

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.

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DOCKET NO. 080006-WS

**POST HEARING STATEMENT OF ISSUES AND POSITIONS  
OF UTILITIES, INC.**

Pursuant to Order No. PSC-08-0430--PCO-WS, issued July 1, 2008, Utilities, Inc. ("Utilities, Inc." or the "Company"), by and through its undersigned counsel, files its Post Hearing Statement of Issues and Positions.

**INTRODUCTION**

References to the transcript of the Final Hearing held on October 23, 2008, will be (Tr. \_\_) followed by the appropriate page number. References to Exhibits will be (Ex. \_\_) and where appropriate will be followed by a page number.

**WITNESSES**

Utilities, Inc., presented the testimony of Pauline M. Ahern, who offered twenty-nine (29) Exhibits which were admitted into evidence. (Ex. 3, 15-42) In contrast to OPC witness Rothschild's lack of review of water and wastewater utilities in Florida, Ms. Ahern did an extensive analysis of such utilities. (Ex. 28, pp. 4-5) Utilities, Inc., also offered into evidence the deposition of James A. Rothschild taken October 8, 2008, which was admitted as Exhibit 47.

Office of Public Counsel presented the testimony of James A. Rothschild who offered fourteen (14) Exhibits which were admitted into evidence. (Ex. 4-14, 43-45) Mr. Rothschild's opinions are irrelevant and should be disregarded. Section 367.081 (4) (f),

Florida Statutes, is the basis of this proceeding, which is to “establish by order a leverage formula or formulae that reasonably reflect the range of returns on common equity for an average water or wastewater utility.” It is axiomatic that in order to form an opinion of a range of return for an average water and wastewater utility, that some analysis must have been made as to what constitutes an average water or wastewater utility in Florida. Mr. Rothschild did absolutely no evaluation of the characteristics of an average water or wastewater utility. (Tr. 96) He considered all utilities the same in rendering his opinion. (Tr. 96) Thus, Mr. Rothschild’s opinions have no probative value in this proceeding. Mr. Rothschild’s position was that if a utility was subject to regulation and had a monopolistic territory (which is true of all water and wastewater utilities subject to the Commission’s jurisdiction), they were all the same from a rate of return perspective. (Tr. 96) Absurd.

Staff presented no witnesses but offered three Exhibits which were admitted into evidence. (Ex. 1-2, 46)

### **UTILITIES, INC.’S STATEMENT OF BASIC POSITION**

The leverage formula as proposed (Ex. 2) represents a reasonable methodology for establishing a return on equity for the average water and wastewater utility in Florida, as mandated by Section 367.081 (4) (f), Florida Statutes.

### **UTILITIES, INC.’S STATEMENT OF POSITIONS**

**ISSUE 1:** What is the most appropriate model or method to estimate a fair and reasonable return on a water and wastewater (WAW) utility’s common equity capital?

\*The Discounted Cash Flow (DCF) model and the Capital Asset Pricing Model (CAPM) as applied by the PSC Staff in current leverage formula are the most appropriate models or methods to estimate a fair and reasonable

return on a water and wastewater (WAW) utility's common equity capital.\*

DCF and CAPM are standard models for predicting return of equity. It is appropriate to average the individual returns of these two models for the purpose of establishing a reasonable return on equity for the average water and wastewater utility in Florida as the Staff has done in its proposal. (Ex. 46; Tr. 24)

### **Discounted Cash Flow Model**

It is also appropriate to apply the DCF model to an index of natural gas utilities that have publicly traded stock and are followed by the Value Line Investment Survey ("Value Line"). (Ex. 2) OPC Witness Rothschild also utilizes the DCF model, but makes his own modification, which invalidates the use of the DCF model.

