## FLORIDA PUBLIC UTILITIES COMPANY

DOCKET NO. 940620-GU

DIRECT AND REBUTTAL TESTIMONY OF PETE LESTER
ON BEHALF OF THE STAFF OF THE FLORIDA PUBLIC SERVICE COMMISSION DIVISION OF AUDITING AND FINANCIAL ANALYSIS

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## DIRECT TESTIMONY OF PETE LESTER

Q. Please state your name and business address.
A. My name is Pete Lester. My business address is 101 East Gaines Street, Tallahassee, Florida 32399-0865.
Q. By whom are you employed and in what capacity?
A. I am employed by the Florida Public Service Commission as an Economic Analyst in the Finance Section of the Division of Auditing and Financial Analysis.
Q. Will you briefly summarize your educational background and regulatory experience?
A. I received a Bachelor of Science degree in Finance from Florida State University in March 1978. In June 1980, I received a Masters of Business Administration degree also from Florida State University. In August 1980, I began work as a material price analyst for Avco Aerostructures, a major aerospace subcontractor located in Nashville, Tennessee. My responsibilities included preparing bids for subcontracts, analyzing price variances among vendors, pricing plan changes, and helping customer and government auditors.

In September 1981, I joined the Staff of the Florida Public Service Commission as a staff analyst in the Division of Water and Wastewater. As an analyst, I was responsible for rate structure issues on file and suspend rate cases and for all finance, accounting, and rate structure issues for staff-assisted rate cases, overearnings investigations, and certificate cases. In addition, I was responsible for case coordination and scheduling, presenting staff positions to customers at customer meetings, responding to customer complaints, and conducting research projects.

In August 1990, I was promoted to an Economic Analyst position in the Finance Section in the Division of Auditing and Financial Analysis. My responsibilities include advising the Commission on the appropriate cost of equity, capital structure, and overall cost of capital for utility companies in rate cases and other Commission proceedings. I also analyze the effect that statements of the Financial Accounting Standards Board have on utility regulation in Florida.
Q. Are you a member of any professional associations?
A. Yes, I am a member of the National Society of Rate of Return Analysts (NSRRA). I have been awarded the professional designation Certified Rate of Return Analyst (CRRA) by the NSRRA. This designation is awarded based upon education, experience and the successful completion of a written examination.
Q. Have you previously testified before the Commission?
A. Yes, I have. In addition, as a Commission staff member, I have participated in many rate proceedings.
Q. What is the purpose of your testimony?
A. The purpose of my testimony is to recommend the appropriate cost of common equity for Florida Public Utilities Company ("FPUC") to be used in calculating a fair rate of return on rate base.
Q. Do you have exhibits that accompany your testimony?
A. Yes. f.ccompanying my testimony are Exhibits PHL-1 through PHL-11. Exhibit PHL-1 is an index of the exhibits.
Q. What principles provide the legal framework for your determination of the cost of equity?
A. The principles established by the Supreme Court of the United States in Bluefield Waterworks and Improvement Company v. Public Service Commission of West Virginia, 262 U.S. 679 (1923) and Federal Power Commission v. Hope Natural Gas Company 320 U.S. 591 (1944). These cases provide the legal basis for my analysis. The Supreme Court held in both the Hope and Bluefield decisions that the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks. Also, the return should be sufficient to assure corfidence in the financial integrity of the enterprise so that it can maintain credit and attract capital.
Q. Please define the cost of common equity.
A. The cost of common equity is the minimum rate of return necessary to attract capital to a common equity investment. It is the minimum rate of return that a stockholder considers acceptable, considering both the riskiness of the invest ent and returns available on other investments.
Q. How does your cost of equity recommendation meet the basic legal criteria of the Hope and Bluefield decisions?
A. My recommendation of the appropriate cost of equity for FPUC is based upon an analysis of required returns for common equity investments with comparable risk as determined through the direct application of capital market valuation models to current financial data. I believe an analysis based upon current stock prices, interest rates, and investor expectations satisfies the comparable returns, capital attraction, and financial integrity guidelines established in the Hope and Bluefield decisions for determining a fair and reasonable rate of return on common equity.
Q. What do you recommend as the cost of common equity for FPUC?
A. Based upon the results of my analysis, I recommend that the cost of equity for Florida Public Utilities Company is $11.20 \%$.
Q. Would you describe the general approach you used to determine FPUC's cost of equity?
A. I analyzed current economic conditions and trends, as well as industry and company factors. I believe these factors and conditions affect the capital markets. I then applied two generally accepted market-based rate of return models to an index of comparable natural gas distribution companies. The results of this analysis are the basis for my recommended cost of equity for FPUC.
Q. What is your analysis of the current economic environment?
A. The economy is continuing to recover from the recession of 1990/1991. Growth in gross domestic product (GDP), the total amount of goods and services produced in the United States, and the unemployment rate are indicators of current economic activity. GDP grew at an annual rate of $4.5 \%$ in the fourth quarter of 1994 , up from the $3.3 \%$ rate in the first quarter of 1994 . The GDP growth rate for 1994 was $4.0 \%$. The civilian unemployment rate stood at 5.7\% in January 1995, an slight increase from the 5.6\% figure in the fourth quarter of 1994 but a significant decrease from the $6.6 \%$ rate in the first quarter of 1994, the 6.1\% average rate for 1994, and the 6.8\% average rate for 1993. Unemployment has had a downward trend for the past 2.5 years.

The economic expansion has raised concerns about increases in inflation. The annual inflation rate, as measured by the change in the Consumer Price Index, was $3.6 \%$ and $2.2 \%$ in the third and fourth quarters of 1994,
respectively. The March 1, 1995 issue of the Blue Chip Financial Forecasts estimates the annual inflation rate will rise to $3.5 \%$ by the fourth quarter of 1995. The Federal Reserve has stated that it has an objective of sustained, noninflationary growth. Since January 1994, the Federal Reserve has taken several actions that increased the Federal funds rate by 300 basis points, from 3.00\% in January 1994 to the current 6.00\%. The Federal funds rate is the rate banks charge on overnight loans to each other and depends on the amount of reserves in the banking system. Typically, the Federal Reserve targets the Federal funds rate by increasing or decreasing reserves in the banking system, which, in turn, controls the supply of money. This is the most common way the Federal Reserve carries out monetary policy.
Q. How do current economic conditions affect the cost of equity?
A. Inflation and interest rates significantly affect investor return requirements. Inflation has a major impact on interest rates because it erodes purchasing power. The rate of inflation built into interest rates is the rate of inflation expected in the future.
Q. Why is an assessment of risk important in determining the cost of equity?
A. An assessment of risk is important in determining the cost of equity because investors are risk-averse. The higher the risk of an investment, the higher the return that investors require and vice versa.
Q. How have you assessed risk in your analysis?
A. I have analyzed conditions in the natural gas distribution industry and for FPUC. Included in this analysis is an assessment of business risk as well as opportunities and prospects for the industry and FPUC. Regardir.g financial
risk, I have analyzed the effect my recommended cost of equity will have on the interest coverage ratio of FPUC.
Q. Please define business risk and financial risk.
A. Business risk is the uncertainty inherent in projections of future returns on assets and depends on many factors such as demand variability, sales price variability, the ability to adjust output prices for changes in input prices, and the extent to which costs are fixed.

Financial risk is the additional risk, above business risk, faced by stockholders due to the firm's use of financial leverage.
Q. What is your analysis of conditions in the natural gas distribution industry?
A. The natural gas distribution industry faces risks and opportunities. Bypass of the local distribution company (LDC) by large industrial customers and competition from fuel oil continue to be significant risks. Flexible rate design mitigates these risks by allowing the LDC to retain industrial customers an 1 compete with other fuels available to industrial customers. An additional concern is the effect of the restructuring caused by Order 636 of the Federal Energy Regulatory Commission (FERC).
Q. Please discuss the effect FERC Order 636 has had on natural gas distribution companies.
A. For interstate pipeline companies, Order 636 removed the obligation to provide a supply of gas to customers and it unbundled pipeline rates for sales, transportation, and storage of gas. The supply obligation, and the risks inherent with it, now rests with the LDCs, which must purchase supplies of gas from producers and reserve pipeline capacity to transport the gas.

However, this risk is reduced since Order 636 does not represent a sudden change but is instead the culmination of gradual changes by FERC. Pipelines have been unbundling rates and LDCs have been purchasing gas since FERC Order 436, which began open access, was issued in 1985. Also, the proceedings that resulted in Order 636 began in 1991.

Additional concerns are the recovery of transition costs caused by implementing Order 636, increased operating leverage for the LDC due to the straight fixed-variable rate structure charged by the pipelines, and price risk associated with supply contracts that are either fixed price or have a market-sensitive price.

