DOCKET NO. 010006-WS - Water and wastewater industry annual reestablishment of authorized range of return on common equity of water and wastewater utilities pursuant to Section 367.081(4)(f), F.S.

WITNESS: **Direct Testimony of Pete Lester**
Appearing on Behalf of Staff

DATE FILED: September 28, 2001

DIRECT TESTIMONY OF PETE LESTER

Q. Please state your name and business address.

A. My name is Pete Lester and my business address is 2540 Shumard Oak Boulevard, Tallahassee, Florida 32399-0850.

Q. By whom are you employed and in what capacity?

A. I am employed by the Florida Public Service Commission (FPSC or Commission) as an Economic Analyst in the Finance and Tax Section of the Division of Economic Regulation.

Q. Will you briefly summarize your educational background and 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 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. I now work in the Division of Economic Regulation. 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 proceedings.

Q. Are you a member of any professional associations?

A. Yes. I am a member of the Society of Utility and Regulatory Financial Analysts (SURFA). I have been awarded the professional designation Certified Rate of Return Analyst (CRRA) by SURFA. This designation is awarded based upon education, experience, and the successful completion of a written examination.

In addition, I have been awarded the professional designation Chartered Financial Analyst (CFA) by the Association for Investment Management and Research (AIMR), of which I am a member. A CFA is awarded based on the candidate having qualifying work experience, meeting AIMR's standards, and passing three exams.

Q. Have you previously testified before the Commission?

A. Yes. I testified on behalf of staff in Docket No. 920733-WS, Docket No. 940620-GU and Docket No. 940276-GU regarding General Development Utilities, Florida Public Utilities, and City Gas Company of Florida, respectively. The subject of my testimony was cost of equity and capital structure. In addition, as a Commission staff member, I have participated in many rate and regulatory proceedings.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to recommend a leverage formula that

reflects the appropriate range of returns on common equity for an average water and wastewater utility pursuant to Section 367.081(4)(f), Florida Statutes. I am recommending a specific leverage formula methodology based on cost of equity models.

Q. Do you have exhibits that accompany your testimony?

A. Yes. Attached to my testimony are Exhibits PL-1 through PL-22. Exhibit PL-1 is an index of the exhibits.

Q. Please define some of the technical terms you use in your testimony.

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, both considering the riskiness of the investment and returns available on other investments. This is also known as the investors' required return on common equity.

The leverage formula is an equation that calculates the return on equity (ROE) for a water and wastewater utility as a general debt cost rate plus an equity risk premium. The only variable is the water and wastewater utility's equity ratio. I have presented the general form of the equation, and defined the equity ratio, on Exhibit PL-2.

Business risk for a firm 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.

An investment grade bond is a bond with a rating of BBB or better.

Using Standard & Poor's (S & P's) system as an example, bonds in the top four ratings categories, AAA, AA, 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.

Q. What principles provide the legal framework for your determination of the cost of equity as calculated by the leverage formula?

A. I believe my analysis follows the principles established by the United States Supreme Court 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). In my opinion, 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 confidence in the financial integrity of the enterprise so that it can maintain credit and attract capital.

In addition, Section 367.081(4)(f), Florida Statutes, and Rule 25-30.415, Florida Administrative Code, state the legal framework for the leverage formula.

Q. Does your leverage foumula recommendation take into consideration that the return on equity should be commensurate with returns on other investments of corresponding risks, and that the return should be sufficient to assure confidence in the financial integrity of the enterprise?

A. Yes. My recommendation of the appropriate leverage formula is based

upon my 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. In addition, I have adjusted the leverage formula calculation to compensate for risk not captured by the models.

Q. What do you recommend as the appropriate leverage formula?

A. Based upon the results of my analysis, I recommend a leverage formula that indicates a range of 9.69% to 10.80% as reasonable returns on common equity for an average water and wastewater utility under the Commission's jurisdiction. I have presented the calculation of my recommended leverage formula on Exhibit PL-3.

Q. Does your recommended leverage formula represent a change in the current Commission leverage formula methodology?

A. Yes. I am recommending changes to the status quo methodology. As background, the Commission authorized the current leverage formula by Order No. PSC-00-1162-PAA-WS, effective on July 18, 2000 in Docket No. 000006-WS. In Docket No. 010006-WS, the Commission proposed a leverage formula by Order No. PSC-01-1226-PAA-WS, issued on June 1, 2001, which proposed a range of 9.14% to 10.24% as reasonable returns on common equity. The Florida Waterworks Association protested this Proposed Agency Action (PAA) order. In my testimony, I refer to the leverage formula methodology in the protested PAA

order as the status quo methodology as it is the same methodology behind the current leverage formula with two minor modifications to the capital asset pricing model (CAPM).

Q. Why did you investigate changing the status quo methodology?

A. As shown on Exhibit PL-4, I compared the range of returns on common equity from the current leverage formula and past leverage formulas to returns authorized for water utilities in other states. Since 1997, the Commission's leverage formula has produced returns on common equity generally below the authorized returns on equity for water utilities in other states. In addition, in late 2000 and early 2001, the Commission processed gas rate cases for City Gas Company, Chesapeake Utilities Corporation, and St. Joe Natural Gas. In each of these cases, the Commission authorized an ROE of 11.5%.

I do not believe that ROEs authorized for water utilities in other states are necessarily a guide as to how the Commission should set ROEs for water and wastewater utilities under its jurisdiction. Also, I do not believe ROEs set for utilities in one industry should determine the Commission's ROE decisions in another industry. Still, the higher ROEs for water utilities in other states and for other regulated industries in Florida suggest that review of the leverage formula methodology, and possible change to that methodology, is appropriate.

Q. What are the assumptions behind the leverage formula?

A. A key assumption is that a water and wastewater utility's cost of capital remains constant over a range of different equity ratios. As a utility increases its use of debt, its cost of equity rises due to increased financial risk. The increased cost of equity is offset by a larger proportion

of lower cost debt in the capital structure. The result is that the overall cost of capital remains constant.

A second assumption is that all water and wastewater utilities have similar business risk profiles. I consider this assumption to agree with the statutory notion of an average water and wastewater utility. Also, business risk is assumed to be reduced in a regulatory environment. Further, total risk for the utility is business risk plus financial risk. Financial leverage, as measured by the equity ratio, is the appropriate benchmark for financial risk.

Q. Would you describe the general approach you used to determine the appropriate leverage formula?

A. I analyzed current economic conditions and trends, and national and state industry factors. I believe economic conditions and national industry factors affect the capital markets. I then applied two generally accepted market-based rate of return models to an index of water utilities and an index of natural gas distribution utilities. I used the results of these models, along with specific risk adjustments, to determine the appropriate leverage formula.

Q. What is your analysis of the current economic environment?

A. After approximately 10 years of economic expansion, the economy experienced a downturn during the second quarter of 2001. Growth in real gross domestic product (real GDP), the inflation-adjusted total amount of goods and services produced in the United States, and the unemployment rate are indicators of current economic activity. Real GDP grew at an annual rate of 0.2% in the second quarter of 2001, the slowest pace in over 8 years. This

is down from the 1.3% rate in the first quarter of 2001 and the 1.9% rate in the last quarter of 2000. The civilian unemployment rate stood at 4.5% in the second quarter of 2001, up from the 4.2% rate in the first quarter of 2001 and the 4.0% rate for the last 3 quarters of 2000. The annual inflation rate, as measured by the change in the Consumer Price Index, was 3.0% in the second quarter of 2001, down from the 4.2% rate in the first quarter.