OPC Witness Rothschild's DCF application exclusively utilizes the sustainable growth methodology for determining the growth rate component. He calculates sustainable growth for each company "by solving for the Future Expected Return on Book Equity multiplied by the Retention Rate" and then adding "an allowance for growth caused by the sale of new common stock above book value." (Tr. 74) and by estimating "the future expected return on book equity by reviewing the return on book equity published by Value Line, and considering that forecast in the context of historic actual returns on equity." (Tr. 74) It is clear that the return on equity (ROE) utilized in OPC Witness Rothschild's growth rate analysis is based upon five-year expectations by Value Line and the return on equity necessary to achieve Zack's growth (presumable in five-year projected growth in earnings per share). (Ex. 5) His allowance for growth caused by the sale of new common stock above book value was also based upon five-year forecasts. (Tr. 75) Hence, OPC Witness

Rothschild's sustainable growth methodology is both a short-term forecast and inconsistent with his own testimony where he states that "[a]s I have argued for decades, these historical to short-term future five-year growth rates are NOT the kind of growth rate applicable for use in the DCF formula because they are not long-term sustainable growth rates." (Tr. 46) Moreover, his sustainable growth methodology is inherently circular.

OPC Witness Rothschild is correct when he states in his direct testimony: "[t]he cost of equity is the return investors expect to receive on their investment at market price, while the return on equity used to compute growth is equal to the return investors expect a company will be able to earn on its book value at the time the DCF computation was being made." (Tr. 72) However, his exclusive reliance upon the sustainable growth method is circular because it relies upon an expected ROE on book common equity which is then used in a DCF analysis to establish a common equity cost rate related to the market value of the common stocks. (Tr. 194) Thus, the resultant allowed ROE on book common equity is lower than the expected ROE used to derive the allowed ROE.

The sustainable growth method asserted by OPC Witness Rothschild is contrary to the empirical finance literature that "the sustainable growth method of determining growth is not as significantly correlated to measures the value, such as stock price and price/earnings ratios, as other historical measures or analysts' growth forecasts. Other proxies for growth such as historical growth rates and analysts' growth forecasts outperform retention growth estimates." (Ex. 32)

In view of the foregoing, it is clear that OPC Witness Rothschild's application of the DCF is circular and ignores the basic principle of rate base /rate of return, namely, that the

cost of equity which will be authorized in this proceeding will be applied to the jurisdictional book value rate bases of the various water and wastewater utilities within the PSC's jurisdiction and become the allowed future earned return on book common equity, i.e., the expected ROE component of the sustainable growth method. (Tr. 195)

### **Capital Asset Pricing Model**

OPC Witness Rothschild claims that he utilizes a CAPM in reaching his conclusions. However, his application is not an application of the standard CAPM formula. In CAPM theory, the Security Market Line (SML) is a line that demonstrates the relationship between risk and return as measured by beta and the required rate of return for individual securities. Eugene F. Brigham, Fundamentals of Financial Management, 5<sup>th</sup> Ed., The Dryden Press, 1989, p. 129. OPC Witness Rothschild's charts on Exhibit 10 show lines that do not represent the SML. Instead, he has merely plotted the compound annual returns from 1926 through 2007 for each of 10 portfolios of common stocks based upon size related to the betas of those deciles. The SML has its origin at the risk-free rate, i.e., the intercept, whereas OPC Witness Rothschild estimates an intercept that he incorrectly claims to be the risk-free rate. (Tr. 196)

A comparison of five-year betas as done by OPC Witness Rothschild with those calculated from 1926-2007, i.e., 82 years, is incorrect. Exhibit 30 compares betas for the 82 years with those derived over the five years ending December 2007 for each decile. Substantial differences are obvious. For every decile, except for the largest two deciles, i.e., 1 and 2, the long-term betas are substantially greater than those over the recent five years. As OPC Witness Rothschild admitted under questioning by Commissioner Skop,

the CAPM is very sensitive to the beta, and the choice of beta substantially varies the results (Tr. 132). The greater the company's beta, the greater its risk, and the greater the required return, all other things being held constant. (Ex. 46, p. 36-37) Drawing inferences from compound returns and rolling 82-year betas to impute a return related to current five-year betas is a mismatch. (Tr. 196) Moreover, basing such an analysis upon compound, or geometric, returns is not appropriate for cost of capital purposes. (Tr. 196-197)

