about my forward-looking CAPM approach seem to hinge on the fact that this method produces an equity risk premium for the S&P 500 that is considerably higher than the unrealistic benchmarks he cites. But as I explained earlier, the benchmarks cited by Dr. Woolridge fail even the most rudimentary tests of economic logic. Estimating investors' required rate of return by reference to current, forward-looking data, as I have done, is entirely consistent with the theory underlying the CAPM methodology. As noted earlier, the CAPM is an *ex-ante*, or forward-looking model based on expectations of the future. As a result, in order to produce a meaningful estimate of required rates of return, the CAPM is best-applied using data that reflects the expectations of actual investors in the market. Rather than look backwards to a select subset of academic studies, or a "building blocks" risk premium based largely on historical data, as Dr. Woolridge advocates, my analysis appropriately focused on the expectations of actual investors in today's capital markets.

Q. Is there any basis for Mr. Kahal's characterization of your forward-looking CAPM analysis as "optimistic" (p. 36)?

A. No. Rather than citing a single "top-down" growth rate, such as those referenced by Mr. Kahal, my analysis relied on the individual consensus growth forecasts of

securities analysts for each of the firms included in the S&P 500. This "bottom-up" approach results in a more all-encompassing growth rate that considers expectations for each of the individual firms making up the market index. Moreover, as noted earlier this very same approach has been adopted in recognized studies reported in the financial literature. Similarly, contrary to Mr. Kahal's suggestion that the 9.3 percent market risk premium estimated in my analysis is "optimistic", the results of the *Financial Analysts' Journal* study cited earlier implies a market risk premium of 9.9 percent.

Finally, I find it ironic that Mr. Kahal would advocate a "top-down" growth rate for the S&P 500 while ignoring comparable information for the electric utility industry. For example, Zacks Investment Research, which Mr. Kahal cites (p. 36) as a source of "top-down" growth estimates for the S&P 500, reports an expected 5-year growth rate for its "UTIL-ELEC PWR" industry of 7.2%. This growth rate, combined with Mr. Kahal's adjusted dividend yield of 4.3%, implies a cost of equity for an electric utility of 11.5%.

Q. Did Mr. Baudino employ a similar approach to apply the CAPM?

A. Yes. Using data for the companies followed by Value Line, Mr. Baudino (p. 35) combined an average growth rate of 12.70% with an average dividend yield of 1.18% to estimate a required rate of return on the market of 13.88%, which is identical to my forward-looking market return of 13.9% (Document WEA-9). Based on this market rate of return, Mr. Baudino concluded (p. 38) that the CAPM implied a cost of equity of 11.55% based on 20-year Treasury bond yields.

Q. Did Mr. Baudino present any meaningful basis for ignoring the results of his CAPM analysis?

A. No. Mr. Baudino's decision to ignore his CAPM results was based on his belief that 1) "historical betas are ... likely to fall from their current level" (p. 40); and 2) "the expected return on the market ... appears to be quite volatile" (p. 41). Neither of these assertions justifies Mr. Baudino's decision to ignore the results of the CAPM approach. First, as discussed in detail in my direct testimony, there is every indication that the electric utility industry will continue to face volatility and ongoing challenges associated with wholesale market restructuring. Additionally, there is no objective evidence to support Mr. Baudino's conclusion that beta values for electric utilities are on a decline. Similarly, considering the inherent uncertainties involved in estimating the cost of equity, the 50 basis-point shift in the estimated market rate of return cited by Mr. Baudino is hardly an indictment of the CAPM. Indeed, similar changes could just as easily occur when applying the DCF model to estimate the cost of equity for electric utilities. Mr. Baudino's observation (p. 34) that "a considerable amount of judgment must be employed" to use the CAPM applies just as readily to the DCF model.

Q. Do you agree with Intervenors that it is not appropriate to consider expected increases in capital costs when establishing the allowed ROE for FPL?

A. No. While Intervenors observe that the projected long-term bond yields referenced in my analysis have not yet been realized, they also grant that yields are currently at all-time lows compared with the recent past and that there is "uncertainty over the economy and interest rates" (Woolridge, p. 64). In fact, it is this very realization, and

the general expectation that long-term capital costs will move higher, that warrants consideration of widely referenced forecasts of future bond yields.