The Blue Chip Economic Indicators and the Blue Chip Financial Forecasts provide consensus estimates of economic and financial activity. The September 10, 2001 issue of the Blue Chip Economic Indicators estimates real GDP growth will increase to a range of 3.1% to 3.5% for 2002. The annual unemployment rate is estimated to increase to a range of 4.8% to 4.9% for 2002. The annual inflation rate is estimated to decrease to a range of 2.5% to 2.6% for 2002.

The economic downturn had prompted the Federal Reserve to cut short-term interest rates by reducing the federal-funds target rate. The federal-funds rate is the interest rate charged on overnight loans between banks. The Federal Reserve has cut its federal-funds target 8 times in 2001, from 6.5% to 3.0%. The most recent cut by .50% to 3.0% on September 17, 2001 is the lowest level since 1994. This cut was in response to the financial disruptions caused by the terrorist attacks on the World Trade Center and the Pentagon.

Q. What is your analysis of conditions in the national water industry?

A. Investor-owned water utilities are natural monopolies. Water has no substitute and water utilities do not face competition. Unlike electric utilities, water utilities do not face the issue of restructuring.

Water utilities face federal and state regulation regarding water

quality. Under the 1996 amendments to the Safe Drinking Water Act (SDWA or the Act), the maximum allowable contaminant level is based on cost/benefit and relative risk analyses in contrast to the earlier standards, which were based on available technology. With the amendments, states have the flexibility to adjust testing and monitoring requirements based on local conditions. The SDWA amendments have reduced the level of capital spending necessary for compliance with the Act. However, regulations under the SDWA are evolving and new standards and new contaminants can arise.

Infrastructure replacement has become an issue for investor-owned water utilities. Some utilities' transmission mains and distribution lines are approaching the end of useful life. The size of the issue varies from system to system. Some treatment plants are more than 50 years old and need to be replaced due to age and to meet SDWA regulations. The need for infrastructure replacement could cause financial stress for some utilities, particularly smaller ones.

Consolidation through mergers and acquisitions has become a feature of the industry. In 2000, United Water Resources was acquired by Suez Lyonnais des Eaux S.A., a French firm that manages water systems by contract. Also in 2000, E'town Corporation was acquired by Thames Water, and Consumers Water was acquired by Philadelphia Suburban. Since small systems have difficulty obtaining funding for SDWA compliance and infrastructure replacement, they become candidates for acquisition by larger systems.

Q. What is your analysis of conditions in the Florida water and wastewater utility industry?

A. The Commission has jurisdiction over investor-owned water and wastewater

utilities in 36 of Florida's 67 counties. To get a sense of the size and performance of these utilities, I gathered information from the Commission's annual reports for 2000. The Commission mailed 208 annual reports for 2000. I used 182 of these reports. I could not use 26 reports because some utilities have yet to file their annual reports or are new companies with no revenue. Also, some utilities became non-jurisdictional during 2000.

Some utilities are water and wastewater and some are water-only or wastewater-only. In my analysis, I separated water and wastewater operations since the Commission sets water and wastewater rates separately and measures earnings separately. In my testimony, when I refer to a water system, I mean all the water operations owned by a utility. By wastewater system, I mean all the wastewater operations owned by a utility.

Exhibit PL-5 shows the breakdown of systems by revenue. The majority of the utilities report less than $200,000 in revenue. Most of the 148 water systems and 118 wastewater systems are small.

Exhibits PL-6 and PL-7 show revenue and earnings for Florida's five investor-owned electric utilities and eight investor-owned gas utilities, respectively. Exhibit PL-8 compares average and median 2000 revenue for Florida's investor-owned gas utilities to the average and median revenue for water and wastewater systems. As demonstrated by these exhibits (PL-6 through PL-8), the water and wastewater systems are dramatically smaller by revenue than the electric utilities. The water and wastewater systems are much smaller than Florida gas utilities.

Exhibits PL-9 and PL-10 show the distribution by revenue of the nine water and wastewater systems with revenue over $1 million. Excepting outliers

like Florida Water Services Corporation and United Water - Florida, Inc., the largest water and wastewater systems have less than $4 million in revenue.

Q. What is the earnings performance of the Florida water and wastewater utilities?

A. Exhibits PL-11 and PL-12 show the achieved ROEs of the water and wastewater systems. Since the range of achieved ROEs is wide, I believe the median is a better statistic for comparison purposes. The largest water and wastewater systems, which have revenue greater than $1 million, perform better than Florida gas utilities but not as well as Florida electric utilities (See Exhibits PL-6 and PL-7). The smaller water systems, those with less than $1 million in revenue, are less profitable than both the gas utilities and the larger water systems.

Just looking at the median achieved ROE, one might conclude that wastewater systems with revenue less than $1 million but greater than $200 thousand have similar profitability to gas utilities. However, nearly half these wastewater systems report losses. Of the eight gas utilities, two report losses for 2000 and both these utilities have less than $1 million in revenue.

Q. What conclusions do you reach based on your analysis of the size and performance of Florida water and wastewater utilities?

A. By revenue, Florida water and wastewater utilities are much smaller than the state's other regulated utilities. The largest water and wastewater utilities are profitable and perform comparably well but they are only a small percentage of the total number of utilities. Most of the water and wastewater utilities have less than $1 million in revenue. In the $200 thousand to $1 million revenue category, approximately half the water and wastewater utilities

report losses. The smaller systems are less profitable than the larger systems, with systems in the less than $200 thousand in revenue category being the least profitable and showing the most losses.

Economies of scale matter for utilities and this is particularly true with water and wastewater utilities. Water and wastewater systems are capital intensive and have high fixed costs. Larger systems have more volume over which to spread these costs. Therefore, it is not surprising that the largest systems perform better than the smaller ones.

Based on the annual reports for 2000, I believe an average Florida water and wastewater utility is small, with less than $1 million in revenue. Since the leverage formula is intended for an average water and wastewater utility, I believe it is appropriate to emphasize the systems with less than $1 million in revenue and not focus on the extremes, such as the largest systems or the very small systems.

Q. Are there positive factors for Florida water and wastewater utilities?

A. Yes. Florida Statutes and Commission Rules allow water and wastewater utilities to pass through in rates the increased costs for purchased water, purchased wastewater treatment, property taxes, purchased power, and required testing for environmental compliance. Also, water and wastewater utilities may adjust their rates to keep up with general inflation. These adjustment procedures allow water and wastewater utilities to keep whole with respect to many cost increases.

Other positive factors involve customer growth and revenue mix. Florida utilities overall experience favorable customer growth and I believe this is a positive effect for most water and wastewater utilities. The water and

wastewater utilities primarily serve residential customers. Residential revenue can be less variable than revenue from industrial customers. Regarding water quality, the Drinking Water State Revolving Fund, managed by the Florida Department of Environmental Protection, may provide loans to qualifying investor-owned water systems with less than 1500 connections for SDWA compliance projects.