The arithmetic mean return is appropriate for cost of capital purposes precisely because it captures the effect of changing economic conditions on risk premia over time. Because historical total returns and equity risk premium spreads differ in size and direction over time, the arithmetic mean provides insight into the variance and standard deviation of returns. The prospect for variance, i.e., standard deviation, captured in the arithmetic mean, provides the valuable insight needed by investors and rate of return analysts alike to estimate the expected risk of stocks. Absent such insight, investors cannot meaningfully evaluate prospective risk. (Tr. 197) The arithmetic mean calculated over a very long period of time is the correct mean to use when estimating the cost of capital. (Ex. 33)

Historical total returns and equity risk premium spreads differ in size and direction over time. This is precisely why the arithmetic mean is important as it provides insight into the variance and standard deviation of returns. This prospect for variance, as captured in the arithmetic mean, provides the valuable insight needed by investors and rate of return analysts alike to estimate the expected risk of stocks. Absent such valuable insight into the potential variance of returns, investors cannot meaningfully evaluate prospective risk. If investors relied upon the geometric mean of ex-post spreads, they would have no insight

into the potential variance of future returns because the geometric mean relates the change over many periods to a constant rate of change, thereby obviating the year-to-year fluctuations, or variance, critical to risk analysis. (Tr. 198-199)

In contrast, the arithmetic mean takes into account all of the returns and therefore, the arithmetic mean is appropriate to use when estimating the opportunity cost of capital. (Tr. 200; Ex. 38)

The distribution of each and every one of those returns for the entire period from 1926 through 2007 is shown on Exhibit 38. There is a clear bell-shaped pattern to the probability distribution of returns. The arithmetic mean of this distribution of returns takes into account all of the returns in the distribution and thus the potential variance and standard deviation likely to be experienced in the future when estimating the rate of return based upon such historical returns. (Tr. 200-201)

In view of all the foregoing, it should be clear that the arithmetic mean long-term historical risk premium takes into account the standard deviation of returns which is critical to risk analysis. The geometric mean is appropriate only when measuring historical performance and should not be used to estimate the investors' required rate of return. (Tr. 201)

OPC Witness Rothschild is incorrect when he states that the average beta for the natural gas index, 0.88, indicates that the non-diversifiable risk for the LDCs is 88% of the average, with average risk implied as the risk of the market whose beta is 1.00 by definition. (Tr. 201)

Beta accounts for very little of total risk. Beta is a measure of market or systematic,

non-diversifiable risk and not of non-systematic, company-specific or diversifiable risk. (Ex. 39) The R-squared ( $R^2$ ), or coefficient of determination, of the betas for a proxy group of six AUS Utility Reports water companies and the Florida PSC natural gas index. (Ex. 39) The average  $R^2$  is approximately .19 for the water companies and .31 for the LDCs, which indicates that beta accounts for only about 19% and 31% of total risk for the two groups, respectively, with the remainder or 81% and 69%, being company-specific, diversifiable risk. (Ex. 39) In addition, it is clear that most of the 5,000 companies included in SBBI have  $R^2$  of less than 0.30. (Ex. 39)

$R^2$  is an indication of the percentage of total risk of a stock attributable to non-diversifiable risk. In other words, for the two groups, the non-diversifiable risk is equal to about 19% and 31% of their total risk, respectively, and not 88% as suggested by OPC Witness Rothschild. (Tr. 202; Ex. 40)

OPC Witness Rothschild never calculated an equity risk premium which is an integral component of the CAPM formula. (Tr. 202-203) He merely deducted the interest rate on long-term inflation indexed U.S. Treasury Bonds from a spot yield on 30-year U.S. Treasury Bonds to estimate the expected rate of inflation with which to reduce the 1926-2007 returns for companies with an average beta of 0.88. In addition, he did not begin his analysis with a risk-free rate, i.e., the intercept and first component of the CAPM formula. Hence, his so-called "CAPM" is not really a CAPM.