Order 636 became effective on November 1, 1993. LDCs adequately managed gas supplies during the record-setting cold winter that followed, which was a good test of how LDCs can manage in the 636 environment. Still, one winter does not constitute a complete test. I believe that some uncertainty remains regarding the effacts of Order 636 on LDCs.
Q. What opportunities exist for LDCs?
A. Natural gas has a very high and growing market share in the U.S. It is a clean, efficient, competitively-priced fuel in ample supply. In addition, both the Clean Air Act Amendments passed in 1990 and the National Energy Policy Act of 1992 encourage the use of natural gas. Many LDCs face attractive prospects for expanding their share in residential, commercial, and industrial markets as well as developing markets for fleet vehicles, residential and commercial gas cooling, and cogeneration.
Q. Are there other positive signs for LDCs?
A. Yes. In analyzing LDCs and pipeline companies for bond ratings, Standard and Poor's (S \& P) evaluates each company's business position based on qualitative factors such as market growth potential, exposure to industrial risk, adequacy and diversity of supply, and regulatory environment. The business positions are ranked in seven categories from above average to below average. Significantly, no LDCs have below average or somewhat below average business positions.
Q. How do the risks and opportunities you have discussed affect FPUC?
A. FPUC is exposed to the remaining uncertainty regarding FERC Order 636. Also, like all Florida investor-owned gas companies, FPUC is served by only one pipeline, Florida Gas Transmission (FGT). This factor is mitigated by FGT's Phase III expansion that increased capacity by $60 \%$. FPUC anticipates that this pipeline expansion program will provide adequate future pipeline capacity through the FGT system to permit continued customer and load growth into the next century.

FPUC has gained experience in directly contracting for gas supplies and this experience should enable the company to operate effectively in the 636 environment. FPUC has lowered its cost of gas by purchasing gas from suppliers rather than from FGT.

Regarding risk due to potential bypass and industrial fuel switching, FPUC depends significantly on interruptible and transportation customers. This fact makes FPUC somewhat susceptible to fuel switching and bypass risk.

FPUC has favorable opportunities for growth but experienced little growth in residential customers from 1989 to 1993. According to FPUC's 1993 Annual Report, FPUC anticipates growth in commercial accounts, additions of
residential subdivisions, and expanding sales through new applications such as gas air conditioning and desiccant units.
Q. How does the concept of efficient capital markets affect your analysis?
A. I believe that the capital markets are efficient, meaning that current market prices of stocks and bonds reflect all publicly available information. The economic conditions, risks, and opportunities that I have discussed are reflected in the stock prices of LDCs. Therefore, an analysis using current capital market information such as stock prices for LDCs and interest rates will appropriately reflect the cost of equity.
Q. Can the cost of equity be estimated precisely?
A. No. Estimating the cost of equity is a subjective procedure. The cost of equity depends on investor expectations, which cannot be known entirely and which change frequently. Therefore, the cost of equity cannot be measured precisely and it is generally estimated within a range. When analyzing cost of equity estimates, it is important to understand the rationale underlying the subjective inputs and how well the models relied upon reflect reality. Q. What methods did you use to determine the cost of common equity for FPUC?
A. To determine the cost of equity for FPUC, I used a two-stage annually compounded discounted cash flow (DCF) model and a risk premium analysis. I applied these models to the cormon stocks of the companies in the Moody's Natural Gas Distribution Index. This procedure allowed me to determine the general cost of equity for LDCs.

Relying on an index of comparable companies, instead of a single company, helps minimize forecasting errors and should provide more reliable
information for use in measuring the cost of equity. Use of an index of companies avoids abnormal conditions that might be associated with one company.
Q. Please describe the Moody's Natural Gas Distribution Index.
A. The companies in the Moody's Natural Gas Distribution Index are representative of the natural gas distribution industry. Being in the same industry, these companies face similar risks and are subject to similar economic and regulatory influences. I have listed the companies and their investment characteristics on Exhibit PHL-2.

The investment risk characteristics for the index are: an average Value Line safety ranking of 1.50 , with 1 being the highest and 5 the lowest, an average Value Line beta of .61 , a range of bond ratings from $A a 3$ to $A 3$, and an average equity ratio of $48 \%$, including short-term debt. According to S \& $P$, the companies in the index have business positions ranging from low average to high average ?nd somewhat above average.
Q. What is the theory behind a DCF model?
A. The DCF model is based on two principles. First, investors value an asset based on the future cash flows they expect to receive. Second, investors value a dollar today more than a dollar received in the future, meaning that the time value of money is assumed. Therefore, in a DCF analysis, the cost of equity is the discount rate that equates the present value of expected cash flows associated with a share of stock to the present market price of the stock.

On Exhibit PHL-3, I have provided the basic DCF equation and defined the terms in the equation. The basic model has three simplifying assumptions: 1)
dividends are paid annually and grow at a constant rate; 2) the price of the stock is determined on the dividend payment date; and 3) dividends increase once a year starting one year from the dividend payment date.
Q. What DCF model have you used in your analysis?
A. I have used a two-stage annually compounded DCF model. An assumption behind the basic DCF model is that dividends grow at a constant rate. Yet growth in dividends can vary from period to period. A two-stage DCF model, also known as a non-constant growth model, allows for two periods of dividend growth: a near term period during which dividends are specifically forecasted and a subsequent period of sustainable growth.

On Exhibit PHL-4, I have presented the equation for my two-stage annually compounded DCF model and defined the terms. This model is consistent with the valuation practices of institutional investors and financial analysts. An additional advantage of the two-stage model is that it can use the specific dividend forecast from Value Line and then use a sustainable growth rate. The two-stage model allows for more precision than the basic model.
Q. What are the inputs for your DCF model?
A. I used current stock prices for the companies in Moody's index, specific dividend forecasts for the initial growth period, and a sustainable or longterm growth rate. For current stock prices, I first calculated the average of the high and low stock prices for January 1995 for each company in the index. I then calculated an average stock price for the index, which is the input to my model. I used Value Line's forecast of dividends for 1995 and 1998 and assumed a constant growth rate between these years to estimate
dividends for the initial growth period. I calculated the long-term growth rate using the earnings retention method, also known as the "b $\times r$ approach." The inputs for my earnings retention method are Value Line's expected earned return on equity ( $r$ ) and the expected retention rate (b) for 1998.
Q. Have you included an allowance for issuance costs in your DCF model?
A. Yes. My DCF model includes an allowance for issuance cost, calculated as $3 \%$ of the stock price. An allowance for issuance cost enables the utility to recover the costs incurred when issuing common stock. Issuance costs include registration fees, legal fees, underwriter fees, and printing and mailing expenses. Investors could not earn the required return on their investment without an issuance cost adjustment because the sales price of the stock will exceed the net proceeds to the company because the company will incur issuance costs. A company can incur these costs whether the stock is publicly traded or privately held.

Conceptually, this situation with common stock is similar to that of bonds and preferred stock. With bonds, for example, the cost charged to ratepayers reflects issuance costs and is recovered over the life of the bond. The cost to the company for a specific bond issue is the interest expense plus the amortization of issuance costs divided by the principal value less the unamortized issuance costs. The result is that the cost to the utility is greater than the return to the creditor.

Unlike bonds, common stock does not have a finite life. Therefore, issuance costs cannot be amortized and must be recovered by an upwar. adjustment to the allowed return on equity. This adjustment reflects the fact that, due to the issuance costs, the utility earns a return on an equity
balance that is less than the actual amount paid by investors. Historically, utility underwriting expenses associated with issuing common stock have averaged 3 to 4 percent of gross proceeds.
Q. What are the results of your DCF analysis?
A. The results of my DCF analysis show that the cost of equity for the index is $9.83 \%$. Exhibit PHL-5 shows the inputs and results of my analysis.
Q. What is the theory behind a risk premium analysis?
A. The basic theory supporting a risk premium analysis is that common equity is more risky than debt. Therefore, the cost of common equity is higher than the cost of debt. Common equity is more risky than debt because the returns on common equity are less certain than the returns on debt. Debt is a contractual obligation and the debtholder receives interest payments on the debt as specified by contract. Further, if a default occurs, bondholders have a claim on the assets of the company. In contrast, the return on common equity is residual return in that interest must be paid in full before dividends on common equity can be paid.