Q. How would you assess the regulatory risk facing Florida water and wastewater utilities?

A. In assessing regulatory risk, bond rating agencies look at various issues such as whether the regulatory commission is elected or appointed and whether the regulator allows projected test years and adjustment clauses. Standard & Poor's generally views regulation as practiced by the FPSC as supportive. However, for water and wastewater utilities, FPSC regulation is by county option. I believe this causes uncertainty regarding regulation for water and wastewater utilities. For example, four counties have taken back regulation from the Commission since 1996. Therefore, I believe Florida water and wastewater utilities face somewhat higher regulatory risk compared with Florida electric and gas utilities.

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 equity inputs for the leverage formula?

A. To determine the cost of equity inputs for the leverage formula, I used a two-stage annually compounded discounted cash flow (DCF) model and a capital asset pricing model (CAPM). I applied these models to an index of water utilities and to an index of natural gas distribution utilities. I developed both indexes from utilities followed by the Value Line Investment Survey.

Relying on an index of comparable companies, instead of a single company, helps reduce 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 your index of water utilities.

A. My water index consists of the four water utilities followed by Value Line. These are large, publicly-traded water utilities that have operations concentrated in the Northeast and in California. Exhibit PL-13 lists the utilities and their investment characteristics.

Q. Why have you chosen to include an index of natural gas distribution utilities in calculating the leverage formula?

A. As recently as the first quarter of 2000, Value Line reported on six water companies. Due to mergers and to acquisitions by foreign companies, the number has shrunk to four. I believe this is a small number of utilities upon which to base an ROE determination.

Value Line reports on 19 natural gas distribution utilities. I have selected an index of 11 companies from this group. These gas utilities are monopolies regulated by state regulatory commissions. As such, I believe this

index, along with the water index, form reasonable proxy groups for determining the general cost of equity for water and wastewater utilities. I believe adjustments to the general cost of equity are necessary for determining the appropriate cost of equity for an average Florida water and wastewater utility.

Q. Are you assuming that an index of water utilities and an index of gas utilities are appropriate proxy groups for wastewater utilities?

A. Yes. This is an assumption behind the leverage formula. No publicly traded companies depend significantly on wastewater revenues. To determine the cost of equity for wastewater utilities, one must use a group of companies with comparable characteristics. I believe that an index of water utilities and an index of gas utilities are an appropriate proxy for determining the appropriate cost of equity for wastewater utilities. Each index represents capital intensive natural monopolies regulated by state commissions.

Q. Please describe your index of gas utilities.

A. My gas index consists of 11 gas utilities. I derived this group from the 20 gas utilities followed by Value Line. I eliminated companies that had substantial non-regulated revenue, i.e., above 22% of total revenue. The 11 gas utilities in my index have sales-to-net-plant ratios less than 1.0. This indicates these utilities are capital intensive. Exhibit PL-14 lists the utilities and their investment characteristics.

Q. What is the theory behind the 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 PL-15, 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. A two-stage DCF 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 PL-16, I have presented the equation for my two-stage annually compounded DCF model and defined the terms.

Q. What are the inputs for your DCF model?

A. I used current stock prices for the utilities in my indexes, specific dividend forecasts for the initial growth period, and a sustainable or long-term growth rate. For current stock prices, I first calculated the average of the high and low stock prices for August 2001 for each utility 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 2001, 2002 and 2005 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 know as the "b × 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 2005.

Q. What are the results of your DCF analysis?

A. The results of my DCF analysis show that the cost of equity is 9.01% for the water index and 10.71% for the gas index. Exhibit PL-17 shows the inputs and results for my DCF analysis.

Q. What is the theory behind the CAPM model?

A. The CAPM model is based on two general assumptions. First, investors are assumed to be risk averse. They require a higher return for riskier investments. Essentially, there is a risk/return tradeoff. Second, diversification reduces risk. Investors can eliminate unsystematic risk, also known as company specific risk, by holding diversified portfolios. The returns to such a portfolio compensate investors only for systematic risk, that is, general market risk that cannot be diversified away.

A risk statistic, beta, is used to measure systematic risk. A particular stock's beta is a measure of the volatility of that stock's return compared to the return on a broad market index. By definition, the beta of the market index is 1.0. Lower risk stocks, like utilities, generally have betas significantly below 1.0.

The CAPM model is a risk premium model. It defines the cost of equity as a risk-free rate plus a premium. The premium for a specific company is developed as follows: The return on a broad stock market index is calculated and the risk-free rate is subtracted from this. This result is multiplied by the company's beta and added to the risk-free rate. The result is an estimate of the cost of equity for a specific company. I presented the equation for the

CAPM model on Exhibit PL-18.

Q. What are the inputs for your CAPM model?

A. For the risk free rate, I have used the forecasted 30-year Treasury bond yields from the August 1, 2001 Blue Chip Financial Forecast. I used a rate of 5.74%, which is an average of the forecasted Treasury bond yields from the 4th quarter of 2001 to the 4th quarter of 2002. As shown on Exhibits PL-13 and PL-14, the average beta for both the water and gas indexes is .61.

I estimated the market return by applying a simple DCF equation to 652 stocks from Value Line. The stock prices are for July 2001. I eliminated stocks that did not pay dividends and stocks that had earnings or dividend growth rates above 20%. Growth rates above 20% are not sustainable in the long run. I believe this is a large group of stocks that is an appropriate proxy for determining the market return. For the growth rate, I used the average of projected earnings per share growth and projected dividend growth. The resulting market return is 10.79%.

As explained on Exhibit PL-18, I added 10 basis points to the calculated market return to approximate quarterly compounding of dividends. While I believe the annual DCF model is appropriate for utilities, the companies I used to estimate the market return are in competitive industries and do not necessarily receive regular monthly revenue like utilities. Therefore, a quarterly compounding adjustment is appropriate. With this adjustment, the market return is 10.89%.

Q. What are the results of your CAPM analysis?

A. The results of my CAPM analysis show that the cost of equity is 8.98% for both the water and gas indexes. Exhibit PL-18 shows the inputs and results for

my CAPM analysis.

Q. Did you include an allowance for issuance costs in your DCF and CAPM analysis?

A. Yes. The DCF model includes an allowance for issuance costs, calculated as 3% of the stock price. An allowance for issuance costs, also known as flotation costs, enables the utility to recover the costs incurred when issuing common stock. Issuance costs includes registration fees, legal fees, underwriter fees, printing and mailing. 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 incurs issuance costs. A company can incur these costs whether the stock is publicly traded or privately held. Historically, utility underwriting expenses associated with issuing common stock have averaged 3 to 4 percent of gross proceeds.

As shown on Exhibit PL-18, I added 10 basis points to the CAPM results as a flotation cost allowance. This is essentially the effect of allowing flotation costs for the DCF model and results.

Q. Are the four results indicated by your two models and two indexes appropriate for an average Florida water and wastewater utility?

A. No. While the range of ROEs I calculated for the index is an appropriate starting place, an average Florida water and wastewater utility is riskier than the utilities in my water index and gas index.

Q. Why is an average Florida water and wastewater utility riskier than the utilities in the indexes?

A. A comparison of revenues from Exhibits PL-13 and PL-14 with revenues from

Exhibit PL-8 demonstrates that an average Florida water and wastewater utility is considerably smaller than the utilities in the indexes. The smallest utility in my water and gas indexes is American States Water, with approximately $184 million in revenue for 2000. The entire FPSC-regulated water and wastewater industry had approximately $152 million in revenue for 2000. The two largest Florida water and wastewater utilities account for approximately half the industry revenue.