On June 30, 2005 the Federal Reserve raised interest rates for the ninth time since June 2004 and has signaled it is likely to continue to act at a "measured" pace. Expectations remain that these actions will also translate into higher long-term interest rates. Indeed, the most recent edition of the *Survey of Professional Forecasters* [Second Quarter 2005] cited by Dr. Woolridge expects that 10-year Treasury bond yields will increase approximately 1.1 percent between 2005 and 2006. Value Line recently noted the impact that readjustments in capital market conditions – in the form of higher interest rates – would have on investors' assessment of utility stocks:

> [I]f interest rates continue to rise, as we are projecting, some positive attributes that come with owning an income stock may be reduced.[13]

Consideration of interest rate forecasts does not presume that financial markets are "wrong"; rather, it recognizes that investors' required returns can and do shift over time with changes in capital market conditions.

Competition for capital is intense, and electric utilities such as FPL must be granted the opportunity to earn an ROE comparable to contemporaneous returns available from alternative investments if they are to maintain their financial flexibility and ability to attract capital. Expected capital market conditions during the time when rates established in this proceeding will be in effect are certainly one very valid barometer in ensuring that this fundamental economic and regulatory test is met.

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[13] The Value Line Investment Survey (Mar. 18, 2005) at 459.

Moreover, as I noted in my direct testimony, consideration of interest rate forecasts is also consistent with the methodology employed at the FPSC in the past. Indeed, Mr. Kahal granted (p. 34) that the FPSC "may wish to consider ... interest rate projections ... in selecting a final ROE award for FPL."

Q. Is Dr. Woolridge correct when he claims on page 67 that the arithmetic mean is "biased" so that the geometric mean should be the sole measure of average rate of return?

A. No, absolutely not. Both the arithmetic and geometric means are legitimate measures of average return; they just provide different information. Each may be used correctly, or misused, depending upon the inferences being drawn from the numbers. I am particularly sensitive to Dr. Woolridge's mischaracterization of these measures since my Ph.D. dissertation dealt with the proper use of the geometric mean by investors.

The geometric mean of a series of returns measures the constant rate of return that would yield the same change in the value of an investment over time. The arithmetic mean measures what the expected return would have to be each period to achieve the realized change in value over time. In estimating the cost of equity, the goal is to replicate what investors expect going forward, not to measure the average performance of an investment over an assumed holding period. Under the realized rate of return approach, investors consider the equity risk premiums in each year independently, with the arithmetic average of these annual results providing the best estimate of what investors might expect in future periods. *Regulatory Finance: Utilities' Cost of Capital* (1994) had this to say:

> One major issue relating to the use of realized returns is whether to use the ordinary average (arithmetic mean) or the geometric mean return. *Only arithmetic means are correct for forecasting purposes and for estimating the cost of capital.* When using historical risk premiums as a surrogate for the expected market risk premium, the relevant measure of the historical risk premium is the arithmetic average of annual risk premiums over a long period of time. (p. 275, emphasis added)

Similarly, Ibbotson Associates concluded in its *2004 Yearbook, Valuation Edition*, that:

> For use as the expected equity risk premium in either the CAPM or the building block approach, the arithmetic mean or the simple difference of the arithmetic means of stock market returns and riskless rates is the relevant number. ... The geometric mean is more appropriate for reporting past performance, since it represents the compound average return. (p. 71)

One does not have to get deep into finance theory to see why the arithmetic mean is more consistent with the facts of this case. The FPSC is not setting a constant return that FPL is guaranteed to earn over a long period. Rather, the exercise is to set an expected return based on test year data. In the real world, FPL's yearly return will be volatile, depending on many economic and weather factors, and investors do not expect to earn the same return each year.

Q. What does this imply with respect to the conclusions of Dr. Woolridge's CAPM analysis?

A. As noted earlier, Dr. Woolridge based his market equity risk premium in part on a paper summarizing the risk premiums reported in various academic studies. Apart from the problems associated with the individual studies noted earlier, as indicated on Exhibit __ (JRW-8), page 3, almost one-half of the risk premiums reported by Dr. Woolridge were based on geometric means. For a variable series, such as stock returns, the geometric average will always be less than the arithmetic average. Accordingly, Dr. Woolridge's reference to studies based on geometric average rates of return provides yet another element of downward bias.

Similarly, this same downward bias is also reflected in the market return data Dr. Woolridge referenced from the *Survey of Professional Forecasters*, which is a *geometric* average return over the next 10 years.

Q. Do the 5-year Treasury bills rates referenced by Mr. Baudino (p. 37) provide an appropriate basis to estimate the cost of equity using the CAPM?