Since equity is more risky than debt and since investors are risk averse, investors require a higher return on common equity compared to the return on debt. Current yields on debt are readily observable in the capital markets. With a risk premium approach, the equity risk premium is estimated and added to the current yield on debt to determine the cost of equity. Exhibit PHL-6 presents the equation I used for my risk premium model.
Q. Please describe your risk premium model.
A. My risk premium uses DCF estimates of the cost of common equity for the Moody's Natural Gas Distribution Index for each of the past 120 months, that
is, from February 1985 through January 1995. I used the same DCF methodology that I described earlier, with the stock prices, forecasted dividends, and growth rates current for each particular month. For each monthly result, I subtracted the concurrent yield on 30 -year Treasury Bonds to obtain the risk premium for that month.
Q. Based upon this analysis, what is your estimate of the risk premium?
A. The risk premium averaged 281 basis points, or $2.81 \%$, for the period February 1985 through January 1995.
Q. What measure of debt cost did you add to the risk premium to determine the cost of equity?
A. I used the March 1, 1995 Blue Chip Financial Forecasts' (Blue Chip) consensus forecast of the yield for 30 year Treasury Bonds. Blue Chip is a publication that provides interest rate forecasts from 50 leading financial forecasters. The forecasted yield for 30 year Treasury Bonds for 1995 is 7.8\%. This is based on the forecasts for the first three quarters of 1995. I believe use of a forecasted yield on Treasury Bonds is appropriate since it encompasses investor expectations about the economy.
Q. Based on your risk premium analysis, what is the cost of equity for the index?
A. I added the risk premium of $2.81 \%$ to $7.8 \%$, the expected yield on 30 year Treasury Bonds. The resulting $10.61 \%$ is the cost of equity for the f.adex based on my risk premium analysis. Exhibit PHL-7 presents my risk premium cost of equity calculation and data.
Q. Given the results of your DCF and risk premium analysis, what is the range for the cost of equity for the index?
A. The cost of equity for the Moody's Natural Gas Distribution Index ranges from 9.83\% to $10.61 \%$. I have rounded this range to the nearest 10 basis points, which makes the range $9.80 \%$ to $10.60 \%$.
Q. Is the range for the cost of equity for the index appropriate for FPUC?
A. No. While the range I calculated for the index is an appropriate starting place, FPUC is riskier than the companies in the index and should be allowed a higher cost of equity.
Q. Why is FPUC riskier than the companies in the index?
A. Exhibit PHL-8 compares the total capitalization and gas sold or transported for the companies in the index to that of FPUC. This shows that FPUC is significantly smaller than the companies in the index. As such, FPUC is less diverse with respect to its markets and may be more severely affected by economic changes. Studies suggest that smaller firms are generally riskier than larger firms and have higher costs of equity. Small firms experience more business failures and have a less liquid market for their shares.
Q. How did you adjust the cost of equity that you calculated for the index to estimate the cost of equity for FPUC?
A. As I noted earlier, the bond ratings for the companies in Moody's index range from Aa3 to A3. (See Exhibit PHL-2). Using S \& P's system as an example, bonds in the top four categories of bond ratings, $A A A, A A, A$, and BBB, are considered investment grade and are eligible for bank investment: under the regulations of the Controller of the Currency. In addition, laws of various states restrict investments by banks, insurance companies, pension funds and fiduciaries generally to investment grade bonds. Bonds rated $B B$ or lower are considered speculative, indicating issuers may not make timely
interest and principal payments. As a public utility providing an essential service, and given efficient management and a sound regulatory environment ( $S$ \& P considers Florida a supportive regulatory environment.), FPUC's credit should be considered investment grade.

I used the historic spread between the yields on Aa3 and Baa3 public utility bonds as a proxy for the higher return required for FPUC. Four of the eight companies in the Moody's index have a bond rating of Aa3. 'Therefore, I have used Aa3 as a representative bond rating for the index. The Aa3 bond rating is slightly higher than the median bond rating for the index. The Baa3 rating is the lowest level of investment grade. By using the spread between an Aa3 rating and a Baa3 rating, I believe that I am ensuring a proper adjustment for FPUC's smaller size.
Q. How did you calculate the historic spread between Aa3-rated and Baa3rated public utility bonds?
A. I subtracted he yield on Aa3 public utility bonds from the yield on Baa3 public utility bonds as reported in Moody's Bond Survey for the last 120 months and averaged the results. Exhibit PHL-9 presents the data and results. The spread over the past 120 months between Aa3 and Baa3 public utility bonds is 59 basis points, which I have rounded to 60 basis points.
Q. What is your estimate of the cost of equity for FPUC?
A. Adding the 60 basis points to my DCF and risk premium results provides a range of $10.40 \%$ to $11.20 \%$ for the cost of equity of FPUC. Exhibit PHL- 10 presents the range for FPUC. I believe that the top of this range is appropriate for the cost of equity for FPUC, therefore, I recommend $11.20 \%$ as the cost of equity for Florida Public Utilities Company.

Determining the appropriate point estimate is a difficult but necessary decision in estimating the cost of equity and, ultimately, it rests on judgement. Having adjusted for FPUC's smaller size, I analyzed other pertinent risk characteristics. On the favorable side, FPUC has the proven ability to contract directly for gas in an economical way, which is a definite advantage in the 636 environment. On the unfavorable side, historical customer growth has been flat with anticipated customer growith requiring capital spending and, thus, financing stress. Also, compared to the companies in the index, FPUC is more dependent on interruptible and transportation customers. Further, FPUC has a comparatively low equity ratio. In my judgement, the top of the range for the cost of equity, $11.20 \%$ is reasonable and will compensate FPUC appropriately.

By convention, the Florida Public Service Commission allows a range around the authorized cost of equity. Therefore, I recommend that the cost of equity for FPUC is $11.20 \%$ for all regulatory purposes, with a range of plus or minus 100 basis points.
Q. Have you checked your recommended cost of equity for its effect on FPUC's financial condition?
A. Yes. Using my recommended cost of equity of $11.20 \%$, I have estimated the projected pre-tax interest coverage ratio for FPUC to be $2.6 x$. This compares favorably with S \& P's utility financial benchmark ratios, which are listed on Exhibit PHL-11. Also listed on that exhibit are the benchmark total debt to total capital ratios.
Q. Have you reviewed the testimony that company witness Robert S. Jackson filed in this case?
A. Yes, I have.
Q. Do you have comments about Mr. Jackson's direct testimony?
A. Yes, I have comments about Mr. Jackson's comparable earnings analysis and market-to-book value adjustment to his DCF results.
Q. What are your comments about Mr. Jackson's comparable earnings study?
A. Mr. Jackson uses Value Line's projected earned returns on common equity for 12 gas companies. The problem with this approach is that, though the cost of equity depends on investor expectations, the comparable earnings approach ignores capital markets. Value Line's projected earned returns are based on projected book value. However, the market value of a share of stock reflects investors' expectations and fluctuates according to the investors' return requirements. Therefore, one significant problem with the comparable earnings approach is that it relies on accounting-based earned returns though investors' required returns, derived from the capital markets, are appropriate for determining th cost of equity.

Also, Mr. Jackson's comparable earnings study uses a group of regulated utilities. The book return on equity for regulated firms is affected by the past actions of regulators. Therefore, a circularity problem exists with using a comparable earnings study that includes regulated utilities since the earned returns of utilities are influenced by the rate of return set by their regulators.
Q. What are your comments on Mr. Jackson's market-to-book value adjustment to his DCF results?
A. Mr. Jackson adjusts the result of his DCF study upward because the market-to-book ratios of the companies in his comparison group is above 1.0. I disagree with this adjustment.

According to DCF theory, the required rate of return on common equity is the discount rate that equates the stream of dividends in the future with the market price of a share of a company's stock. Investors' required returns, as specified by the capital markets, change with investor expectations for investment opportunities, inflation, and risks. Investors bid the price of a share of stock up or down according to changes in their required returns. That the market price of a share of stock is above or below its book value does not necessitate an adjustment to the DCF result. Instead, this indicates that the required return has changed with changes in investor expectations and the market price of the stock. The required return is the minimum return necessary to attract capital and, therefore, is appropriate for calculating the rate of return on rate base. Adjusting the DCF result for a market-to-book value greater than 1.0 will not reflect the required rate of return.
Q. Please summarize your testimony.
A. The purpose of my testimony was to determine the appropriate cost of equity for Florida Public Utilities Company. Using generally accepted financial models and making appropriate adjustments for risk, I recommend that the cost of equity for FPUC is $11.20 \%$.
Q. Does this conclude your testimony?
A. Yes, it does.

