

REBUTTAL TESTIMONY

George Bachman
Robert Camfield

DOCKET NO. 030438-EI:
Petition of Florida Public Utilities Company For An
Increase In its Rates and Charges In Their Consolidated
Electric Division

January 23, 2004

Q. Are you the George Bachman and Robert Camfield who have prefiled testimony in the instant docket before the Florida Public Service Commission?

A. Yes.

Q. What warrants your rebuttal testimony?

A. We wish to reply to and comment on the direct testimony of Daniel Lee of the Florida Public Service Commission Staff, and Mark Cicchetti of The Office of Public Council.

Q. Please begin your rebuttal testimony by replying to Mr. Lee's testimony.

A. We appreciate the concerns raised by Mr. Lee in his testimony of January 9, 2004, which is focused on the request of Florida Public Utilities Company for an incentive award. The predominant concern of Mr. Lee is that our request for a performance allowance does not align with defined principles. Mr. Lee identifies three principles, which we describe as follows:

1. Incentive Compatibility: citing our prefiled direct testimony, Mr. Lee notes, “...net benefits induced by the performance incentive are greater in magnitude than the performance award...(page 2).”
2. Measurable Performance: citing a presentation by Professors Berg and Sotkiewicz, Mr. Lee notes, “...that performance must be observed accurately, be verifiable, must reflect the utilities’ efforts, and must not be greatly affected by random variation (page 2).”
3. Defined Objectives: “...motivates a utility to achieve a performance level for the benefit of both the utility and its customers (page 2).”

It is perhaps useful to review the conformance of the evidence contained in our request for a performance allowance to the principles set forth above by Mr. Lee. First, *Incentive Compatibility*: We amply demonstrate that the net benefits to retail consumers are substantially greater than the cost associated with the performance allowance itself. Second, *Measurable Performance*: We utilize observed and readily accessible price and cost trends. Regarding *Defined Objectives*, we mention in several places that the objective is cost performance while also achieving very good service quality. We demonstrate how retail consumers are overwhelming better off as a result of the realized cost performance.

Q. Mr. Lee states on pages 1-2 that the “determination of the performance incentives is a matter of judgment based on principles that do not appear to involve financial modeling.” Do you agree?

A. No. As stated above, we have measured the benefits associated with the trend in distribution costs, and we have quantified the benefits in terms of financial costs, which is the basis to determine retail electricity prices in the State of Florida and elsewhere.

In a response to an Interrogatory Request, we identify the three methods for measuring cost trends, and we discuss four reasons that underlie the approach taken. The approach to determining the cost trend captures resource costs over years, measured in real terms. This approach is geared to getting at the change in resource costs through time not necessarily the resource cost level in any one year or for any member of the set of comparable utilities. Obtaining the trend is essential because the business, market, and topological circumstances under which the members of the comparability set operate are potentially unique. These conditions need to be isolated as best we can, from the performance cost trend. Once determined, the impact of the trend in cost performance is then measured in financial or accounting cost terms. We believe that this approach is in keeping with Mr. Lee point. Namely, that the benefits need to be demonstrable within and consistent with the basis for retail prices – financial or accounting costs. We concur and have accordingly done so.

Q. Mr. Lee indicates that the current regulatory framework contains incentives for productivity improvement. Please comment.

A. Any such incentives of the current framework are short-term. That is, the net benefits that result from long-term cost performance are fully captured by the regulatory process, as retail prices are reset from time to time. Yet, the net

benefits of cost performance are realized over many years insofar as much of the cost efficiency is in the form of capital utilization and productivity, as distribution facilities have very long lives. We suggest that the better approach is to perturb increased cost performance by sharing back to the applicant a modest fraction of the net benefits in the form of an incentive rate of return allowance.

Q. Please now turn your attention to the testimony of Mr. Cicchetti. Can you please comment on Mr. Cicchetti's cost of capital analysis and his rate of return recommendations.