A. No. Common equity is a perpetuity and as a result, any application of the CAPM to estimate the return that investors require must be predicated on their expectations for the firm's long-term risks and prospects. This does not mean that every investor will buy and hold a particular common stock into perpetuity. Rather, it recognizes that even an investor with a relatively short holding period will consider the long-term, because of its influence on the price that he or she ultimately receives from the stock when it is sold. This is also the basic assumption underpinning the DCF model, which in theory considers the present value of all future dividends expected to be received by a share of stock.

Shannon P. Pratt, a leading authority in business valuation and cost of capital, recognized in "Cost of Capital, Estimation and Applications," (1998) that the cost of equity is a long-term cost of capital and that the appropriate instrument to use in applying the CAPM is a long-term bond:

> The consensus of financial analysts today is to use the 20-year U.S. Treasury yield to maturity as of the effective data of valuation for the following reasons:
>
> - It most closely matches the often-assumed perpetual lifetime horizon of an equity investment.
> - The longest-term yields to maturity fluctuate considerably less that short-term rates and thus are less likely to introduce unwarranted short-term distortions into the actual cost of capital.
> - People generally are willing to recognize and accept the fact that the maturity risk is impounded into this base, or otherwise risk-free rate.
> - It matches the longest-term bond over which the equity risk premium in measured in the Ibbotson Associates data series. p. 60

Similarly, in applying the CAPM Ibbotson Associates recognized that the cost of equity is a long-term cost of capital and the appropriate interest rate to use is a long-term bond yield:

> The horizon of the chosen Treasury security should match the horizon of whatever is being valued. ... Note that the horizon is a function of the investment, not the investor. If an investor plans to hold a stock in

a company for only five years, the yield on a five-year Treasury note would not be appropriate since the company will continue to exist beyond those five years.[14]

Accordingly, proper application of the CAPM should focus on long-term government bonds – not the 5-year Treasury notes reference by Mr. Baudino – in estimating the cost of equity for an electric utility.

Q. Do these observations also apply to the risk-free rate used by Dr. Woolridge?

A. Yes. Dr. Woolridge wrongly asserts (p. 29), that "the yield on 10-year Treasury bonds has replaced the yield on 30-year Treasury bonds as the benchmark long-term Treasury rate." In fact, however, this is simply not the case, with both Mr. Kahal and myself referencing the yields on 20-year Treasury bonds, not the 10-year notes relied on by Dr. Woolridge.[15] These medium-term securities are subject to the same criticisms outlined above with respect to Mr. Baudino's 5-year notes, and provide another example of the downward bias that infects Dr. Woolridge's analyses and conclusions.

Q. Do Intervenors offer any meaningful criticisms of your risk premium approaches based on allowed ROEs and realized returns for electric utilities?

A. No. Dr. Woolridge's major criticism is that these studies are based on historical information. While I would agree that the forward-looking CAPM study contained in Document WEA-9 is apt to provide a more direct reflection of future expectations, reference to allowed rates of return and realized rates of return for electric utilities

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[14] Ibbotson Associates, *2003 Yearbook* (Valuation Edition) at 53.

[15] Dr. Woolridge also incorrectly asserts (p. 63) that I used a 30-year Treasury rate , which is clearly not accurate.

provides a direct approach to estimate the cost of equity that does not require extrapolation from a market benchmark. Such approaches have been widely referenced in regulatory proceedings. Moreover, this "criticism" is ironic considering that Dr. Woolridge's CAPM was predicated almost exclusively on historical data. Further, Dr. Woolridge's reference to "survivorship bias" and the "peso problem" are not relevant, given that my studies focused directly on electric utilities and not on the S&P 500 Index.

Second, Dr. Woolridge wrongly claims that reference to allowed rates of return for electric utilities involves "circular reasoning." Similarly, Mr. Baudino (p. 53) mistakenly asserts that, by considering the risk premiums implied by past authorized returns, the FPSC would somehow lose its ability to evaluate evidence in this proceeding. In fact, however, the cost of equity findings reflected in Document WEA-6 and the FPSC's actions in this proceeding are entirely independent. Authorized rates of return presumably represent regulators' best assessment of investors' required rate of return at the time of the decision. While this is a valid approach that warrants consideration in the FPSC's deliberations, there is no "circularity" between the two. Under Dr. Woolridge's paradigm, it would be just as valid to argue that the use of projected earnings growth rates is "circular," since these are presumably impacted by expectations of regulatory actions. The fact that no credible analyst would make such an argument illustrates the fallacy of Dr. Woolridge's criticism here.