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## INDEX OF SCHEDULZS

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| EXHIBIT PHL-4 | TWO-STAGE ANNUALIY COMPOUNDED DCF MODEL |
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## MOODV'S NATURAL GAS DISTRIBUTION INDEX

INVESTMENT RISK CHARACTERISTICS

| COMPANY | $\begin{gathered} \text { CURRENT } \\ \text { S\&P } \\ \text { BOND } \\ \text { RATNNG } \end{gathered}$ |  | current VALUE UNE safety BANIONG | CURRENT VALUE UNE BETA | 1993 EquITY Banio | $\begin{gathered} 1993 \\ \text { S\& } \\ \text { COVERAGE } \\ \text { RATLO } \end{gathered}$ | $\begin{aligned} & \text { CURRENT } \\ & \$ \& \boldsymbol{A} \\ & \text { BUS. POS } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ATLANTA GAS UGHT | A- | A3 | 2 | 0.65 | 42\% | 2.85 | LOW AVg. |
| BAY STATE GAS | A | A2 | 2 | 0.55 | 45\% | 3.31 | AVQ. |
| BROOKLYN UNION GAS | A | A1 | 1 | 0.50 | 51\% | 3.36 | somewhat abV. avg. |
| indunl energy | AA- | A A 3 | 1 | 0.65 | 57\% | 3.65 | Hibhava. |
| LaCLEDE GAS | AA- | $\mathrm{Na}_{3}$ | 1 | 0.50 | 49\% | 3.48 | Ava. |
| HORTHWEST MATUPLL GAS | A | A3 | 2 | 0.55 | 40\% | 3.36 | Hioh Avg. |
| PEOPLES ENERGY | A- | $\mathrm{Na}_{3}$ | 2 | 0.75 | 51\% | 3.53 | Avg. |
| WASHINGTON GAS LGEHT | M- | ${ }^{4} 3$ | 1 | 0.70 | 52\% | 4.03 | hag AVG. |
| average |  |  | 150 | 0.61 | 48\% | 3.45 |  |

SOURCE: Value Uine Investment Survey, Edition 3, Decernber 30, 1904 Standard and Poor's Global Sector Review, July 1994 Stindard and Poor's Bond Quide, February 1995 1994 Financial Statietics Public Utilities, C.A. Turner Utility Reports

## BASIC DCF EQUATION

$$
P_{0}=\frac{D_{2}}{(1+K)}+\frac{D_{2}}{(1+K)^{2}}+\frac{D_{3}}{(1+K)^{2}}+\ldots+\frac{D^{-}}{(1+K)^{-}}
$$

where: $\quad D_{t}=$ Dividends paid at the end of period $t$ $\mathrm{K}=$ Investor's required rate of return $P_{0}=$ The current price of the stock
this also can be written as

$$
P_{0}=\sum_{t=1}^{n} \frac{D_{t}}{(1+K)^{t}}, \text { as } n \text { approaches } \infty
$$

Assuming constant growth in dividends and $\mathrm{g}<\mathrm{K}$, these equations reduce to

$$
K=\frac{D_{2}}{P_{0}}+g
$$

where g is the constant growth rate in dividends.

## TWO-STAGE ANNUALLY COMPOUNDED DCF MODEL

$$
P_{0}(1-F C)=\frac{D_{2}}{(1+K)}+\frac{D_{2}}{(1+K)^{2}}+\cdots \frac{D_{0}}{(1+K)^{n}}+\frac{D_{n}(1+g)}{K-g} \frac{1}{(1+K)^{n}}
$$

Where
$P_{0}=$ The current stock price
$D_{1}, D_{2}, \ldots D_{n}=$ Expected dividends each year
FC $=$ Flotation costs
$K=$ Investors required rate of return
$\mathrm{g}=$ The constant growth rate after year n

COST OF EQUITY FOR FPUC DISCOUNTED CASH FLOW MODEL

COMPANY
ATLUNTA GAS UOHT
BAY STATE GAS
BROOKIYN UNION GAS
INDIANA ENERG
LACLEDE GAS
NORTHWEST NAT, GAS PEOPLES ENERGY WASHINGTON GAS UGHT

AVERAGE

| DIV1 |  |  |
| :--- | :--- | :--- |
| $\frac{\text { DIV2 }}{}$ | DIV3 |  |
| 2.08 | $\frac{2.13}{2.19}$ |  |
| 1.46 | 1.54 | 1.62 |
| 1.39 | 1.43 | 1.46 |
| 1.08 | 1.15 | 1.22 |
| 1.24 | 1.25 | 1.27 |
| 1.78 | 1.83 | 1.89 |
| 1.84 | 1.87 | 1.91 |
| 2.24 | 2.28 | 2.31 |
|  |  |  |
| 1.84 | 1.68 | 1.73 |


| DrV4 |
| :--- |
| 2.24 |
| 1.70 |
| 1.50 |
| 1.29 |
| 1.28 |
| 1.95 |
| 1.94 |
| 2.35 |
|  |
| 1.78 |

EPS4
2.80
2.40
2.15
1.95
1.75
3.00
2.55
3.00

2.45

| January |
| :---: |
| Average |
| Price |
| 31.063 |
| 23.063 |
| 23.250 |
| 19.188 |
| 19.375 |
| 29.000 |
| 27.000 |
| 33.750 |
|  |
| 25.711 |

$\mathbf{9 . 8 3 \%}=$ Cont of equity required to match the current stock price with the expected cash flows
$\$ 24.94=$ January 1995 average stock price less $3 \%$ flotation costs, or Pof1-fc)
$\$ 24.94=\begin{array}{lllll} & \$ 1.49 & \$ 1.40 & \$ 1.22 & \$ 19.52=\text { discounted annual expected cash flows }\end{array}$

Data Sources:

1. Stock Prices - SSP Stock Guide, February 1995 Edition
2. DPS, EPS, ROE - Value Uine Edition 3, December 30, 1994

## BASIC RISK PREMIUM EQUATION

$$
K_{e}=K_{d}+R P
$$

Where $\mathrm{K}_{\mathrm{e}}=$ The cost of equity
$K_{d}=$ The expected cost of debt
$R P=$ The expected risk premium

ESTIMATED MONTHLY RISK PREMIUMS MOODY'S NATURAL GAS DISTRIBUTION INDEX FEBRUARY 1985 - JANUARY 1995

| YEAR | MONTH | Anaual <br> Cost of <br> Equity <br> Gas | Risk <br> Free <br> Rate | Risk <br> Premium |
| :---: | :---: | :---: | :---: | :---: |
| 1985 | MAR | 14.526 | 11.56 | 2.966 |
|  | APR | 14.243 | 11.92 | 2.323 |
|  | MAY | 14.257 | 11.55 | 2.707 |
|  | JuN | 14.160 | 11.08 | 3.080 |
|  | JUL | 14.478 | 10.48 | 3.998 |
|  | AUG | 14.596 | 10.62 | 3.976 |
|  | SEP | 15.130 | 10.70 | 4.430 |
|  | OCT | 14.573 | 10.78 | 3.793 |
|  | NOV | 14.654 | 10.66 | 3.994 |
|  | DEC | 14.240 | 10.19 | 4.050 |
| 1986 | JAN | 13.465 | 9.68 | 3.785 |
|  | FEB | 13.393 | 959 | 3.803 |
|  | MAR | 13.328 | 926 | 4.068 |
|  | APR | 12.606 | 8.15 | 4.456 |
|  | MAY | 12.363 | 7.58 | 4.783 |
|  | JUN | 12.400 | 8.13 | 4.270 |
|  | JUL | 11.525 | 8.27 | 3.255 |
|  | AUG | 11.397 | 7.88 | 3.517 |
|  | SEP | 11.367 | 7.74 | 3.627 |
|  | OCT | 11.136 | 8.10 | 3.036 |
|  | NOV | 11.330 | 8.06 | 3.270 |
|  | DEC | 11.066 | 7.82 | 3246 |
| 1987 | JAN | 11.553 | 7.66 | 3.893 |
|  | FEB | 11.360 | 7.62 | 3.740 |
|  | MAR | 11.334 | 7.71 | 3.624 |
|  | APR | 11.021 | 7.64 | 3.381 |
|  | MAY | 11.456 | 8.35 | 3.106 |
|  | JUN | 11.590 | 8.85 | 2.740 |
|  | JUL | 11.437 | 8.67 | 2.767 |
|  | AUG | 11.546 | 8.77 | 2.776 |
|  | SEP | 11.547 | 9.06 | 2.487 |
|  | OCT | 11.833 | 9.67 | 2.163 |
|  | NOV | 12.553 | 9.73 | 2.823 |
|  | DEC | 12.692 | 9.10 | 3.592 |