A. Yes. His analyses and recommendations appear to understate the cost of capital significantly. Using Mr. Cicchetti's recommendations to set retail electricity prices for Florida Public Utilities Company would appear to violate conventional notions of fairness and the regulatory compact between retail consumers and investors, and potentially constitutes a breach of public utility principles and the statutory requirements that govern contemporary regulatory practice.

Thus, we caution the Commission in its consideration of Mr. Cicchetti's analyses and accompanying recommendations. To help guide the Commission, it is perhaps useful to explore a lower bound of a plausible range for the cost of equity, and to then gauge where Mr. Cicchetti's analyses fall. Specifically, equity markets have experienced equity risk premia with respect to government bonds of 7.5% over the 1950-2001 timeframe, and 7.7% over the 1992-2001 timeframe, calculated arithmetically. We exclude 2002 insofar as the losses in equities were exceptional, like that of 1975. Mr. Cicchetti's projected long-term rate of 5.3% for government bonds obtains an implied cost of capital of 12.8–13.0%, for the

market as a whole over the extended long term. This presumes a long-term decline in the market cost of capital vis-à-vis the current environment through about 2006 (15%), where cost of capital is likely to remain at fairly high levels in real terms. The 12.8-13.0% is somewhat overstated because of the way that the data are reported, but nevertheless provides a useful benchmark

As shown by Ibbotson Associates using data of the Center for Research In Security Prices (CRSP) at the University of Chicago, small capitalization equities have incrementally high risk premia with respect to the market as a whole of 1.9% though somewhat less recently. This obtains a risk premia-based cost of capital value of 13.5–15.0% over the long-term for small equities. Surrendering, by assumption, a large three percentage points for incrementally lower risks of Mr. Cicchetti's sample of utilities with reference to small equities obtains a plausible lower bound for the cost capital of 10.5-12.0%. Yet, Mr. Cicchetti indicates that the opportunity cost of capital for Florida Public Utilities is yet another 200 hundred basis points lower. Regrettably, we are obliged to advise the Commission that Mr. Cicchetti's recommendations reside well beyond the range of plausible estimates of the underlying cost of capital. Employing the analysis and recommendation of Mr. Cicchetti in any manner will impose undue harm on Florida Public Utilities Company and its retail customers.

Q. Please provide detailed comments on Mr. Cicchetti's analyses and approach.

A. First, Mr. Cicchetti employs one approach, two-stage DCF. It is useful to note that Mr. Cicchetti's so-called risk premia analysis is founded on discounted cash flow as well, and is not a distinctly different methodology. Second, Mr.

Cicchetti's determination of expected growth in cash flows within the DCF framework is driven by long-term assumptions that appear somewhat low in view of recent history, for the relevant timeframe. It is essential to capture the opportunity cost of capital for the relevant timeframe over which retail prices are likely to be in force prospectively. Third, Mr. Cicchetti understates the expected issuance costs associated with applicant's upcoming equity issue, as applied in his DCF analysis.

Q. Please comment on Mr. Cicchetti's inference that long-term contracting is risky than owning generation assets.

A. Because generation services including energy and reserves are increasingly procured competitively, and because the wholesale market environment demonstrates unusually high price variation due to non-storability and transmission externalities, generation assets carry higher capital risks than distribution assets, taken on a stand-alone basis. However, it does not necessarily follow that a distribution company is less risky and thus less costly than a service provider that possesses generation assets. This is because capital risks attending supply are capitalized and embodied in the services supplied. This means that, to the degree that generation supply harbors relatively higher risks, the costs associated with higher capital risks are captured in short-term (spot and day-ahead) and long-term offer prices for energy and reserves. Essentially, the costs associated with capital risks are present in electricity markets and retail prices, whether retail service providers choose to procure generation services by

building, owning, and operating generation facilities, or choose to contract for such services.

Q. Can you please comment as regards to Mr. Cicchetti's recommendation to use the average 2004 capital structure?

A. The critical factor as far as capital structure is concerned is the participation of common equity in total capital. The year-end '04 structure enables the Company to move forward in a positive manner and to obtain additional capital necessary to maintain its electricity supply infrastructure and to continue to provide low-cost and reliable service.