Similarly, Mr. Kahal's criticisms (p. 37-38) of the allowed rates of return used in this approach are without merit. First, he is incorrect to allege that the information regarding average allowed rates of return in each year is unreliable simply because

every item of possible interest in each rate case is not also presented in my schedule. The allowed rates of returns are taken from a recognized and widely-used publication from a firm with a long history of accumulating and reporting the results of state regulatory commission decisions. Mr. Kahal and Mr. Baudino (p. 53) question the potential that authorized ROEs may consider "adjustment factors," such as flotation costs. But such criticisms miss the point. Under this approach, it is not necessary to examine the actual tools and techniques relied on by regulators to set allowed rates of return. Rather, what matters is that, after reasoned consideration of the evidence presented by all participants to a rate proceeding, regulators make an informed determination of a fair rate of return at the time they issue their decision. This determination is embodied in the authorized rates of return on equity that I used to apply the risk premium approach.

With respect to his remaining argument, Mr. Kahal is wrong to claim (p. 38) that the inverse relationship between equity risk premiums and interest rates is due to "behavior of the regulatory process" rather than "the requirements of financial markets." In fact, the inverse relationship between equity risk premiums and interest rates has been widely reported in the financial literature. As noted in *Regulatory Finance: Utilities' Cost of Capital*:

> Published studies by Brigham, Shome, and Vinson (1985), Harris (1986), Harris and Marston (1992), Arelton, Chambers, and Lakonishok (1983), McShane (1993) and others demonstrate that, beginning in 1980, risk premiums varied inversely with the level of interest rates – rising when rates fell and declining when rates rose. (p. 291)

In conclusion, my risk premium analyses based on authorized and realized rates of return for electric utilities represent sound approaches to estimating investors' requirements and Intervenors criticisms of these methods are unfounded.

OTHER ISSUES

Q. Does Dr. Woolridge's discussion of market-to-book ratios (pp. 14 & 49) provide any meaningful basis on which to evaluate the cost of equity for FPL?

A. No. The argument that regulators should set a required rate of return to produce a market-to-book value of approximately 1.0 is fallacious. As noted in *Regulatory Finance: Utilities Cost of Capital*:

> The stock price is set by the market, not by regulators. The M/B ratio is the end result of regulation, and not its starting point. The view that regulation should set an allowed rate of return so as to produce a M/B of 1.0, presumes that investors are masochistic. They commit capital to a utility with a M/B in excess of 1.0, knowing full well that they will be inflicted a capital loss by regulators. This is not a realistic or accurate view of regulation. (p. 265)

Indeed, while Dr. Woolridge reports an average return on equity of 11.0% on common equity for the firms in the proxy group (p. 49), he suggests that regulators should allow them to earn no more than 8.8%. With market-to-book ratios above 1.0 times, Dr. Woolridge apparently believes that, unless book value grows rapidly, regulators should establish equity returns that will cause share prices to fall.

Within the paradigm of DCF theory, a drop in stock prices means negative growth, and if investors expect negative growth then this is the relevant "*g*" to substitute in the constant growth DCF model. In turn, a negative growth rate implies

a DCF cost of equity for utilities less than their dividend yields. This, of course, is truly a nonsensical result, and a manifestation of the failings of Dr. Woolridge's arguments.

Q. Have regulators previously recognized the fallacy of relying on market-to-book ratios in evaluating cost of equity estimates?

A. Yes. For example, the Presiding Judge in *Orange & Rockland* concluded, and the FERC affirmed that:

> The presumption that a market-to-book ratio greater than 1.0 will destroy the efficacy of the DCF formula disregards the realities of the market place principally because the market-to-book ratio is rarely equal to 1.0.[16]

The Initial Decision found that there was no support in Commission precedent for the use of market-to-book ratios to adjust market derived cost of equity estimates based on the DCF model and concluded that such arguments were to be treated as "academic rhetoric" unworthy of consideration.

Q. Does Mr. Kahal accurately characterize the results of your analyses?

A. No. Mr. Kahal wrongly asserts (p. 32) that the results of my analyses actually support a return on equity of only 10.0%. However, Mr. Kahal arrives at his conclusion only after discarding the results of my risk premium analyses that incorporate expectations of higher interest rates and mechanically averaging risk premium and DCF cost of equity estimates. As noted earlier, in applying the risk premium approach, it is entirely appropriate to consider widely-anticipated increases in long-term interest

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[16] *Orange & Rockland Utilities, Inc.*, Initial Decision, 40 FERC ¶ 63,053, 1987 WL 118,352 (F.E.R.C.).

rates over the period when rates establishing in this proceeding will be in effect. Mr. Kahal's suggestion that the results of alternative quantitative methods should simply be averaged together, without the benefit of informed judgment, is similarly flawed. As discussed in detail in my direct testimony and earlier here, there is considerable evidence to suggest that DCF cost of equity estimates for electric utilities are downward-biased and should be accorded less weight. Mr. Kahal's interpretation ignores this reality and understates investors' required return. Finally, Mr. Kahal ignores the evidence presented in my direct testimony concerning the potential challenges facing FPL and the need to support FPL's ability to attract capital under adverse circumstances, which justify a return for FPL from the upper half of the proxy group results.