| YEAR | MONTH | Amneal <br> Cost of Equity Gas | Risk <br> Free <br> Rate | Risk Premium |
| :---: | :---: | :---: | :---: | :---: |
| 1988 | JAN | 12.833 | 9.23 | 3.603 |
|  | FEB | 12.480 | 8.93 | 3.550 |
|  | MAR | 12.133 | 8.48 | 3.653 |
|  | APR | 12.053 | 8.64 | 3.413 |
|  | MAY | 12.053 | 8.97 | 3.083 |
|  | JUN | 12.036 | 9.30 | 2.736 |
|  | JUL | 11.730 | 9.11 | 2.620 |
|  | AUG | 11.707 | 9.28 | 2.427 |
|  | SEP | 11.973 | 9.42 | 2.553 |
|  | OCT | 11.736 | 9.14 | 2.596 |
|  | NOV | 11.703 | 8.96 | 2.743 |
|  | DEC | 11.747 | 9.99 | 2.657 |
| 1989 | JAN | 11.693 | 9.10 | 2.593 |
|  | FEB | 11.710 | 9.05 | 2.660 |
|  | MAR | 11.776 | 9.15 | 2.626 |
|  | APR | 12.220 | 9.31 | 2.910 |
|  | MAY | 12.127 | 9.17 | 2.957 |
|  | JUN | 11.967 | 8.93 | 3.037 |
|  | JUL | 11.763 | 8.37 | 3.393 |
|  | AUG | 11.584 | 8.13 | 3.454 |
|  | SEP | 11.492 | 8.23 | 3.262 |
|  | OCT | 11.168 | 8.29 | 2.878 |
|  | NOV | 11.180 | 8.12 | 3.060 |
|  | DEC | 11.046 | 8.00 | 3.046 |
| 1990 | JaN | 10.725 | 8.00 | 2.725 |
|  | FEB | 10.864 | 8.37 | 2.494 |
|  | MAR | 11.025 | 8.63 | 2.395 |
|  | APR | 11.135 | 8.73 | 2.405 |
|  | MAY | 11.285 | 8.92 | 2.365 |
|  | JUN | 11.404 | 8.87 | 2.534 |
|  | JUL | 11.180 | 8.60 | 2.580 |
|  | AUG | 11.150 | 8.62 | 2.530 |
|  | SEP | 11.410 | 8.93 | 2.480 |
|  | OCT | 10.830 | 9.08 | 1.750 |
|  | NOV | 11.000 | 8.89 | 2.110 |
|  | DEC | 11.000 | 8.58 | 2.420 |


| YEAR | MONTH | Annual <br> Cost of Equity Gas | Risk <br> Free <br> Rate | Risk <br> Premium |
| :---: | :---: | :---: | :---: | :---: |
| 1991 | JAN | 10.740 | 8.27 | 2.470 |
|  | FEB | 10.886 | 8.31 | 2.576 |
|  | MAR | 10.869 | 8.09 | 2.779 |
|  | APR | 10.582 | 8.36 | 2.222 |
|  | MAY | 10.530 | 8.26 | 2.270 |
|  | JUN | 10.538 | 8.31 | 2.228 |
|  | JUL | 10.520 | 8.52 | 2.000 |
|  | AUG | 10.506 | 8.47 | 2.036 |
|  | SEP | 10.407 | 8.15 | 2.257 |
|  | OCT | 10.721 | 7.95 | 2.771 |
|  | NOV | 10.489 | 7.86 | 2.629 |
|  | DEC | 10.465 | 7.80 | 2.665 |
| 1992 | JAN | 10.336 | 7.55 | 2.786 |
|  | FEB | 10.391 | 7.46 | 2.931 |
|  | MAR | 10.444 | 7.76 | 2.684 |
|  | APR | 10.428 | 7.90 | 2.528 |
|  | MAY | 10.544 | 7.85 | 2.694 |
|  | JUN | 10.478 | 7.77 | 2.708 |
|  | Jul | 10.282 | 7.70 | 2.582 |
|  | AUG | 10.117 | 7.37 | 2.747 |
|  | SEP | 9.945 | 7.15 | 2.795 |
|  | OCT | 9.605 | 7.05 | 2.555 |
|  | NOV | 9.811 | 7.24 | 2.571 |
|  | DEC | 9.887 | 7.40 | 2.487 |
| 1993 | JAN | 9.441 | 7.29 | 2.151 |
|  | FEB | 9.313 | 7.16 | 2.153 |
|  | MAR | 9.128 | 6.87 | 2.258 |
|  | APR | 8.934 | 6.63 | 2.304 |
|  | MAY | 9.042 | 6.63 | 2.412 |
|  | JUN | 9.168 | 6.67 | 2.498 |
|  | JuL | 9.382 | 6.54 | 2.842 |
|  | AUG | 8.605 | 6.33 | 2.275 |
|  | SEP | 8.624 | 6.16 | 2.464 |
|  | OCT | 8.675 | 5.93 | 2.745 |
|  | NOV | 8.693 | 5.89 | 2.803 |
|  | DEC | 8.968 | 6.23 | 2.738 |
| 1994 | JAN | 8.960 | 6.26 | 2.700 |
|  | FEB | 8.632 | 6.23 | 2.402 |
|  | MAR | 8.721 | 6.44 | 2.281 |
|  | APR | 8.965 | 6.89 | 2.075 |
|  | MAY | 9.232 | 7.30 | 1.932 |
|  | JUN | 9.361 | 7.47 | 1.891 |
|  | JUL | 9.553 | 7.42 | 2.133 |
|  | AUG | 9.514 | 7.60 | 1.914 |
|  | SEP | 9.599 | 7.54 | 2.059 |
|  | OCT | 9.727 | 7.77 | 1.957 |
|  | NOV | 9.618 | 8.01 | 1.608 |
|  | DEC | 9.972 | 8.15 | 1.822 |
| 1995 | JAN | 10.124 | 7.95 | 2.174 |
|  | FEB | 9.831 | 7.92 | 1.911 |

SOURCES: Value Line Investment Survey
S\&P Stock Guide
Moody's Bond Survey

TOTAL CAPITALIZATION AND SALES VOLUME

|  | 1993 TOTAL | 1993 GAS SOLD <br> OR TRANSPORTED <br> MCF |
| :--- | ---: | ---: |
| COMPANY | CAPITALIZATION |  |

## * Gas Sales Only

SOURCE: 1994 FINANCIAL STATISTICS PUBLIC UTILITIES, C. A. TURNER UTILITY REPORTS, MFRs Sched. B-1,

BOND MELD DIFFERENTULS
Public Uulity Bond Yeid Averages source: Moody's Bond Survey