A comparison of Exhibits PL-11 and PL-12 with Exhibits PL-13 and PL-14 shows the utilities in the indexes have significantly higher achieved ROEs compared with the achieved ROEs of Florida water and wastewater utilities. None of the index utilities report losses for 2000. In contrast, a significant number of Florida water and wastewater utilities report losses for 2000.

According to the S & P Report "New Ripples in U.S. Water Industry," September 8, 2000, by Dimitri Nikas, regarding small water systems, an Environmental Protection Agency report to Congress in 1995 stated the following:

> Small systems are, on average, not financially healthy, lack economies of scale, and have higher costs per unit of water than do large or mid-size water purveyors.

Noting this, Standard & Poor's made the following statement:

> *On the other hand, large water utilities have superior technological resources and adequate access to capital. (See S & P Report "U.S. Water Utility Industry Still Fragmented, Opportunities Abound," June 11, 2001, Dimitri Nikas.)*

Value Line states the following regarding small water utilities:

The costs of meeting safe drinking water guidelines are especially burdensome for smaller utilities because they generally lack the funds needed for long-term structural improvements. (See The Value Line Investment Survey, Ed. 9, August 3, 2001, p. 1419.)

I believe the concern that small utilities lack funds for water quality and structural improvements, such as infrastructure replacement, is valid.

Q. What risk adjustment do you recommend for the leverage formula?

A. I recommend three adjustments. First, the Commission should adjust the results of the models for the yield difference between the bond rating for the utilities in the indexes and a Baa rated bond. Second, the Commission should adjust the results of the models to reflect a private placement premium. These two adjustments are consistent with the status quo methodology. Third, the Commission should adjust the results of the models to allow a small-utility risk premium. I do not believe that status quo methodology adequately reflects the risk faced by an average water and wastewater utility in Florida.

These adjustments are based on the assumption that the difference between debt costs for utilities in the indexes and for an average water and wastewater utility is the appropriate risk adjustment to the ROE results of the models. Differences in the cost of debt are a proxy for differences in the cost of equity.

Q. Please describe the adjustment for the bond yield differential.

A. This adjustment, part of the status quo methodology, is made to the results of the models to compensate for the fact that Florida water and wastewater utilities are smaller than the companies in the indexes. The adjustment is based on the historical difference between the yields on bonds

that could be issued by the companies in the indexes, according to bond rating, and the yield on BBB rated bonds, the lowest investment grade. The assumption is that a small utility, given efficient management and a sound regulatory environment, should be considered at least in the lowest investment grade category. As I explain later, I believe this assumption should be relaxed.

According to Exhibits PL-13 and PL-14, the median S & P bond rating for the water index is A+ and it is A- for the gas index. I have treated S & P bond ratings and Moody's bond ratings as equivalents; for example, a BBB rating by S & P is the same as a Baa rating by Moody's. The water index has a median bond rating of A1 and the gas index has a median bond rating of A3. For the water index, I used the historical spread between the yields on A1 and Baa2 public utility bonds as calculated over the past 120 months. For the gas index, I used the historical spread between yields on A3 and Baa2 public utility bonds. The average of these two spreads is .25% or 25 basis points. Exhibit PL-19 presents the bond yield differentials.

By adding 25 basis points to the results of the models, the resulting returns on equity are appropriate for water utilities that can issue BBB rated bonds. However, an average Florida water and wastewater utility is too small to issue publicly traded bonds. This is the basis for the private placement adjustment.

Q. Please describe the private placement premium adjustment.

A. The private placement premium recognizes that investors require a liquidity premium for holding privately placed bonds. These bonds do not have a public market, meaning that investors must hold them to maturity. All other things being equal, privately placed bonds require a higher return than

publicly traded bonds.

The Commission included this adjustment in the leverage formula methodology in 1995, with the original premium being 25 basis points. The Commission increased the premium to 50 basis points in 1999. I believe this adjustment of 50 basis points for the private placement premium is appropriate because investors require a liquidity premium for holding privately placed bonds.

Q. Please describe the small-utility risk premium.

A. In the status quo methodology, the bond yield differential is assumed to compensate appropriately for the small size of water and wastewater utilities. I believe this adjustment, by itself, is too conservative. It basically adjusts the cost of equity to the level of a company that can issue BBB rated bonds. Yet an average Florida water and wastewater utility is not in a position to issue rated bonds or even privately placed bonds. Bond expert and finance scholar Frank Fabozzi, in his book Bond Markets, Analysis and Strategies, 3rd edition, 1996, states the following:

> *Borrowers in the publicly issued bond market are typically large corporations. Issuers of privately placed bonds tend to be medium -sized corporations. Those corporations that borrow from banks tend to be small corporations. (See page 149.)*

For rated bonds, S & P's Bond Guide reports new bond issues. For May 2001, the size of bond issues ranged from $90 million to over $4 billion. Ratings ranged from a very speculative B rating to an investment grade AA rating. The size of these issues is in stark contrast to the size of Florida water and wastewater utilities, most of which have revenue less than $1

million.

Water and wastewater utilities are public utilities that have an obligation to serve. This, along with water quality and infrastructure replacement issues, means these utilities have to raise capital at various times, even times of adverse financial conditions. In addition, many Florida water and wastewater utilities have relied on contributions-in-aid-of-construction (CIAC) to finance a portion of the original cost of the plant and lines. CIAC reduces rate base, which can make raising capital more expensive. I believe that a small- utility risk premium should be added to the return on equity to recognize the financial stress, and hence risk, that small water and wastewater systems can experience.

I have chosen 50 basis points as the appropriate small-utility risk premium. Exhibit PL-20 shows the difference between yields on BBB rated and BB+ rated industrial bonds over the 5-year period beginning in 1996 and ending in 2000. The yield difference has ranged from 55 basis points to 135 basis points, with an average of 83 basis points. Bonds rated BB+ are below investment grade and may face uncertainties during adverse economic conditions. Bonds in this category are somewhat speculative and are known as high-yield or junk bonds. While the issuers of these bonds are still very large compared with Florida water and wastewater utilities, the additional yield is an indicator of the additional risk beyond the BBB rating. Since the spread between BBB yields and BB+ yields can widen considerably during times of a credit crunch, I believe using the actual BB+ yield is inappropriate. Therefore I chose 50 basis points as a risk allowance that is beyond what BBB bonds yield yet allows recognition that well managed water and wastewater

utilities with supportive regulation should not be considered speculative investments.

Q. How have you implemented these risk adjustments?

A. I have included a bond yield differential, a private placement premium, and a small-utility risk premium in the calculation of my recommended leverage formula, which is presented on Exhibits PL-3 and PL-21.

Q. Why have you chosen a 40% limit on the equity ratio input to the leverage formula?

A. The 40% limit is part of the status quo methodology. The intent of this limit is to discourage imprudent capital structures for water and wastewater utilities. I note that my water and gas indexes have average equity ratios close to 40%. Therefore, I believe 40% is the appropriate standard.

Q. Please summarize your testimony.

A. I recommend that the leverage formula methodology include an index of gas utilities and include a small-utility risk premium of 50 basis points. With this methodology, the leverage formula produces a range of 9.69% to 10.80% for ROEs for water and wastewater utilities. My recommended leverage formula is presented on Exhibit PL-3. I also presented the leverage formula using the status quo methodology on Exhibit PL-22.