OPC Witness Rothschild is incorrect in relying upon SBBI for a comparison with his CAPM results. The 9.66% return discussed by SBBI is based upon a geometric mean return. As discussed previously, OPC Witness Rothschild's use of the geometric mean is



incorrect for cost of capital purposes. It is very clear from the information shown on pages 5 and 6 of Exhibit 41, that the 9.66% equity return is based upon the geometric mean which includes an equity risk premium of 4.24% “on a geometric basis.” Also, on page 7 of Exhibit 41, SBBI states:

The supply side equity risk premium calculated earlier is a geometric calculation. An arithmetic calculation, as mentioned earlier in the chapter, is most appropriate when discounting future cash flows. For use as the expected equity risk premium in either the CAPM or the buildup approach, the arithmetic calculation is the relevant number.

SBBI also shows the conversion of the 4.24% geometric mean equity risk premium to an arithmetic mean equity risk premium. (Ex. 41) The conversion results in an arithmetic mean equity risk premium of 6.23% which is 1.99 percentage points greater than the geometric mean of 4.24%. Hence, an increase of equity risk premium of 1.99% and SBBI’s emphasis upon the arithmetic mean for cost of capital estimation purposes, a properly derived common equity cost rate using the Ibbotson-Chen method is 11.67% (9.66% + 1.99%). This implies a CAPM cost rate applicable to the LDCs with an average beta of 0.88 of 10.92% ( $11.67\% - 6.23\% = R_F$ , of 5.44%. And,  $5.44\% + 0.88 * (11.67\% - 5.44\%) = 10.92\%$ ), thereby confirming the gross inadequacy of OPC Witness Rothschild’s so called “CAPM” cost rate. (Tr. 203-204)

**ISSUE 1a:** Should the leverage formula methodology take into account an individual utility’s equity ratio in the determination of return on equity?

\*Yes. The leverage formula methodology should take into account an individual utility’s common equity ratio in the determination of the rate of return on common equity, providing that the individual utility’s common equity ratio is reasonable and appropriate for ratemaking purposes.\*

It appears from the Prehearing Order, Order No. PSC-08-0702-PHO-WS, issued in this Docket that both parties agree on this issue.

**ISSUE 1b:** Should the leverage formula methodology take into account the change to the cost of debt in response to changes in the level of common equity in a utility's capital structure?

\*No, it is not necessary to change the cost of debt in response to changes in the level of common equity in a utility's capital structure.\*

The proposed leverage formula (Ex. 2) holds the debt cost rate constant over a common equity range of 40% to 100%. This is reasonable for two reasons. In the ratemaking process, the embedded cost of debt is utilized in the calculation of the overall rate or return. The cost of such debt is a function of many factors. (Tr. 175) Secondly, the bond rating process is not simply and exclusively based upon a review of debt ratios. (Tr. 176; Ex. 23, pp. 1-9)

The current leverage formula assumes that if Florida water and wastewater utilities had bonds which were rated, they would be rated Baa3 by Moody's which is equivalent to a BBB- by S&P. The bond rating process is comprehensive, both qualitative and quantitative, and does not focus exclusively on the debt ratio. On page 11 of Exhibit 23, Table 1, the Business Risk/Financial Risk matrix indicates that utilities with a BBB- rating and a weak business risk profile would likely have a modest financial risk profile and those with a strong business risk profile would likely have an aggressive financial risk profile. The range of financial risk indicative ratios published by S&P on November 30, 2007, are shown on page 12 of Exhibit 23. The total debt to total capital indicative ratios for utilities

with a modest financial risk profile range from 25% to 40%, while those with an aggressive financial risk profile range from 45% to 60%. It is clear, then, that utilities with BBB- bond ratings by S&P (and Baa3 by Moody's) could have debt ratios ranging from 25% to 60% and still maintain the BBB- (Baa3) bond rating. (Tr. 177)

**ISSUE 1c:** Should the determination of the leverage formula be based on a before-tax or after-tax cost of capital?

\*The determination of the leverage formula should be based upon an after-income tax overall cost of capital. To do otherwise assumes that the revenue cost of capital is identical over an equity ratio range of 40% to 100% which is not at all the case.\*