| 120 Month Average |  |  | 0.0769 | 0.0769 |  | 0.1091 |  | 0.1091 |  | 0.1091 |  | 0.1091 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| YEAR | MON | An3 | SPREAD |  | READ |  | EAD |  | PAD | Baa | EAD | Baat | EAD | Baa3 |
| 1995 | 3N | 8.88 | 0.02 | 8.71 | 0.02 | 8.73 | 0.14 | 8.87 | 0.14 | 9.01 | 0.14 | 9.15 | 0.14 | 9.29 |
|  | DEC | 8.71 | 0.02 | 8.74 | 0.02 | 8.76 | 0.13 | 8.89 | 0.13 | 9.03 | 0.13 | 9.16 | 0.13 | 9.29 |
|  | NOV | 8.93 | 0.03 | 8.95 | 0.03 | 8.98 | 0.12 | 9.10 | 0.12 | 9.23 | 0.12 | 9.35 | 0.12 | 9.47 |
|  | OCT | 8.81 | 0.03 | 8.83 | 0.03 | 8.86 | 0.13 | 8.99 | $0.13$ | ค. 11 | 0.13 | 0.24 | 0.13 | 9.37 |
|  | SEP | 8.59 | 0.03 | 8.61 | 0.03 | 8.64 | 0.11 | 8.75 | 0.11 | 8.87 | 0.11 | 8.98 | $0.11{ }^{\text { }}$ |  |
|  | AUG | 8.35 | 0.03 | 8.38 | 0.03 | 8.41 | 0.11 | 8.52 | 0.11 | 8.63 | 0.11 | 8.74 | 0.11 | 8.85 |
|  | JUL | 8.41 | 0.03 | 8.44 | 0.03 | 8.47 | 0.11 | 8.58 | 0.11 | 8.69 | 0.11 | 8.80 | 0.11 | 8.91 |
|  | JUN | 8.24 | 0.03 | 8.28 | 0.03 | 8.31 | 0.11 | 8.42 | 0.11 | 8.53 | 0.11 | 8.64 | 0.11 | 8.75 |
|  | MAY | 8.27 | 0.03 | 8.30 | 0.03 | 8.33 | 0.09 | 8.42 | 0.09 | 8.52 | 0.09 | 8.61 | 0.09 | 8.70 |
|  | APR | 8.15 | 0.03 | 8.19 | 0.03 | 8.22 | 0.06 | 8.30 | 0.08 | 8.39 | 0.08 | 8.47 | 0.08 | 8.55 |
|  | MAR | 7.78 | 0.04 | 7.81 | 0.04 | 7.85 | 0.09 | 7.94 | 0.09 | 8.02 | 0.09 | 8.11 | 0.09 | 8.20 |
|  | FEB | 7.38 | 0.04 | 7.43 | 0.04 | 7.47 | 0.10 | 7.57 | 0.10 | 7.66 | 0.10 | 7.76 | 0.10 | 7.86 |
| 1994 | JAN | 723 | 0.05 | 7.28 | 0.05 | 7.33 | 0.11 | 7.44 | 0.11 | 7.55 | 0.11 | 7.66 | 0.11 | 7.77 |
|  | DEC | 723 | 0.05 | 729 | 0.05 | 7.34 | 0.13 | 7.47 | 0.13 | 7.60 | 0.13 | 7.73 | 0.13 | 7.86 |
|  | NOV | 721 | 0.04 | 726 | 0.04 | 7.30 | 0.13 | 7.43 | 0.13 | 7.56 | 0.13 | 7.69 | 0.13 | 7.82 |
|  | OCT | 6.94 | 0.05 | 6.93 | 0.05 | 7.03 | 0.06 | 7.11 | 0.08 | 7.19 | 0.08 | 7.27 | 0.08 | 7.35 |
|  | SEP | 6.94 | 0.05 | 6.99 | 0.05 | 7.04 | 0.10 | 7.14 | 0.10 | 7.25 | 0.10 | 7.35 | 0.10 | 7.45 |
|  | AUG | 7.13 | 0.06 | 7.19 | 0.06 | 7.25 | 0.11 | 7.36 | 0.11 | 7.48 | 0.11 | 7.59 | 0.11 | 7.70 |
|  | JUL | 7.43 | 0.05 | 7.49 | 0.05 | 7.54 | 0.13 | 7.67 | 0.13 | 7.80 | 0.13 | 7.93 | 0.13 | 8.06 |
|  | JUN | 7.61 | 0.07 | 7.68 | 0.07 | 7.75 | 0.10 | 7.85 | 0.10 | 7.95 | 0.10 | 8.05 | 0.10 | 8.15 |
|  | MAY | 7.71 | 0.07 | 7.79 | 0.07 | 7.86 | 0.11 | 7.97 | 0.11 | 8.07 | 0.11 | 8.18 | 0.11 | 8.29 |
|  | APR | 7.70 | 0.06 | 7.75 | 0.06 | 7.81 | 0.10 | 7.91 | 0.10 | 8.01 | 0.10 | 8.11 | 0.10 | 8.21 |
|  | MAR | 7.81 | 0.05 | 7.85 | 0.05 | 7.90 | 0.07 | 7.97 | 0.07 | 8.03 | 0.07 | 8.10 | 0.07 | 8.17 |
|  | FEB | 7.96 | 0.04 | 8.00 | 0.04 | 8.04 | 0.09 | 8.13 | 0.09 | 8.22 | 0.09 | 8.31 | 0.09 | 8.40 |
| 1993 | JAN | 8.18 | 0.04 | 8.23 | 0.04 | 6.27 | 0.10 | 8.37 | 0.10 | 8.47 | 0.10 | 8.57 | 0.10 | 8.67 |
|  | DEC | 8.36 | 0.04 | 8.39 | 0.04 | 8.43 | 0.09 | 8.52 | 0.09 | 8.60 | 0.09 | 8.89 | 0.09 | 8.78 |
|  | NOY | 6.55 | 0.04 | 8.59 | 0.04 | 8.63 | 0.08 | 8.71 | 0.08 | 8.78 | 0.08 | 8.86 | 0.08 | 8.94 |
|  | OCT | 6.46 | 0.04 | 8.50 | 0.04 | 8.54 | 0.07 | 8.61 | 0.07 | 8.69 | 0.07 | 8.76 | 0.07 | 8.83 |
|  | SEP | 8.32 | 0.04 | 8.36 | 0.04 | 8.40 | 0.05 | 8.45 | 0.05 | 8.49 | 0.05 | 8.54 | 0.05 | 8.59 |
|  | AUG | 8.35 | 0.05 | 8.39 | 0.05 | 8.44 | 0.05 | 8.49 | 0.05 | 8.53 | 0.05 | 8.58 | 0.05 | 8.63 |
|  | JUL | 8.49 | 0.04 | - 53 | 0.04 | 8.57 | 0.04 | 8.51 | 0.04 | 8.65 | 0.00 | 8.69 | 0.04 | 8.73 |
|  | JUN | 8.68 | 0.05 | 8.73 | 0.05 | 6.78 | 0.04 | 8.82 | 0.04 | 8.86 | 0.04 | 8.90 | 0.04 | 8.94 |
|  | MAY | 8.75 | 0.06 | 8.81 | 0.06 | 8.87 | 0.05 | 8.92 | 0.05 | 8.96 | 0.05 | 9.01 | 0.05 | 9.06 |
|  | APR | 8.82 | 0.06 | 8.87 | 0.06 | 8.93 | 0.06 | 8.99 | 0.06 | 9.05 | 0.06 | 9.11 | 0.06 | 9.17 |
|  | MAR | 8.87 | 0.05 | 8.92 | 0.05 | 8.97 | 0.06 | 9.03 | 0.06 | 9.10 | 0.06 | 9.16 | 0.06 | 9.22 |
|  | FEB | 8.82 | 0.06 | 6.87 | 0.06 | 8.93 | 0.05 | 8.98 | 0.05 | 9.04 | 0.05 | 9.09 | 0.05 | 9.14 |
| 1992 | JWN | 8.70 | 0.07 | 8.77 | 0.07 | 8.84 | 0.05 | 8.89 | 0.05 | 8.93 | 0.05 | 8.96 | 0.05 | 9.03 |
|  | DEC | 8.77 | 0.06 | 8.82 | 0.06 | 8.88 | 0.06 | 8.94 | 0.06 | 9.01 | 0.06 | 9.07 | 0.06 | 9.13 |
|  | NON | 8.93 | 0.06 | 8.99 | 0.06 | 9.05 | 0.08 | 9.13 | 0.08 | 9.20 | 0.08 | 9.28 | 0.08 | 9.36 |
|  | OCT | 8.99 | 0.07 | 9.05 | 0.07 | 9.12 | 0.07 | 0.19 | 0.07 | 9.25 | 0.07 | 9.32 | 0.07 | 9.39 |
|  | SEP | 9.02 | 0.07 | 9.09 | 0.07 | 9.16 | 0.06 | 9.22 | 0.06 | 9.28 | 0.06 | 9.34 | 0.06 | 9.40 |
|  | AUG | 9.14 | 0.08 | 9.21 | 0.08 | 9.29 | 0.06 | 9.35 | 0.06 | 9.41 | 0.06 | 9.47 | 0.06 | 9.53 |
|  | JUL | 3.36 | 0.10 | 9.45 | 0.10 | 9.55 | 0.05 | 9.60 | 0.05 | 9.64 | 0.05 | 9.69 | 0.05 | 9.74 |
|  | JUN | 9.38 | 0.10 | 9.49 | 0.10 | 9.59 | 0.07 | 9.66 | 0.07 | 9.72 | 0.07 | 9.79 | 0.07 | 9.86 |
|  | MAY | 9.25 | 0.09 | 9.35 | 0.09 | 9.44 | 0.07 | 9.51 | 0.07 | 9.57 | 0.07 | 9.64 | 0.07 | 9.71 |
|  | APR | 9.25 | 0.11 | 9.35 | 0.11 | 9.46 | 0.06 | 9.52 | 0.06 | 9.58 | 0.06 | 9.64 | 0.06 | 9.70 |
|  | MAR | 9.34 | 0.11 | 9.44 | 0.11 | 9.55 | 0.06 | 9.61 | 0.06 | 9.68 | 0.06 | 9.74 | 0.06 | 9.80 |
|  | FEB | 9.26 | 0.10 | 9.37 | 0.10 | 9.47 | 0.07 | 9.54 | 0.07 | 9.61 | 0.07 | 9.68 | 0.07 | 9.75 |
| 1991 | JAN | 9.50 | 0.51 | 9.80 | 0.11 | 9.71 | 0.08 | 9.79 | 0.08 | 9.88 | 0.06 | 9.96 | 0.08 | 10.04 |
|  | DEC | 9.52 | 0.10 | 9.63 | 0.10 | 9.73 | 0.08 | 9.81 | 0.08 | 9.88 | 0.08 | 9.96 | 0.08 | 10.04 |
|  | NOV | 9.69 | 0.10 | 9.80 | 0.10 | 9.90 | 0.07 | 9.97 | 0.07 | 10.05 | 0.07 | 10.12 | 0.07 | 10.19 |
|  | OCT | 9.86 | 0.09 | 9.96 | 0.09 | 10.05 | 0.08 | 10.13 | 0.08 | 10.20 | 0.08 | 10.28 | 0.08 | 10.36 |
|  | SEP | 0.95 | 0.08 | 10.04 | 0.08 | 10.12 | 0.07 | 10.19 | 0.07 | 10.25 | 0.07 | 10.32 | 0.07 | 10.39 |
|  | AUG | 9.83 | 0.05 | 9.87 | 0.05 | 9.92 | 0.07 | 9.99 | 0.07 | 10.05 | 0.07 | 10.12 | 0.07 | 10.19 |
|  | JUL | 9.66 | 0.05 | 9.70 | 0.05 | 9.75 | 0.06 | 9.81 | 0.06 | 9.86 | 0.06 | 9.92 | 0.06 | 9.98 |
|  | JUN | 9.67 | 0.07 | 9.73 | 0.07 | 9.80 | 0.05 | 9.85 | 0.05 | 9.91 | 0.05 | 9.96 | 0.05 | 10.01 |
|  | MAY | 9.89 | 0.06 | 9.94 | 0.08 | 10.00 | 0.05 | 10.05 | 0.05 | 10.11 | 0.05 | 10.16 | 0.05 | 10.21 |
|  | APR | 9.85 | 0.04 | 9.88 | 0.04 | 9.92 | 0.07 | 9.99 | 0.07 | 10.06 | 0.07 | 10.13 | 0.07 | 10.20 |
|  | MAR | 9.66 | 0.06 | 9.77 | 0.06 | 9.85 | 0.07 | 9.92 | 0.07 | 9.99 | 0.07 | 10.06 | 0.07 | 10.13 |
|  | FEB | 0.63 | 0.06 | 9.70 | 0.06 | 9.76 | 0.07 | 9.83 | 0.07 | 9.89 | 0.07 | 9.96 | 0.07 | 10.03 |
| 1990 | JAN | 9.45 | 0.06 | 9.50 | 0.06 | 9.56 | 0.06 | 9.62 | 0.06 | 9.68 | 0.06 | 9.74 | 0.06 | 9.80 |
|  | DEC | 0.32 | 0.06 | 9.38 | 0.06 | 9.44 | 0.05 | 9.49 | 0.05 | 9.55 | 0.05 | 9.60 | 0.05 | 9.65 |
|  | NOV | 9.34 | 0.09 | 9.42 | 0.09 | 9.51 | 0.04 | 9.55 | 0.04 | 9.80 | 0.04 | 9.64 | 0.04 | 9.68 |
|  | OCT | 9.37 | 0.09 | 9.45 | 0.09 | 9.54 | 0.03 | 9.57 | 0.03 | 9.61 | 0.03 | D.64 | 0.03 | 9.67 |