Q. Does this conclude your testimony?

A. Yes. It does.

Index of Exhibits

Water and Wastewater Leverage Formula

$$\text{ROE} = \text{Bond Yield} + \frac{\text{Equity Risk Premium}}{\text{Equity Ratio}}$$

where:

ROE is return on common equity.

Bond Yield is a constant term and is the recent average monthly yield on BBB rated public utility bonds plus adjustments.

Equity Risk Premium is a constant term for the amount the cost of equity exceeds the cost of debt and is derived from cost of equity models plus adjustments.

$$\text{Equity Ratio} = \frac{\text{Common Equity}}{\text{Common Equity} + \text{Preferred Equity} + \text{Long Term Debt} + \text{Short Term Debt}}$$

RECOMMENDED
Marginal Cost of Investor Capital
Average Water and Wastewater Utility

Recommended: 8.95 + 0.738/ER

Range: 9.69% to 10.80%

Capital Component	Ratio	Marginal Cost Rate	Weighted Marginal Cost Rate
Common Equity	42.94% *	10.67%	4.58%
Total Debt	57.06%	8.95% **	5.11%
	100.0%		9.69%

A 40% equity ratio is the floor for calculating the required return on common equity. The return on equity at a 40% equity ratio is 8.95% + .738/.40 = 10.80%.

Marginal Cost of Investor Capital
Average Water & Wastewater Utility at 40% Equity Ratio

Capital Component	Ratio	Marginal Cost Rate	Weighted Marginal Cost Rate
Common Equity	40.00%	10.79%	4.32%
Total Debt	60.00%	8.95% **	5.37%
	100.0%		9.69%

Where: ER = Equity Ratio = Common Equity/(Common Equity + Preferred Equity + Long-Term Debt + Short-Term Debt)

* Average of average gas index equity ratios and average water index equity ratios.

** Baa rate for August 2001 plus a 50 basis point private placement premium plus 50 basis point small-utility risk premium.

Source: Moody's Credit Perspectives, PL-21

COMPARISON OF ALLOWED ROEs

	Allowed ROE *	Order Date
American States Water Co.	10.00%	4Q99
American Water Works	11.02%	--
Artesian Resources Corp.	10.44%	04/00
California Water Service Group	10.48%	--
Connecticut Water Service, Inc.	12.70%	03/91
Middlesex Water Company	10.25%	--
Pennichuck Corporation	10.45%	--
Philadelphia Suburban Corp.	10.65%	--
SJW Corporation	10.20%	07/96
Southwest Water Company	10.00%	01/98
York Water Company	10.30%	10/99

FPSC Leverage Formula Range

2000	9.37%	to	9.94%
1999	8.93%	to	10.12%
1998	8.57%	to	9.85%
1997	9.21%	to	10.46%
1996	10.18%	to	11.88%
1995	10.18%	to	11.88%

* ROEs for companies operating in multiple jurisdictions are averages.

Source: C.A. Turner Utility Reports, Sept. 2001 & PSC Leverage Formula Orders

BREAKDOWN OF WATER AND WASTEWATER SYSTEMS BY REVENUE

As of December 31, 2000

	Number of Systems
Water Systems With Less that $200K Revenue	97
Water Systems With $200K to $1,000,000 in Revenue	42
Water Systems With $1,000,000 or More in Revenue	9
TOTAL	148
Wastewater Systems With Less that $200K Revenue	73
Wastewater Systems $200K to $1,000,000 in Revenue	36
Wastewater Systems With $1,000,000 or More in Revenue	9
TOTAL	118

SOURCE: PSC Annual Reports for 2000

Florida Electric Utilities Revenue & Earnings for 2000

Company	Achieved ROE	Revenue excluding clause revenue
Florida Power & Light Co.	12.21%	$3,447,550,859
Florida Power Corp.	12.74%	1,330,303,532
FPUC- Fernandina Beach	12.62%	6,793,712
FPUC-Mariana	11.75%	6,232,216
Gulf Power Co.	12.76%	355,468,247
Tampa Electric Co.	12.31%	784,476,945

Number of Utilities	6	
	Achieved ROE	Revenue excluding clause revenue
Average	12.40%	$988,470,919
Median	12.47%	$569,972,596
Range	11.75% to 12.76%	$6,232,216 to $3,447,550,859
Number Above Authorized ROE Range	3	
Number Reporting a Loss	0	

Source: FPSC Surveillance Reports for December 2000

FPSC Regulated Gas Companies

Company	Achieved ROE	Net Revenue
Chesapeake Utilities	4.65%	$9,560,464
City Gas	3.39%	32,840,339
FPUC	11.82%	17,106,592
Indiantown Gas	-6.92%	556,181
Peoples Gas System	10.90%	145,147,000
Sebring Gas System	-31.90%	259,935
South Florida Natural Gas	1.44%	1,577,833
St. Joe Natural Gas	0.08%	1,148,670

Number of Systems	8	
	Achieved ROE	Net Revenue
Average	-0.82%	$26,024,627
Median	2.42%	$5,569,149
Range	-31.90% to 11.82%	$259,935 to $145,147,000
Number Above 12% ROE	0	
Number Reporting a Loss	2	

Source: December 2000 Surveillance Reports

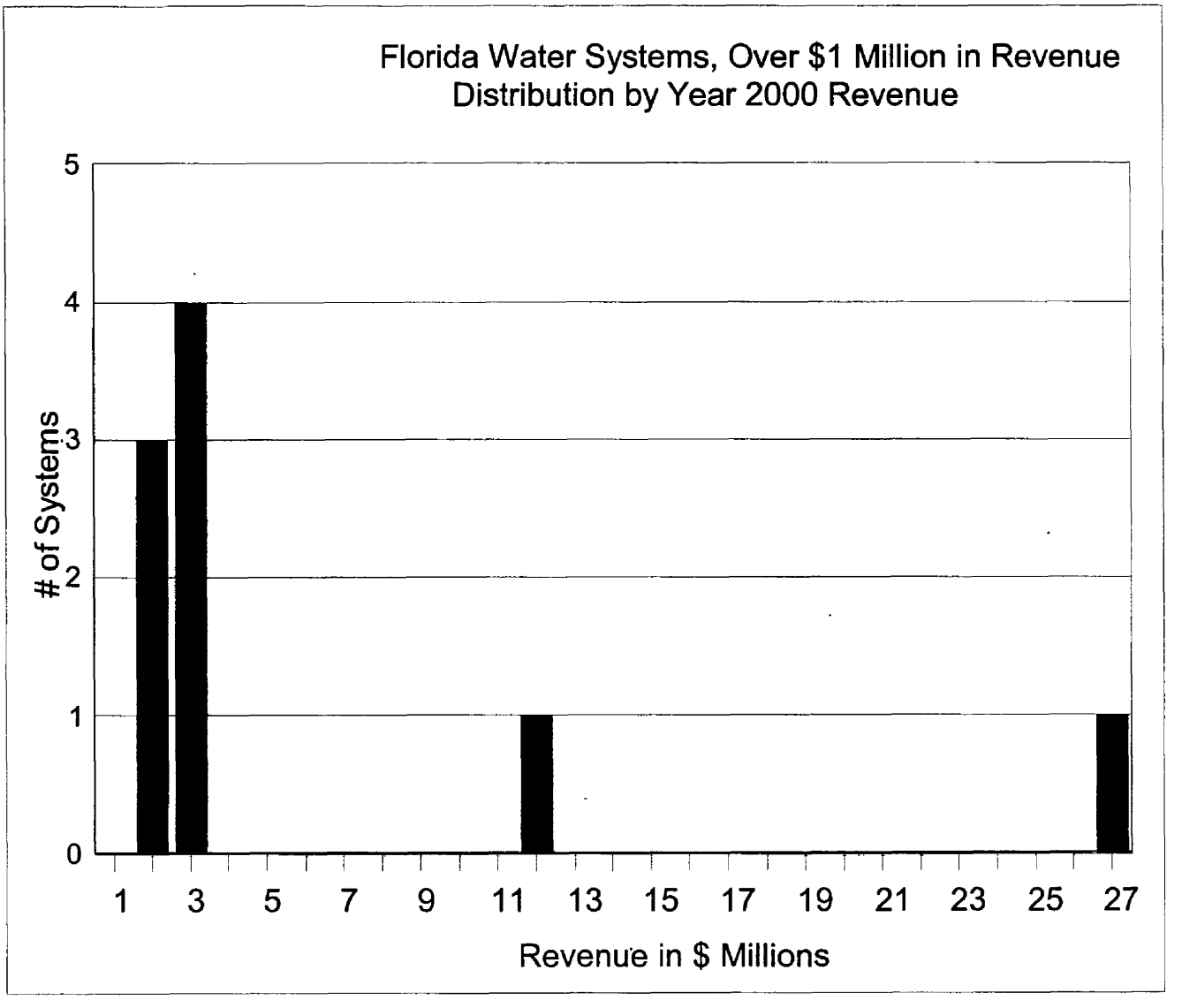
Comparison of 2000 Revenue for Gas Companies and WAW Systems