Q. Do you agree with Ms. Dismukes that Dr. Woolridge's cost of capital should be used as the basis for the costs charged to FPL by FiberNet?

A. No. First, Dr. Woolridge's cost of capital is not an acceptable estimate of the cost of capital for FPL for the reasons I have discussed above. Moreover, the services being priced are telecommunications services, not electric utility services. The cost of capital for telecommunications services is generally regarded as higher than for electric utility services, particularly for competitive local exchange companies such as FiberNet. For example, the FCC has been using a before-tax 11.25% benchmark rate

of return for regulatory purposes since 1990.[17] I was a witness in the FCC case that originally established the before-tax 11.25% return and have participated in subsequent proceedings at the FCC to review the prescribed rate of return, which has been unchanged and remains effective for purposes such as universal service fund payments in Florida and elsewhere in the United States. Another benchmark for the return appropriate for telecommunications is the unbundled network elements cost of capital found by the FPSC. For example, in Order PSC-03-0058-FOF-TP issued on January 8, 2003, the FPSC found a cost of capital for Sprint unbundled network elements in Florida of 9.86%.[18] As shown on Document WEA-13, with the appropriate gross-up for taxes, the Sprint rate is 14.19% and the FCC rate is 15.89%. This gross-up is necessary because FiberNet does not charge separately for income tax expense. Accordingly, when either of these benchmark costs of capital approved by regulatory authorities is grossed up for taxes, the cost exceeds the 13.97% used by FiberNet in its billings to FPL. Therefore, the cost of capital used in FiberNet's billings for telecommunications services to FPL is reasonable.

Q. Did Intervenors recognize the need to consider flotation costs in setting a fair rate of return?

A. While Mr. Kahal included a 10 basis-point upward adjustment for flotation costs, Mr. Baudino ignored this component of a fair rate of return. Meanwhile, Dr. Woolridge

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[17] *In the Matter of Represcribing the Authorized Rate of Return for Interstate Services of Local Exchange Carriers (*CC Docket No. 89-624), Released December 7, 1990; Adopted September 19, 1990: As Corrected December 21, 1990). While the FCC did not specify the component costs and capital structure, it did suggest in footnote 311: "The implied return on equity is 13.2%. That is, a company with an embedded cost of debt of 8.8% and a capital structure of 44.2% debt/55.8% equity that earned 11.25% overall return on capital would have a return on equity of 13.2%."

[18] In re: Investigation into pricing of unbundled network elements (Sprint/Verizon track).

argued (p. 55) that flotation costs "are one-time expenses which are incurred when a Company sells additional stock," and should only be included on a prospective basis for new equity issues.

Q. Is Dr. Woolridge's position consistent with financial realities and the views of other practitioners?

A. No. The need for a flotation cost adjustment to compensate for past equity issues is recognized in the financial literature. In a *Public Utilities Fortnightly* article, for example, Brigham, Aberwald, and Gapenski demonstrated that even if no further stock issues are contemplated, a flotation cost adjustment in all future years is required to keep shareholders whole, and that the flotation cost adjustment must consider total equity, including retained earnings.[19] Similarly, *Regulatory Finance: Utilities' Cost of Capital* contains the following discussion:

> Another controversy is whether the underpricing allowance should still be applied when the utility is not contemplating an imminent common stock issue. Some argue that flotation costs are real and should be recognized in calculating the fair rate of return on equity, but only at the time when the expenses are incurred. In other words, the flotation cost allowance should not continue indefinitely, but should be made in the year in which the sale of securities occurs, with no need for continuing compensation in future years. This argument implies that the company has already been compensated for these costs and/or the initial contributed capital was obtained freely, devoid of any flotation

[19] Brigham, E.F., Aberwald, D.A., and Gapenski, L.C., "Common Equity Flotation Costs and Rate Making," *Public Utilities Fortnightly,* May, 2, 1985.

costs, which is an unlikely assumption, and certainly not applicable to most utilities. ... The flotation cost adjustment cannot be strictly forward-looking unless all past flotation costs associated with past issues have been recovered. (p. 175)

Q. Can you provide a simple numerical example illustrating why a flotation cost adjustment is necessary to account for past flotation costs?