The current Florida PSC leverage formula holds the after income tax overall cost of capital ("OCC") constant as the common equity ratio changes. In contrast, OPC Witness Rothschild recommends that the before income tax OCC be held constant. (Tr. 50) OPC Witness Rothschild correctly summarizes the Modigliani / Miller principle stating that "Modigliani and Miller showed that if it were not for income taxes and bankruptcy risk, the capital structure selected by a company would have no impact on the overall cost of capital." (Tr. 50) However, by holding the before income tax OCC constant, OPC Witness Rothschild has demonstrated the exact opposite, namely, that differing amounts of debt and equity in the capital structure have absolutely no impact on the revenue cost of capital. OPC Witness Rothschild has assumed a before income tax OCC of 10.61%. (Tr. 40; Ex. 7) However, this violates the Modigliani/Miller principle. Using the information shown on OPC Witness Rothschild's Exhibit 7, Ms. Ahern produced Exhibit 24 which derives the debt cost rates and common equity cost rates for each of the equity ratios shown on page 3 of

Exhibit 7. On the left half of the schedule, Ms. Ahern held the before income tax OCC constant at OPC Witness Rothschild's recommended 10.61%, while on the right side of Exhibit 24, Ms. Ahern held the after income tax OCC of 7.71% constant. The before income tax OCC when multiplied by rate base represents the revenue cost of capital, e.g., a before income tax OCC of 10.61% equates to \$10.61 which must be recovered from ratepayers for each \$100 of rate base. It is clear from the left side of Exhibit 24, that no matter what the common equity ratio, 100.00%, 40.00% or something in between, that by holding the before income tax OCC of 10.61% constant, the revenue cost of capital will be \$10.61 / \$100 rate base. In other words, various capital structure ratios have no impact on the revenue cost of capital because no matter what the common equity ratio, 100.00% or 40.00%, ratepayers will be paying \$10.61 per \$100 of rate base. Hence, holding the before income tax OCC constant demonstrates that capital structure is irrelevant, contrary to the Modigliani/Miller principle when income taxes are taken into account, and provides no incentive to maintain a reasonable capital structure because there is no change in the revenue cost of capital, i.e., the rates recovered from ratepayers, as the common equity ratio changes as discussed below. (Tr. 178-179)

As OPC Witness Rothschild states, "[i]t is because investor owned water and wastewater companies do have to pay income taxes that the overall cost of capital becomes too high if a company uses an excessive percentage of common equity in the capital structure." (Tr. 51) It is precisely for this reason that it is necessary to hold the after income tax OCC constant, as is assumed by the current Florida PSC leverage formula, because then the revenue cost of capital will vary with varying capital structure ratios. It is

clear that the before income tax OCC rises as the common equity ratio rises in contrast to OPC Witness Rothschild's constant after income tax OCC as the common equity ratio rises. (Ex. 24) For example, at a 40.00% common equity ratio, the before income tax OCC is 10.19% and the revenue cost of capital is \$10.19 per \$100 of rate base and rises to 12.55% at a 100.00% common equity ratio for a revenue cost of capital of \$12.55 per \$100 of rate base. The revenue cost of capital rises as the equity ratio rises, holding the after-income tax OCC constant, consistent with the Modigliani/Miller principle upon which the Florida PSC leverage formula is based. Hence, OPC Witness Rothschild's recommendation that the before income tax OCC be held constant in the leverage formula should be rejected in this proceeding, because as OPC Witness Rothschild states: "[t]he Commission should be concerned that a company prudently do what it can to lower its income tax expenses. Investors might not care if these taxes are paid for by ratepayers, but the Commission should care that ratepayers not be charged incomes taxes that a company could reasonably have avoided." (Tr. 51) Continuing to hold the after income tax OCC constant in the Florida PSC leverage formula accomplishes this goal. (Tr. 179-180)

**ISSUE 1d:** Is it appropriate to make a Bond Yield Differential adjustment? If so, how should this adjustment be made?

\*Yes. The bond yield differential reflected in the debt cost rate in the leverage formula compensates bondholders for the riskiness of a Baa3 rated public utility bond relative to that inherent in an A rated public utility bond. It does not compensate the common equity shareholders for the added relative risk.\*