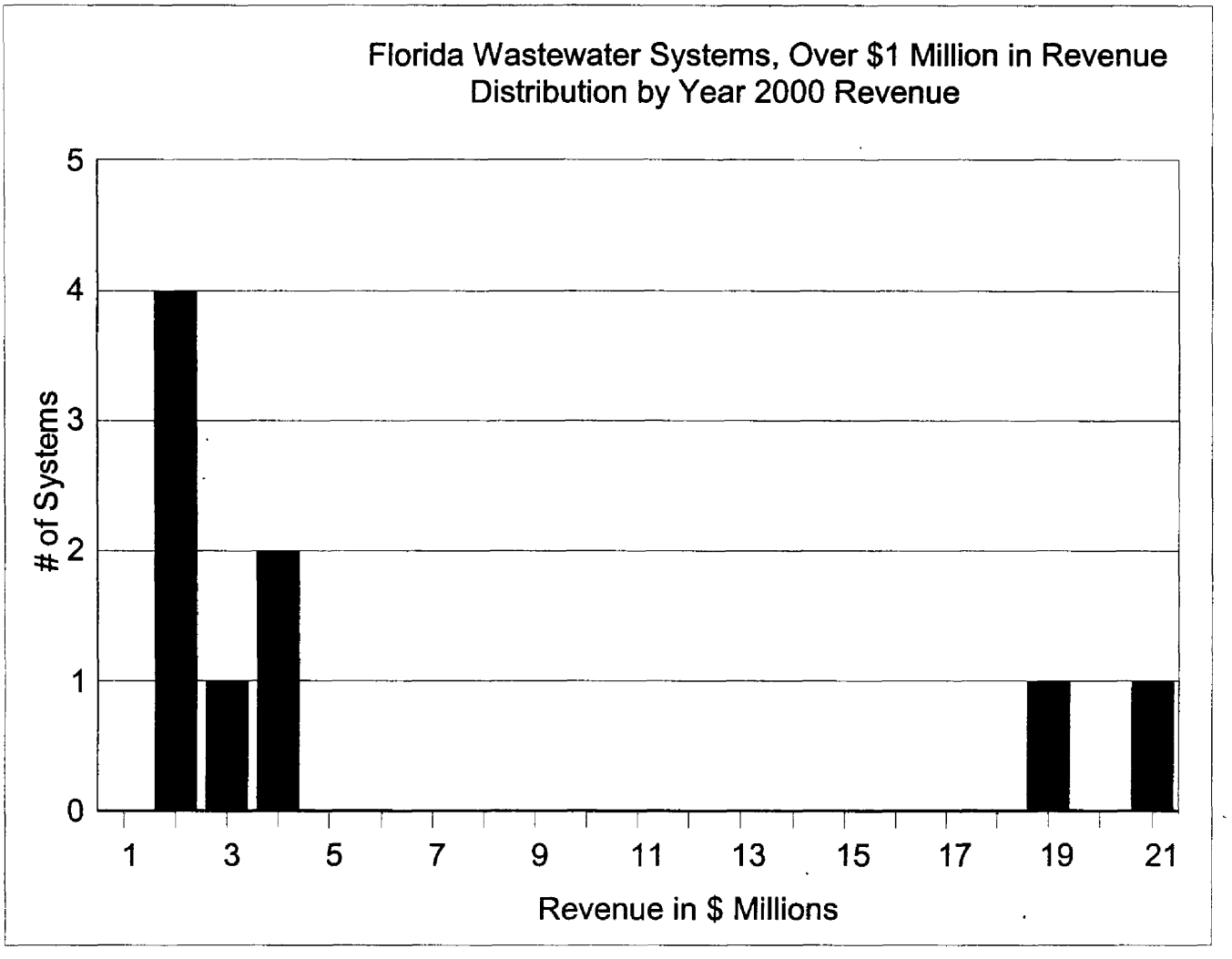
Gas Systems		Water Systems & Revenue		
	Florida Gas Utilities (1)	Over $1 Million	$200 K to $1 Million	Less Than $200K
Number of Systems	8	9	42	97
Revenue				
Average	$26,024,627	$5,785,778	$412,511	$67,644
Median	5,569,149	2,316,526	325,606	54,052
Range	259,935 to 145,147,000	1,089,043 to 26,199,153	202,277 to 913,740	2,005 to 188,806

Gas Systems		Wastewater Systems & Revenue		
	Florida Gas Utilities (1)	Over $1 Million	$200 K to $1 Million	Less Than $200K
Number of Systems	8	9	36	73
Revenue				
Average	$26,024,627	$6,057,937	$458,717	$71,541
Median	5,569,149	2,949,128	417,356	53,981
Range	259,935 to 145,147,000	1,027,439 to 20,531,114	213,864 to 907,909	4,274 to 199,073

(1) Net Revenue

Source: PSC Annual Reports for 2000 & Dec. 2000 Surveillance Reports


Florida Water Systems, Over $1 Million in Revenue
Distribution by Year 2000 Revenue
# of Systems
0
1
2
3
4
5
1
3
5
7
9
11
13
15
17
19
21
23
25
27
Revenue in $ Millions


Florida Wastewater Systems, Over $1 Million in Revenue
Distribution by Year 2000 Revenue
# of Systems
0
1
2
3
4
5
1
3
5
7
9
11
13
15
17
19
21
Revenue in $ Millions