A. Yes. The following example demonstrates that investors will not have the opportunity to earn their required rate of return (*i.e.*, dividend yield plus expected growth) unless an allowance for past flotation costs is included in the allowed rate of return on equity. Assume a utility sells $10 worth of common stock at the beginning of year 1. If the utility incurs flotation costs of $0.48 (5% of the net proceeds), then only $9.52 is available to invest in rate base. Assume that common shareholders' required rate of return is 11.5%, the expected dividend in year 1 is $0.50 (*i.e.*, a dividend yield of 5%), and that growth is expected to be 6.5% annually. As developed below, if the allowed rate of return on common equity is only equal to the utility's 11.5% "bare bones" cost of equity, common stockholders will not earn their required rate of return on their $10 investment, since growth will really only be 6.25%, instead of 6.5%:

Year	Common Stock	Retained Earnings	Total Equity	Market Price	M/B Ratio	Allowed ROE	Earnings Per Share	Dividends Per Share	Payout Ratio
1	$ 9.52	$ -	$ 9.52	$10.00	1.050	11.50%	$ 1.09	$ 0.50	45.7%
2	$ 9.52	$ 0.59	$10.11	$10.62	1.050	11.50%	$ 1.16	$ 0.53	45.7%
3	$ 9.52	$ 0.63	$10.75	$11.29	1.050	11.50%	$ 1.24	$ 0.56	45.7%
Growth			**6.25%**	**6.25%**			**6.25%**	**6.25%**	

The reason that investors never really earn 11.5% on their investment in the above example is that the $0.48 in flotation costs initially incurred to raise the common

stock is not treated like debt issuance costs (*i.e.*, amortized into interest expense and therefore increasing the embedded cost of debt), nor is it included as an asset in rate base.

Q. Can you illustrate how the flotation cost adjustment allows investors to be fully compensated for the impact of past issuance costs?

A. Yes. As discussed in my direct testimony, one method for calculating the flotation cost adjustment is to multiply the dividend yield by a flotation cost percentage. Thus, with a 5% dividend yield and a 5% flotation cost percentage, the flotation cost adjustment in the above example would be approximately 25 basis points. As shown below, by allowing a rate of return on common equity of 11.75% (an 11.5% cost of equity plus a 25 basis point flotation cost adjustment), investors earn their 11.5% required rate of return, since actual growth is now equal to 6.5%:

Year	Common Stock	Retained Earnings	Total Equity	Market Price	M/B Ratio	Allowed ROE	Earnings Per Share	Dividends Per Share	Payout Ratio
1	$ 9.52	$ -	$ 9.52	$10.00	1.050	11.75%	$ 1.12	$ 0.50	44.7%
2	$ 9.52	$ 0.62	$10.14	$10.65	1.050	11.75%	$ 1.19	$ 0.53	44.7%
3	$ 9.52	$ 0.66	$10.80	$11.34	1.050	11.75%	$ 1.27	$ 0.57	44.7%
Growth			**6.50%**	**6.50%**			**6.50%**	**6.50%**	

The only way for investors to be fully compensated for issuance costs is to include an ongoing adjustment to account for past flotation costs when setting the return on common equity. This is the case regardless of whether or not the utility is expected to issue additional shares of common stock in the future.

Q. Dr. Woolridge (p. 55) and Mr. Kahal (p. 40, lines 6-15) suggest that the FPSC adopt an accounting treatment for the recovery of flotation costs. Are there any concerns that the Commission should be aware of?

A. Yes. While expensing would be one way of going forward, it would ignore the costs already incurred in connection with past stock issuances. The only practicable means available to ensure that FPL has the opportunity to earn investors' cost of capital is to include an allowance for past flotation costs in arriving at the fair rate of return. This is consistent with treatment of flotation costs at the FPSC in past proceedings.

Q. Do you agree with Mr. Kahal's assessment of a reasonable flotation cost percentage?

A. No. As noted in my direct testimony, a review of the finance literature indicated that the flotation cost allowance requires an estimated adjustment to the return on equity of approximately 5% to 10%, not the 3% advocated by Mr. Kahal. Moreover, the purpose of the flotation cost adjustment is not to amortize flotation costs over a predetermined schedule. While this is one approach to cost recovery that has been adopted for the financial reporting of debt issuance costs, an equity flotation cost adjustment recognizes that investors are unable to earn a rate of return on the portion of their capital paid out as flotation costs on an ongoing basis.