It is appropriate to include the bond yield differential in the cost of common equity calculation in the leverage formula of 39 basis points because the bond yield differential

reflected in the debt cost rate only compensates bond holders for the increased riskiness inherent in Baa3 public utility bonds relative to the riskiness inherent in A rated public utility bonds. As previously discussed, it is neither necessary nor appropriate to change the debt cost rate as common equity ratios change. Consequently, there is no mechanism in the leverage formula to compensate common equity holders for the increased risk to which they are exposed for investing in the common shares of utilities with Baa3 rated bonds. (Tr. 184)

In addition, Mr. Rothschild's own testimony indicates that the average Florida water and wastewater utility would, indeed, have a Baa3 / BBB- bond rating if its bonds were rated by Moody's or S&P. Exhibit 46 indicates that 62.50% of the water and wastewater utilities in Florida have common equity ratios below 40%. Exhibit 11, which graphs the common equity ratios and the bond ratings of the Natural Gas Index, indicates that a common equity ratio of 40% equates to a bond rating weight of approximately 3.5. The legend on the bottom of the graph indicates that a BBB (equivalent to a Baa2) bond rating would have a weight of 4. Since a weight of 3.5 is less than 4, Mr. Rothschild's own analysis indicates that the average water and wastewater utility in Florida would have an approximate bond rating of Baa3 / BBB- or less. Therefore, Staff's assumption of a Baa3 bond rating for the average Florida water and wastewater utility is reasonable and supported by Mr. Rothschild's own testimony.

OPC Witness Rothschild avoided giving a straight answer to Commissioner Skop's question regarding access to capital by small water and wastewater utilities. (Tr. 134-136) However, he testified in deposition that he believed that the average water and wastewater

utility in Florida (although he did not do any analysis of such utilities) had access to debt at the same cost rate available to large publicly traded companies with a single A bond rating if they “have a capital structure consistent with the parameters that exist for the large companies.” (Ex. 47, pp. 21-22) In fact, OPC Witness Rothschild admitted that he had not studied the small water and wastewater utilities in Florida to see whether this theory applied in practice or whether borrowing required personal guarantees from the owners. (Tr. 109)

**ISSUE 1e:** Is it appropriate to make a Private Placement Premium adjustment? If so, how should this adjustment be made?

\*Yes. It is appropriate to make a Private Placement Premium adjustment because investors in such debt demand compensation for the lack of liquidity relative to large, readily saleable public traded debt. The adjustment should be made in a manner identical to that in the current leverage formula.\*

It is appropriate to include the private placement premium in the cost of common equity calculation in the leverage formula of 50 basis points because investors in such debt demand compensation for the lack of liquidity relative to large, readily saleable publicly traded debt. Privately placed debt is typically held to maturity and does not, by definition, have a public market in which it is traded. Consequently, holders of privately placed debt therefore require a higher return than holders of publicly held debt and this higher return premium must also be reflected in common equity cost rate. (Tr. 186)

OPC Witness Rothschild was clueless when asked whether he could identify any water or wastewater utilities under the Commission’s jurisdiction that has issued equity through private placement. (Ex. 47, pp. 27-28) Again, this shows OPC Witness Rothschild’s total

lack of knowledge of the average water or wastewater utility in Florida to which the leverage formula is legislatively mandated to apply.

**ISSUE 1f:** Is it appropriate to make a Small-Utility Risk Premium adjustment? If so, how should this adjustment be made?

\*Yes. Size is a factor which affects business risk and must be reflected in the common equity cost rate. Since the WAW utilities operating in Florida are all significantly smaller than the companies comprising the Natural Gas Index used to calculate the leverage formula, they are relatively more risky.\*

It is appropriate to include the small-utility risk premium in the cost of common equity calculation in the leverage formula of 50 basis points because size is a factor which affects business risk and must be reflected in the common equity cost rate in the leverage formula. (Tr. 186)