Comparison of 2000 Profitability for Water Systems

Water Systems by Revenue Class

	Over $1 Million	$200 K to $1 Million	Under $200 K	$200 K to $1 Million	Under $200 K
	With Common Equity			Without Common Equity	
Number of Systems	9	28	56	14	41
	Achieved ROE			Achieved ROR	
Average	18.14%	-106.07%	-15.44%	-0.83%	-27.64%
Median	12.04%	0.50%	-2.30%	8.06%	-10.20%
Range	7.37% to 59.92%	-3076.74% to 359.54%	-392.84% to 486.96%	-81.81% to 18.52%	-460.74% to 225.92%
Number Above 12% ROE	5	5	12	--	--
Number Reporting Losses	0	14	32	4	28
Number Above 10% ROR				1	5

ROR - rate of return
Source: PSC Annual Reports for 2000

Comparison of 2000 Profitability for Wastewater Systems

Wastewater Systems by Revenue Class

	Over $1 Million	$200 K to $1 Million	Under $200 K	Over $1 Million	$200 K to $1 Million	Under $200 K
	With **Common** Equity			Without Common Equity		
# of Systems	6	28	43	3	8	30
	Achieved ROE			Achieved ROR		
Average	5.67%	-6.45%	-34.59%	7.53%	4.68%	-12.81%
Median	8.30%	2.77%	-5.25%	7.13%	5.62%	-3.87%
Range	-32.52% to 35.56%	-234.46% to 96.64%	-360.57% to 28.44%	5.85% to 9.61%	-3.73% to 9.82%	-148.99% to 55.53%
# Above 12% ROE	2	4	2	--	--	--
# Reporting Losses	1	12	33	0	1	19
# Above 10% ROR				0	0	5

ROR - rate of return

Source: PSC Annual Reports for 2000

WATER INDEX STATISTICS

Company Name	Percent Non-utility Revenue (1)	Sales to Net Plant Ratio (2)	Beta (3)	S & P Bond Rating (4)	Annual Revenue (5) Millions $	Equity Ratio (6)	Achieved ROE for 2000(7)
American States Water	10%	0.36	0.65	A+	$183.9	45.15%	9.30%
American Water Works	3%	0.26	0.55	A	1,350.6	36.46%	9.40%
California Water Service	2%	0.42	0.65	AA-	244.8	47.98%	10.10%
Philadelphia Suburban	3%	0.22	0.60	A+	275.5	42.76%	11.70%
AVERAGE	5%	0.32	0.61	--	513.7	43.09%	10.13%
MEDIAN	3%	0.31	0.63	A+	260.15	43.96%	9.75%

(1) From 1st Quarter 2001 10-Q's & 10-K's for 2000
(2) From ValueScreen July 2001 Disk
(3) From ValueScreen July 2001 Disk
(4) From Standard & Poor's Ratings Direct Website
(5) From ValueScreen July 2001 Disk
(6) From 1st Quarter 2001 10-Q's
(7) Value Line Investment Survey, Ed. 9, August 3, 2001

GAS INDEX STATISTICS

Company Name	Percent Non-utility Revenue (1)	Sales to Net Plant Ratio (2)	Beta (3)	S & P Bond Rating (4)	Annual Revenue (5) Millions $	Equity Ratio (6)	Achieved ROE for 2000(7)
AGL Resources	1%	0.37	0.60	A-	$607.40	33.60%	**11.50%**
Atmos Energy	4%	0.87	0.55	A-	850.15	58.06%	**8.20%**
Cascade Natural Gas	0%	0.85	0.55	BBB+	241.94	44.76%	**12.90%**
Energen Corp.	19%	0.61	0.75	A-	555.60	43.88%	**13.80%**
Laclede Gas	11%	0.98	0.50	AA-	566.13	44.32%	**9.10%**
Northwest Nat. Gas	1%	0.57	0.60	A	532.11	49.45%	**10.00%**
Peoples Energy	16%	0.86	0.70	A+	1,417.53	40.85%	**12.40%**
Piedmont Natural Gas	0%	0.77	0.60	A	830.38	53.83%	**12.10%**
SEMCO Energy	16%	0.83	0.65	BBB	422.59	20.35%	**12.30%**
Southwest Gas	5%	0.61	0.65	BBB-	1,034.09	33.39%	**7.20%**
WGL Holdings Inc.	22%	0.71	0.60	AA-	1,031.10	48.15%	**11.70%**
AVERAGE	9%	0.73	0.61	--	735.37	42.79%	**11.02%**
MEDIAN	5%	0.77	0.60	A-	607.40	44.32%	**11.70%**

(1) From 1st Quarter 2001 10-Q's
(2) From ValueScreen July 2001 Disk
(3) From ValueScreen July 2001 Disk
(4) From Standard & Poor's Ratings Direct Website
(5) From ValueScreen July 2001 Disk
(6) From 1st Quarter 2001 10-Q's
(7) Value Line Investment Survey, Ed. 3, June 22, 2001

BASIC DCF EQUATION

$$P_0 = \frac{D_1}{(1+K)} + \frac{D_2}{(1+K)^2} + \frac{D_3}{(1+K)^3} + \ldots + \frac{D_\infty}{(1+K)^\infty}$$

where: D_t = Dividends paid at the end of period t

K = Investors' required rate of return.

P_0 = The current price of the stock this can also be written as

$$P_0 = \sum_{t=1}^{n} \frac{D_t}{(1+K)^t}, \text{ as n approaches } \infty$$

Assuming constant growth in dividends and g < K, these equations reduce to

$$K = \frac{D_1}{P_0} + g$$

where g is the constant growth rate in dividends.

TWO-STAGE ANNUALLY COMPOUNDED DCF MODEL

$$P_0(1-FC) = \frac{D_1}{(1+K)} + \frac{D_2}{(1+K)^2} + \ldots + \frac{D_n}{(1+K)^n} + \frac{D_n(1+g)}{K-g}\frac{1}{(1+K)^n}$$

Where

P_0 = The current stock price

D_1, D_2, . . . D_n = Expected dividends each year

FC = Flotation costs

K = Investors required rate of return

g = The constant growth rate after year n

INDEX OF WATER UTILITIES

COST OF EQUITY

COMPANIES	2001	2002	2003	2004	2005	EPS4	ROE4	GR1-4	GR4+	AUG. 2001 AVER-PR
					Value Line Issue: Ed. 9 - 8/03/01					
AMERICAN STATES WATER	1.30	1.32	1.35	1.39	1.42	2.60	10.50	1.0246	1.0477	36.600
AMERICAN WATER WORKS	0.94	0.98	1.02	1.06	1.11	2.65	13.50	1.0424	1.0785	33.370
CALIFORNIA WATER SVC.	1.12	1.14	1.16	1.18	1.20	2.00	13.00	1.0172	1.0520	25.080
PHILADELPHIA SUBURBAN	0.62	0.64	0.67	0.69	0.72	1.35	12.50	1.0400	1.0583	27.300
AVERAGE	0.9950	1.0200	1.0498	1.0807	1.1125 1.1783	2.15	12.3750	1.0311	1.0591	30.588

S&P STOCK GUIDE: SEPT. 2001 with August Stock Prices

Annual **9.01%** COST OF EQUITY

Average Price Less Flotation
$29.67

Cash Flows					
0.9261108 29.66988	0.8729520	0.8242517	0.7783468	0.747526	25.520691