Q. Do you agree with Intervenors that changes in dividend taxation enacted in 2003 have led to a significant decline in investors' required rate of return on equity?

A. No. While dividend taxation is certainly one factor that may be considered by investors, the impact of changes in dividend taxation on the cost of equity for FPL is unclear. First, the important role that pension funds and tax deferred accounts play in the capital markets dilutes any effect that tax rate changes might have on investors'

required rate of return. This is because the reduction in the taxation of dividends has no impact on the returns for tax-free investors. Moreover, as Mr. Kahal noted (p. 8), the current stock prices that formed the basis of my DCF analysis and forward-looking CAPM approach (Document WEA-9), already incorporate any effects of changes in tax policies. Indeed, Mr. Baudino observed (p. 9) that:

> The stock prices that I use in my cost of equity analyses fully incorporate the effects of the change in tax rates and on the expected returns for utilities.

Finally, while Intervenors' claim that changes in dividend taxation suggest that the equity risk premium has declined relative to those indicated by historical studies, this ignores other significant factors that influence required returns. In particular, as a result of events during the past several years, investors' risk perceptions for electric utilities shifted sharply upward, which would more than offset any decline in the equity risk premium due to changes in dividend taxation.

Q. Have Intervenors' considered the impact of their ROE recommendations on FPL's financial integrity and ability to attract capital?

A. No. As explained and documented in my direct testimony, in light of challenges in the electric utility industry, investors have refocused attention on regulatory policy. Mr. Baudino recognized the ongoing risks that investors associate with the electric utility industry (pp. 12-13), citing "continued erosion in financial credit measures, increasing business risk, aggressive financial policies, and uncertainty regarding funding of accelerating capital programs."

Investors recognize that constructive regulation is a key ingredient in supporting utility credit ratings and financial integrity and it is critical to assure

investors' confidence in a balanced approach if financial flexibility and access to capital is to be maintained. As Mr. Baudino specifically noted in his testimony (p. 14):

> S&P currently assigns a negative outlook to FPL Group and its subsidiaries due mostly to pending resolution of regulatory issues, such as the current rate proceeding.

However, as documented earlier, Intervenors' ROE recommendations are downward-biased and fall far below investors required rate of return. As a result, their recommendations would compromise investor confidence, as well as FPL's ability to meet the capital requirements and challenges associated with providing electric service in Florida.

Q. Do customers also benefit by enhancing the utility's financial flexibility?

A. Yes. While providing an ROE that is sufficient to maintain FPL's ability to attract capital, even under duress, is consistent with the economic requirements embodied in the Supreme Court's *Hope* and *Bluefield* decisions, it is also in customers' best interests. Ultimately, it is customers and the service area economy that enjoy the benefits that come from ensuring that the utility has the financial wherewithal to take whatever actions are required to ensure a reliable electric service. By the same token, customers also bear a significant burden when the ability of the utility to attract necessary capital is impaired and service quality is compromised.

Given the social and economic importance of reliable electricity service in South Florida, which is one of the fastest growing areas in the nation, it is imperative that the FPSC continue to support recovery of reasonable capital costs such that FPL may invest in its system and maintain reliable and economical service to all

customers. To his credit, Mr. Kahal specifically noted (p. 39) that "[p]rojections of increases in capital costs," would warrant an expansion of the ROE range. Financial flexibility is particularly crucial in today's electric power industry, where changes can come at a blistering pace or, literally, fall from the sky. Recent years are not the only time electric utilities have experienced changes that were both dramatic and unanticipated. In the early 1970's, electric utilities were generally viewed as the paragon of stability and few, if any observers foresaw a storm looming on the horizon. This favored position evaporated quickly for many electric utilities as the oil embargo, sky-rocketing natural gas prices, and federal legislation mandating conversion from natural gas to alternative fuels swept them from financial strength to crisis in a few short years. To continue to meet potential challenges successfully and economically, it is crucial that FPL receive adequate support for its credit standing.

CAPITAL STRUCTURE

Q. Do you agree with Intervenors that FPL's requested equity ratio results in a level of investment risk that is below that of the proxy group of utilities?