Smaller companies are less capable of coping with significant events which affect sales, revenues and earnings. The loss of revenues from a few larger customers, for example, would have a greater effect on a small company than on a much larger company with a larger customer base. The average water and wastewater utility within the Florida PSC's jurisdiction is a small regulated utility. (Ex. 46) The ultimately allowed overall costs of capital and fair rates of return applied to those companies must reflect the impact of their small size on common equity cost rate. Size is an important factor which affects common equity cost rate, and the average Florida water and wastewater utility is significantly smaller than the average company in the Natural Gas Utility Index whose market data are utilized in the leverage formula based upon market capitalization. (Tr. 186-187; Ex. 28, p. 1) Ms. Ahern made a study of the market capitalization of the ten LDCs in the Florida PSC's



Natural Gas Index, Utilities, Inc., all Florida water and wastewater utilities filing 2007 Annual Reports to the Florida PSC as well as the Florida operating subsidiaries of Utilities, Inc. (Ex. 28, p. 1)

The comparison of Florida water and wastewater utilities relative to the Natural Gas Index used in the leverage formula shows a small size premium of 428 basis points or 4.28%. These premia are based upon data contained in Chapter 7 entitled, "Firm Size and Return" from SBB. SBB states "[o]ne of the most remarkable discoveries of modern finance is that of a relationship between firm size and return. The relationship cuts across the entire size spectrum but is most evident among smaller companies, which have higher returns on average than larger ones. Many studies have looked at the effect of firm size on return. (Ex. 28, p. 7) and "[f]irst, the greater risk of small stocks does not, in the context of the capital asset pricing model (CAPM), fully account for their higher returns over the long term. In the CAPM only systematic, or beta risk, is rewarded; small company stocks have had returns in excess of those implied by their betas." (Ex. 28, p. 12) Furthermore SBB states "A beta greater than one indicates that the security or portfolio has greater systematic risk than the market; according to the CAPM equation, investors are compensated for taking on this additional risk. Yet, Table 7-5 (Ex. 28, p. 15) illustrates that the smaller deciles have had returns that are not fully explained by their higher betas. This return in excess of that predicted by CAPM increases as one moves from the largest companies in deciles I to the smallest in decile 10. The excess return is especially pronounced for micro-cap stocks. (deciles 9-10). This size-related phenomenon has prompted a revision to the CAPM, which includes a size premium." (The determinations are

based on the size premiums for decile portfolios of New York Stock Exchange (NYSE), American Stock Exchange (AMEX) and NASDAQ listed companies for the 1926-2007 period and related data shown on Exhibit 28. The average size premium for the 5<sup>th</sup> and 6<sup>th</sup> deciles, between which the LDCs in the Natural Gas Index fall, has been compared to the average size premium for the 10<sup>th</sup> decile in which all of the Florida water and wastewater utilities fall, if their common stock were traded and sold at the August 29, 2008 average market/book ratio of 225.0% experienced by the ten LDCs in the Natural Gas Index. The size premium spread between the ten LDCs in the Natural Gas Index and the average Florida water and wastewater is 4.28%. (Ex. 28, p. 1) The 50 basis point leverage formula small-utility size premium is therefore an extremely conservatively reasonable estimate of the magnitude of an adjustment needed to reflect the business risk differential between Utilities, Inc., the average Florida water and wastewater utility and the Natural Gas Index. (Tr. 189)

OPC Witness Rothschild's statement that "the data indicates [sic] that if a small company has a lower beta it would also have a lower expected return and thus there is no reason for a small company to require a higher return just because of its size" is an apparent reference to the fact that the average beta of the Florida PSC Staff's Natural Gas Index is either 0.87 or 0.88 (depending upon whether one is using the Staff's calculation or OPC Witness Rothschild's) relative to the betas of the ten deciles represented by the charts on Exhibit 10. However, such a comparison is a mismatch because the 0.87 or 0.88 average beta is calculated over a recent five-year period and the betas for the ten deciles shown on Exhibit 10 are calculated over an 82 years period, i.e., 1926-2007. Such a

comparison is incorrect. An excerpt from SBBI compares betas for the 82 years with those derived over the five years ending December 2007 for each decile. (Ex. 30) Substantial differences are obvious. For every decile, except for the largest two deciles, i.e., 1 and 2, the long-term betas are substantially greater than those over the recent five years. It is also clear that the betas calculated over a recent five-year period are higher for the smallest deciles, the 8<sup>th</sup> – 10<sup>th</sup>, than they are for the larger deciles. (Tr. 190; Ex. 30, p. 1)