Sources: Stock Prices/S&P Stock Guides; Dividends, EPS, ROE/Value Line, Ed. 9

COST OF EQUITY INDEX OF GAS UTILITIES

VALUE LINE ISSUE: Ed. 3, 6/22/01

COMPANIES	2001	2002	2003	2004	2005	EPS4	ROE4	GR1-4	GR4+	AVER-PR
AGL RESOURCES	1.08	1.08	1.10	1.13	1.15	1.85	12.00	1.0212	1.0454	22.800
ATMOS ENERGY	1.16	1.20	1.25	1.30	1.35	2.60	17.50	1.0400	1.0841	21.345
CASCADE NATURAL GAS	0.96	0.96	0.97	0.99	1.00	1.90	14.50	1.0137	1.0687	20.675
ENERGEN CORP.	0.69	0.71	0.74	0.77	0.80	4.10	23.00	1.0406	1.1851	25.950
LACLEDE GAS	1.35	1.36	1.39	1.42	1.45	2.15	11.50	1.0216	1.0374	23.650
NORTHWEST NAT. GAS	1.25	1.26	1.27	1.29	1.30	2.45	11.00	1.0105	1.0516	24.655
PEOPLES ENERGY	2.04	2.08	2.11	2.13	2.16	4.05	12.00	1.0127	1.0560	38.235
PIEDMONT NATURAL GAS	1.52	1.60	1.67	1.74	1.82	3.00	13.00	1.0439	1.0511	33.020
SEMCO ENERGY	0.84	0.88	0.92	0.96	1.00	1.70	3.50	1.0435	1.0144	14.925
SOUTHWEST GAS	0.82	0.84	0.88	0.92	0.96	1.75	8.00	1.0455	1.0361	23.460
WGL HOLDINGS	1.26	1.28	1.30	1.33	1.35	2.60	12.50	1.0179	1.0601	27.350
AVERAGE	1.1791	1.2045	1.2365	1.2695	1.3036 1.3854	2.56	12.5909	1.0283	1.0627	25.097

S&P STOCK GUIDE: SEPT. 2001 with August Stock Prices

Annual **10.71%** COST OF EQUITY

Average Price less Flotation
$24.34

Cash Flows

1.0876188	**1.006462**	**0.933303**	**0.865613 5**	**0.8194280**	**19.631487**

24.34391

Sources: Stock Prices/S&P Stock Guides; Dividends, EPS, ROE/Value Line, Ed. 3

EXHIBIT PL-18

Capital Asset Pricing Model Cost of Equity for
an Average Water or Wastewater Utility

CAPM Analysis Formula

K = RF + Beta(MR - RF)

K = Investor's required rate of return

RF = Risk-free rate (Blue Chip forecast for 30-year Treasury bond)

Beta = Measure of systematic risk (Average for water utilities followed by Value Line and average for the gas index)

MR = Market return

GAS 8.98% = 5.74% + .61(10.89% - 5.74%)+.10%

WATER 8.98% = 5.74% + .61(10.89% - 5.74%)+.10%

Note: I estimated the market return using an annual DCF model for a large number of dividend paying stocks followed by Value Line. For July 2001 stock prices, the result was 10.79%. I added 10 basis points to allow for the quarterly compounding of dividends. The resulting market return is 10.89%. I also added 10 basis points to the CAPM result to allow for flotation costs.

Source: Blue Chip Financial Forecasts, August 1, 2001 Value Screen CD 2.0, August 2001

EXHIBIT PL-19

Bond Yield Differentials
Public Utility Long Term Bond Yield Averages

	August 2001 Yields	120 Month Average Spread in Basis Points
Calculated A1 Yield	7.52%	
		4.54
August 2001 Reported A2 Yield	7.59%	
		9.2
Calculated A3 Yield	7.71%	
		9.2
Calculated Baa1 Yield	7.83%	
		9.2
August 2001 Reported Baa2 Yield	7.95%	
		9.2
Calculated Baa3 Yield	8.07%	

Source: Moody's Credit Perspectives

EXHIBIT PL-20

Historical Yield Spread Between BBB and BB+ Bonds

		BBB	BB+	DIFFERENCE
2000	High	9.46%	10.81%	1.35%
	Low	8.40%	9.41%	1.01%
1999	High	8.79%	9.91%	1.12%
	Low	7.28%	8.09%	0.81%
1998	High	7.49%	8.57%	1.08%
	Low	6.66%	7.28%	0.62%
1997	High	8.04%	8.61%	0.57%
	Low	7.12%	7.72%	0.60%
1996	High	8.29%	8.84%	0.55%
	Low	6.62%	7.22%	0.60%
			Average	0.83%
			Range	0.55% to 1.35%

Source: S & P Bond Guide, July 2001 & January 1999

EXHIBIT PL-21

Calculation of Recommended and Status Quo Leverage Formulae

	Recommended 2001	Status Quo 2001
(A) DCF ROE for Water Index	9.01%	9.01%
(B) DCF ROE for Gas Index	10.71%	
(C) CAPM for Water Index	8.98%	8.98%
(D) CAPM for Gas Index	8.98%	
AVERAGE	9.42%	9.00%
Bond Yield Differential	.25%	.41%
Small-Utility Risk Premium	.50%	
Private Placement Premium	.50%	.50%
Adjustment to Reflect Required Equity Return at a 40% Equity Ratio	.13%	.11%
Cost of Equity for Average Florida WAW Utility at a 40% Equity Ratio	10.80%	10.01%

2000 Leverage Formula (Currently in Effect)

Return on Common Equity = 8.99% + .376/ER

Range of Returns on Equity = 9.37% - 9.94%

2001 Leverage Formula (Recommended)

Return on Common Equity = 8.95% + .738/ER

Range of Returns on Equity = 9.69% - 10.80%

2001 Leverage Formula (Status Quo)

Return on Common Equity = 8.54% + .588/ER

Range of Returns on Equity = 9.13% - 10.01%

STATUS QUO
Marginal Cost of Investor Capital
Average Water and Wastewater Utility

Status Quo: 8.54% + 0.588/ER

Range: 9.13% to 10.01%

Calculated as follows:

	Ratio	Marginal Cost Rate	Weighted Marginal Cost Rate
Capital Component			
Common Equity	43.09%	9.91%	4.27%
Total Debt	56.91%	8.54% *	4.86%
	100.00%		9.13%

A 40% equity ratio is the floor for calculating the required return on common equity. The return on equity at a 40% equity ratio is:

8.54% + 0.588/.40 = 10.01%

Marginal Cost of Investor Capital
Average Water & Wastewater Utility at 40% Equity Ratio

Capital Component	Ratio	Marginal Cost Rate	Weighted Marginal Cost Rate
Common Equity	40.00%	10.01%	4.00%
Total Debt	60.00%	8.54% *	5.12%
	100.00%		9.13%

Where: ER = Equity Ratio = Common Equity/(Common Equity + Preferred Equity + Long-Term Debt + Short-Term Debt)

* Assumed Baa3 rate for August 2001 plus a 50 basis point private placement premium.

Source: Moody's Credit Perspectives, PL-21

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Water and wastewater industry annual reestablishment of authorized range of return on common equity of water and wastewater utilities pursuant to Section 367.081(4)(f), F.S.	DOCKET NO. 010006-WS FILED: SEPTEMBER 28, 2001

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct copy of the **DIRECT TESTIMONY OF PETE LESTER**, on behalf of the Staff of the Florida Public Service Commission, has been furnished by U.S. Mail, this 28th day of September, 2001, to the following:

Steve Burgess, Esquire
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c/o The Florida Legislature
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