A. No. Dr. Woolridge argues that FPL's lower financial risk "allows for a lower allowed return (p. 11), while Mr. Kahal suggests (p. 13) that the Commission should "take into account the Company's very heavy equity ratio in setting the Company's authorized ROE." However, as I explained in detail in my direct testimony, FPL's equity ratio alone is not an indicia of investment risk. First, as Mr. Kahal granted (p. 13, lines 6-7), any evaluation of FPL's capital structure must consider the impact of off-balance sheet debt obligations. Second, a comparison of bond ratings, which provide a widely-referenced and objective guide to overall investment risks, indicates that investors consider FPL's risks to be comparable to those of the utilities in the proxy

group. Moreover, FPL's capital structure reflects the Company's efforts to maintain its financial flexibility and preserve its ability to meet growth and respond to potential uncertainties, and Mr. Kahal agreed with me (p. 12) that the electric utility industry is moving towards higher equity ratios. Finally, the importance of maintaining a relatively conservative financial posture is reinforced by S&P's decision to maintain a "negative" outlook on FPL's ratings, indicating the potential for further declines in the Company's credit standing. Absent its relatively conservative financial policies, FPL's debt ratings would undoubtedly be lower than present levels and the greater investment risks implied by a lower common equity ratio would increase investors' required rate of return for FPL's debt and equity securities.

Q. Do Dr. Woolridge or Mr. Kahal propose any specific adjustment to FPL's ROE related to the company's capital structure?

A. No. Ironically, while Dr. Woolridge criticizes me (p. 53-54) for "the lack of a financial risk adjustment," he concludes (pp. 47-48) that "I am not making any explicit downward adjustments to my equity cost rate to reflect the lower financial risk." Similarly, Mr. Kahal elected not to recommend any modification to FPL's capital structure or a specific adjustment to his recommended ROE.

Q. Is there any merit to Dr. Woolridge's criticism of your capital structure comparison (Document WEA-12)?

A. No. Dr. Woolridge wrongly asserts (p. 52) that a comparison of FPL's capital structure with the capitalization maintained by other electric utility operating companies is somehow "apples and oranges". In fact, however, reference to other electric utility operating companies provides an "apples to apples" basis for evaluating FPL's capital structure relative to similarly situated companies. In contrast

to Dr. Woolridge's erroneous conclusions regarding FPL's capital structure and overall investment risks, my purpose was not to use this comparison to make inferences regarding FPL's relative investment risks vis-à-vis the proxy group, as Dr. Woolridge suggests. As discussed above and in my direct testimony, I looked to credit ratings for an objective measure of overall investment risk perceived by investors. However, in evaluating the reasonableness of FPL's capital structure, these operating electric utilities provide a useful benchmark as to the range of capitalization ratios maintained in the industry.

Q. Is there any justification for Mr. Kollen's recommendation to set FPL's equity ratio at the midpoint of S&P's benchmark range for a single-A rating?

A. No. First, investors and the rating agencies do not consider capital structure in isolation. Rather, an appropriate capitalization reflects the mix of capital sources required to accommodate the utility's business risks and maintain access to capital and financial integrity. As I noted earlier and in my direct testimony, despite its conservative financial policies, S&P retains a negative outlook on FPL, which indicates the potential for further degradation in the Company's credit standing going forward. If FPL were to lower its equity ratio to the level recommended by Mr. Kollen, the outcome would be swift and predictable – the Company's credit ratings would plunge along with investor confidence. Similarly, adopting such an extreme recommendation would send an ominous signal to investors that would undoubtedly cause them to reevaluate the risks of FPL and other Florida utilities and ultimately lead to significantly higher capital costs. While Mr. Kollen argues that his capital structure recommendation would result in a reduction to FPL's revenue requirements of $39.3 million, his assessment is short-sighted and fails to consider the damaging

consequences that higher capital costs and weakened financial flexibility would have on customers over the longer-term.

Q. Does this conclude your rebuttal testimony?

A. Yes.

IMPLIED RATES OF RETURN

FPSC ORDER 03-0078 (SPRINT UNBUNDLED NETWORK ELEMENTS - 1/03)

Component	Weight	Cost	Weighted Cost	(a) Equity Gross-up	Required Return
Debt	40.00%	7.43%	2.97%		2.97%
Equity	60.00%	11.49%	6.89%	4.33%	11.22%
Total			9.86%		**14.19%**

FCC RATE FOR UNIVERSAL SERVICE

Component	Weight	Cost	Weighted Cost	(a) Equity Gross-up	Required Return
Debt	44.20%	8.80%	3.89%		3.89%
Equity	55.80%	13.20%	7.37%	4.63%	12.00%
Total			11.25%		**15.89%**

(a) Tax rate equals 38.575%