In addition, Mr. Rothschild's own analysis indicates that size is indeed a risk factor which must be taken into account in a return on common equity determination. Mr. Rothschild indicated that the greater the beta, "one would expect that the greater for which a return is provided." (Ex. 47, p. 86) He also agreed that the data shown on Exhibit 6, page 2, indicates that the largest companies have the lowest average beta and the smallest companies have the largest average beta. He stated that "[t]hat's what the data shows. It also shows that the returns go along with that. The proper interpretation of that is that beta captures the risk." (Ex. 47, p. 39) Although he disagreed that size is a distinct factor not captured in the CAPM, he does agree that "small companies do tend to have higher betas." (Ex. 47, p. 40)

OPC Witness Rothschild reluctantly admitted that the average water or wastewater utility under the Commission's jurisdiction does not have access to public equity and debt markets. (Ex. 47, pp. 28-29)

In view of all the foregoing, the 50 basis point small-utility size premium included in The leverage formula is conservatively reasonable and should be accepted in this proceeding.

**ISSUE 2:** Should the following leverage formula methodology be applied using updated financial data:

Return on Common Equity = 7.36% + 2.123/Equity Ratio

Where the Equity Ratio = Common Equity /  
(Common Equity + Preferred Equity + Long-Term and Short-Term Debt)

Range: 9.48% @ 100% equity to 12.67% @ 40% equity

\*Yes, the current leverage formula results in a reasonable range of common equity cost rate for the average WAW utility in Florida.\*

OPC Witness Rothschild proposes what he admitted upon questioning by Commissioner Skop was a more complicated formula to determine the reasonable return on equity. (Tr. 133-134) He follows up with the opinion that in situations where use of natural gas companies as a proxy (without any adjustment for size) does not work, then a utility is free to make that argument in a rate case. (Tr. 135) OPC Witness Rothschild would not have made such a statement had he done any analysis of the water and wastewater utilities regulated by the Florida Public Service Commission. A little more than two-thirds of the water utilities have annual revenues of less than \$200,000 and a little less than two-thirds of the wastewater utilities have annual revenue of less than \$200,000. (Ex. 46) It would be cost prohibitive for such small utilities to hire cost of capital experts for their rate cases. Most of those small utilities would qualify for staff assisted rate cases pursuant to Rule 25-30.455, Florida Administrative Code, and all would if the Commission's proposed amendments are adopted. Order No. PSC-08-0687-NOR-WAS

Thus, OPC Witness Rothschild's "if you don't like my formula you can propose your own" challenge has no validity in fact, since that is not a viable option for two thirds of the

water and wastewater utilities under the Commission's jurisdiction. Certainly, those two-thirds would be considered the average water and wastewater utilities to whom the leverage formula is intended to apply.

**ISSUE 3:** What is the appropriate range of returns on common equity for water and wastewater (WAW) utilities pursuant to Section 367.081(4)(f), Florida Statutes?

\*The appropriate range of the rate of return on common equity is the range proposed by the PSC Staff as outlined in Exhibit 2.\*

Based upon the foregoing arguments and authorities, the range of rate of returns on common equity for the average water and wastewater utility in Florida should be 9.48% to 12.67%.

**ISSUE 4:** Should this docket be closed?

This docket should remain open to allow Staff to monitor the movement in capital costs and to readdress the reasonableness of the leverage formula as conditions warrant, until next year's docket is opened.

Respectfully submitted on this 7<sup>th</sup> day of November, 2008, by:

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**CERTIFICATE OF SERVICE**  
**DOCKET NO.: 080006-WS**

I HEREBY CERTIFY that a true and correct copy of the foregoing Post Hearing Brief has been furnished by electronic mail & U.S. Mail this 7<sup>th</sup> day of November, 2008, to:

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