BOND YIELD DIFFERENTIALS
Public Utility Bond Yield Averages
Source: Moody's Bond Survey

| YEAR | MON | Aa3 SPREAD |  | A1 SPREAD |  | A2 SPREAD |  | A3 SPREAD |  | Baal SPREAD |  | Baa2 Spread |  | Baa3 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | SEP | 9.43 | 0.08 | 9.50 | 0.08 | 9.58 | 0.04 | 9.62 | 0.04 | 9.66 | 0.04 | 9.70 | 0.04 | 9.74 |
|  | AUG | 9.35 | 0.08 | 9.44 | 0.08 | 9.52 | 0.04 | 9.56 | 0.04 | 9.60 | 0.04 | 9.64 | 0.04 | 9.68 |
|  | JUL | 9.32 | 0.09 | 9.41 | 0.09 | 9.50 | 0.05 | 9.55 | 0.05 | 9.59 | 0.05 | 9.64 | 0.05 | 9.69 |
|  | JUN | 9.46 | 0.09 | 9.55 | 0.09 | 9.64 | 0.05 | 9.69 | 0.05 | 9.75 | 0.05 | 9.80 | 0.05 | 9.85 |
|  | MAY | 9.86 | 0.07 | 9.92 | 0.07 | 9.99 | 0.10 | 10.09 | 0.10 | 10.19 | 0.10 | 10.29 | 0.10 | 10.39 |
|  | APR | 10.07 | 0.05 | 10.13 | 0.05 | 10.18 | 0.10 | 10.28 | 0.10 | 10.39 | 0.10 | 10.49 | 0.10 | 10.59 |
|  | MAR | 10.11 | 0.06 | 10.17 | 0.06 | 10.23 | 0.09 | 10.32 | 0.09 | 10.41 | 0.09 | 10.50 | 0.09 | ¢0.59 |
|  | FEB | 9.98 | 0.05 | 10.02 | 0.05 | 10.07 | 0.10 | 10.17 | 0.10 | 10.28 | 0.10 | 10.38 | 0.10 | 10.48 |
| 1989 | JAN | 9.95 | 0.06 | 10.02 | 0.06 | 10.08 | 0.10 | 10.18 | 0.10 | 10.28 | 0.10 | 10.38 | 0.10 | 10.48 |
|  | DEC | 9.95 | 0.05 | 10.01 | 0.05 | 10.06 | 0.13 | 10.19 | 0.13 | 10.31 | 0.13 | 10.44 | 0.13 | 10.57 |
|  | NOV | 9.85 | 0.06 | 9.91 | 0.06 | 9.97 | 0.11 | 10.08 | 0.11 | 10.20 | 0.11 | 10.31 | 0.11 | 10.42 |
|  | OCT | 9.83 | 0.03 | 9.87 | 0.03 | 9.90 | 0.15 | 10.05 | 0.15 | 10.20 | 0.15 | 10.35 | 0.15 | 10.50 |
|  | SEP | 10.43 | 0.09 | 10.52 | 0.09 | 10.61 | 0.17 | 10.78 | 0.17 | 10.96 | 0.17 | 11.13 | 0.17 | 11.30 |
|  | AUG | 10.96 | 0.11 | 11.06 | 0.11 | 11.17 | 0.17 | 11.34 | 0.17 | 11.52 | 0.17 | 11.69 | 0.17 | 11.86 |
|  | JUL | 10.85 | 0.09 | 10.95 | 0.09 | 11.04 | 0.16 | 11.20 | 0.16 | 11.36 | 0.16 | 11.52 | 0.16 | 11.68 |
|  | JUN | 10.61 | 0.09 | 10.70 | 0.09 | 10.79 | 0.16 | 10.95 | 0.16 | 11.11 | 0.16 | 11.27 | 0.16 | 11.43 |
|  | MAY | 10.62 | 0.09 | 10.72 | 0.09 | 10.81 | 0.19 | 11.00 | 0.19 | 11.19 | 0.19 | 11.38 | 0.19 | 11.57 |
|  | APR | 10.37 | 0.08 | 10.46 | 0.08 | 10.54 | 0.23 | 10.77 | 0.23 | 11.00 | 0.23 | 11.23 | 0.23 | 11.46 |
|  | MAR | 9.98 | 0.06 | 10.03 | 0.06 | 10.09 | 0.20 | 10.29 | 0.20 | 10.49 | 0.20 | 10.69 | 0.20 | 10.89 |
|  | FEB | 9.97 | 0.06 | 10.04 | 0.06 | 10.10 | 0.18 | 10.28 | 0.18 | 10.47 | 0.18 | 10.65 | 0.18 | 10.83 |
| 1988 | JAN | 10.60 | 0.08 | 10.68 | 0.08 | 10.76 | 0.19 | 10.95 | 0.19 | 11.15 | 0.19 | 11.34 | 0.19 | 11.53 |
|  | DEC | 10.85 | 0.07 | 10.91 | 0.07 | 10.98 | 0.19 | 11.17 | 0.19 | 11.36 | 0.19 | 11.55 | 0.19 | 11.74 |
|  | NOV | 10.69 | 0.07 | 10.75 | 0.07 | 10.82 | 0.19 | 11.01 | 0.19 | 11.21 | 0.19 | 11.40 | 0.19 | 11.59 |
|  | OCT | 11.19 | 0.08 | 11.26 | 0.08 | 11.34 | 0.19 | 11.53 | 0.19 | 11.72 | 0.19 | 11.91 | 0.19 | 12.10 |
|  | SEP | 10.85 | 0.19 | 11.03 | 0.19 | 11.22 | 0.12 | 11.34 | 0.12 | 11.46 | 0.12 | 11.58 | 0.12 | 11.70 |
|  | AUG | 10.18 | 0.13 | 10.32 | 0.13 | 10.45 | 0.15 | 10.60 | 0.15 | 10.75 | 0.15 | 10.90 | 0.15 | 11.05 |
|  | JUL | 9.85 | 0.15 | 10.00 | 0.15 | 10.15 | 0.16 | 10.31 | 0.16 | 10.46 | 0.16 | 10.62 | 0.16 | 10.78 |
|  | JUN | 9.75 | 0.14 | 9.88 | 0.14 | 10.02 | 0.15 | 10.17 | 0.15 | 10.31 | 0.15 | 10.46 | 0.15 | 10.61 |
|  | MAY | 9.72 | 0.09 | 9.82 | 0.09 | 9.91 | 0.16 | 10.07 | 0.16 | 10.24 | 0.16 | 10.40 | 0.16 | 10.56 |
|  | APR | 9.23 | 0.08 | 9.30 | 0.08 | 9.38 | 0.16 | 9.54 | 0.16 | 9.69 | 0.16 | 9.85 | 0.16 | 10.01 |
|  | MAR | 8.74 | 2.10 | 8.83 | 0.10 | 8.93 | 0.09 | 9.02 | 0.09 | 9.10 | 0.09 | 9.19 | 0.09 | 9.28 |
|  | FEB | 8.79 | 0.10 | 6.90 | 0.10 | 9.00 | 0.08 | 9.08 | 0.08 | 9.16 | 0.08 | 9.24 | 0.08 | 9.32 |
| 1987 | JAN | 8.73 | 0.11 | 8.84 | 0.11 | 8.95 | 0.11 | 9.06 | 0.11 | 9.16 | 0.11 | 9.27 | 0.11 | 9.38 |
|  | DEC | 8.91 | 0.10 | 9.02 | 0.10 | 9.12 | 0.12 | 9.24 | 0.12 | 9.37 | 0.12 | 9.49 | 0.12 | 961 |
|  | NOV | 9.10 | 0.09 | 9.19 | 0.09 | 9.28 | 0.14 | 9.42 | 0.14 | 9.55 | 0.14 | 9.69 | 0.14 | 9.83 |
|  | OCT | 9.33 | 0.09 | 9.43 | 0.09 | 9.52 | 0.14 | 9.66 | 0.14 | 9.81 | 0.14 | 9.95 | 0.14 | 10.09 |
|  | SEP | 9.36 | 0.08 | 9.44 | 0.08 | 9.52 | 0.15 | 9.67 | 0.15 | 9.81 | 0.15 | 9.96 | 0.15 | 10.11 |
|  | AUG | 9.12 | 0.09 | 9.20 | 0.09 | 9.29 | 0.14 | 9.43 | 0.14 | 9.56 | 0.14 | 5.70 | 0.14 | 9.84 |
|  | JUL | 9.16 | 0.11 | 9.26 | 0.11 | 9.37 | 0.11 | 9.48 | 0.11 | 9.58 | 0.11 | 9.69 | 0.11 | 9.80 |
|  | UN | 9.45 | 0.09 | 9.53 | 0.09 | 9.62 | 0.14 | 9.76 | 0.14 | 9.89 | 0.14 | 10.03 | 0.14 | 10.17 |
|  | MAY | 9.45 | 0.07 | 9.52 | 0.07 | 9.59 | 0.14 | 9.73 | 0.14 | 9.88 | 0.14 | 10.02 | 0.14 | 10.16 |
|  | APR | 8.96 | 0.09 | 9.05 | 0.09 | 9.14 | 0.16 | 9.30 | 0.16 | 9.47 | 0.16 | 9.63 | 0.16 | 9.79 |
|  | MAR | 9.27 | 0.11 | 9.37 | 0.11 | 9.48 | 0.14 | 9.62 | 0.14 | 9.77 | 0.14 | 9.91 | 0.14 | 10.05 |
|  | FEB | 10.07 | 0.09 | 10.17 | 0.09 | 10.26 | 0.16 | 10.42 | 0.16 | 10.58 | 0.16 | 10.74 | 0.16 | 10.90 |
| 1986 | JAN | 10.56 | 0.12 | 10.67 | 0.12 | 10.79 | 0.15 | 10.94 | 0.15 | 11.09 | 0.15 | 11.24 | 0.15 | 11.39 |
|  | DEC | 10.70 | 0.13 | 10.84 | 0.13 | 10.97 | 0.17 | 11.14 | 0.17 | 11.31 | 0.17 | 11.48 | 0.17 | 11.65 |
|  | NOV | 11.23 | 0.13 | 11.36 | 0.13 | 11.49 | 0.18 | 11.67 | 0.16 | 11.86 | 0.18 | 12.04 | 0.18 | 12.22 |
|  | OCT | 11.74 | 0.13 | 11.88 | 0.13 | 12.01 | 0.17 | 12.18 | 0.17 | 12.35 | 0.17 | 12.52 | 0.17 | 12.69 |
|  | SEP | 11.83 | 0.15 | 11.98 | 0.15 | 12.13 | 0.20 | 12.33 | 0.20 | 12.52 | 0.20 | 12.72 | 0.20 | 12.92 |
|  | AUG | 11.81 | 0.16 | 11.97 | 0.16 | 12.13 | 0.20 | 12.33 | 0.20 | 12.53 | 0.20 | 12.73 | 0.20 | 12.93 |
|  | JUL | 11.72 | 0.17 | 11.90 | 0.17 | 12.07 | 0.21 | 12.28 | 0.21 | 12.49 | 0.21 | 12.70 | 0.21 | 12.91 |
|  | JUN | 11.83 | 0.15 | 11.98 | 0.15 | 12.13 | 0.18 | 12.31 | 0.18 | 12.48 | 0.18 | 12.66 | 0.18 | 12.84 |
|  | MAY | 12.81 | 0.16 | 12.96 | 0.16 | 13.12 | 0.17 | 13.29 | 0.17 | 13.45 | 0.17 | 13.62 | 0.17 | 13.79 |
|  | APR | 13.32 | 0.15 | 13.46 | 0.15 | 13.61 | 0.17 | 13.78 | 0.17 | 13.94 | 0.17 | 14.11 | 0.17 | 14.28 |
|  | MAR | 13.62 | 0.12 | 13.75 | 0.12 | 13.87 | 0.11 | 13.98 | 0.11 | 14.08 | 0.11 | 14.19 | 0.11 | 14.30 |
|  | FEB | 12.95 | 0.07 | 13.01 | 0.07 | 13.08 | 0.12 | 13.20 | 0.12 | 13.32 | 0.12 | 13.44 | 0.12 | 13.56 |

# Exhibit PHL-10, Page 1 of 1 

## RANGE FOR FPUC

RANGE FOR MODELS $\quad 9.83 \%$ to $10.61 \%$
ROUND TO NEAREST 10 BASIS POINTS
9.80\% to $10.60 \%$
SPREAD TO ADJUST FOR SMALLER SIZE
60 Basis Points
RANGE FOR FPUC $\quad 10.40 \%$ to $11.20 \%$
S \& P UTILITY FINANCIAL BENCHMARK RATIOS
GAS DISTRIBUTORS

| PRETAX INTEREST COVERAGE (X) | AA | A | BBB |
| :--- | :--- | :--- | :--- |
| BUSNESS POSITION: |  |  |  |
| ABOVE AVERAGE | 3.75 | 3.00 | 2.00 |
| AVERAGE | 4.25 | 3.75 | 2.75 |
| BELOW AVERAGE |  | 4.25 | 3.25 |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
| TOTAL DEBT TO TOTAL CAPITAL (\%) | AA | A | BBB |
| BUSINESS POSITION: | 46 | 51 | 58 |
| ABOVE AVERAGE | 41 | 46 | 53 |
| AVERAGE | - | 42 | 49 |

SOURCE: Standard and Poor's Global Sector Review, July ..... 1994

In Re: Application for a rate, DOCKET NO. 940620-GU increase by FLORIDA PUBLIC UTILITIES COMPANY.

FILED: MARCH 3, 1995

## CERTIFICATE OF SERVICE

I HEREBY CERTIFY that one copy each of Staff's Testimony of Pete Lester and Nancy E. Pruitt has been furnished to Wayne Schiefelbein, Esquire, Gatling, Woods, Carlson and Cowdery, 1709 D Mahan Drive, Tallahassee, Florida 32308 on behalf of Florida Public Utilities Company and that true and correct copies thereof have been furnished by U.S. Mail this 3rd day of March, 1995, to the following:
F. C. Cressman

Florida Public Utilities Co.
Post Office Box 3395
West Palm Beach, FL 33402-3395