We are, however, not necessarily wedded to the year-end '04 capital structure per se. Rather, only that it represents an appropriate share of common equity participation in total capital that when stated on a traditional basis is near 50%, and when stated on a regulatory capital structure basis is no less than about 47%. In this regard, other approaches that achieve an appropriate capital structure with sufficient equity participation may be availing – such as a hypothetical prospective capital structure.

We add that, for reasons discussed in the testimony of Bachman and Camfield, the electricity services and, more generally, energy industry is confronting heightened risks of several dimensions, which are substantially more pronounced than in previous eras and years. Accordingly, it is appropriate for FPU to underwrite its assets with a larger share of equity than in previous years. Prior to recent industry events the banking environment was favorable and allowed for aggressive leveraging at favorable interest rates without fear of violating debt

covenants or bankruptcy. The current environment requires less aggressive leverage as demonstrated in the recent changes experienced when renewing our line of credit (LOC). The LOC renewal requires our accounts receivable and environmental funds for collateral, along with increased fees and new debt covenant restrictions. In view of these developments, the company feels bringing the debt/equity ratio closer to 50:50 will result in a stronger financial position to protect the company during tough economic times. We will continue to assess the risks of increasing leverage to achieve lower cost of capital. However, a year-end structure is the most realistic basis reflecting the new environment going forward.

We have conducted two studies in support of the position that the year-end '04 capital structure approaches optimality. First, is a comparative study of the means by which other utilities underwrite assets. The comparative study develops the non-weighted average equity participation in total capital for all listed utilities over the 1993 – 2002 timeframe, and includes a measure of the corresponding statistical variation. Over these years, utilities have carried an average of 40% to 47% percent equity, with the corresponding standard deviation of 11% to 6%. Hence, the recommended year-end '04 capital structure for Florida Public Utilities falls well within one standard deviation of the average. The second study is a simulation of the weighted-average cost of capital, with and without income taxes, for various combinations of equity and debt participation. The simulations recognize the sensitivity of the cost rates of both debt and equity, to equity participation. Specifically, lower levels of equity participation raise the cost rates of debt and equity because of the higher risks associated with increased debt

participation. The results suggest that the overall weighted average cost of capital is fairly insensitive over a fairly broad range of equity participation, stated on the basis of a regulated capital structure which includes non-traditional sources of funds. Thin equity participation reduces interest coverage on debt, and increases the variation and uncertainty associated with cash flow and earnings, stated on a per share basis. Considering the small size of Florida Public Utilities Company and view of the heightened risks that concurrently confront the industry, our recommendation for a year-end capital structure is thus well within the bounds of reasonableness.

Q. Mr. Cicchetti indicates that historical realized returns should not be used as plausible surrogates for expected returns harbored by investors. Please comment.

A. We suggest that it is entirely appropriate to incorporate historical returns insofar as history serves as the basis for all knowledge, information, and normative and positive models about the future. Generally, history and what we infer from it, is all that we know. Within the context of financial markets and the cost of capital, history plays a key role. Historical returns underlie the principles of efficient markets. These rather intuitive arguments, moreover, are fully supported by modern finance theory and empirical studies. Indeed, Professor Fama of the University of Chicago along with other noted researchers have extensively studied this issue. Fama codifies the research on this issue in his treatise, *Foundations in Finance*, where he indicates that expected future returns capture and embody historical returns. Similarly, in *Stocks, Bonds, Bills, and Inflation: Historical*

Returns (12926-1978) by Ibbotson and Sinquefeld explicitly state that they forecast market returns on a basis historical returns and inflation which is, they say, consistent with efficient capital market theory. Supporting comments by William Sharpe of the University of California can be found in *Modern Developments in Investment Management*, as compiled by James Lorie and Richard Brealey. Furthermore, and as suggested by David Luenberger of Stanford University in his treatise, *Investment Science*, it is appropriate – and arguably essential – to sample past returns from several timeframes, as we have done.

This is not to imply, however, that the Commission should utilize exclusively or give significant and undue weight to historical realized returns, as other information and analysis comes to bear in the valuation of financial assets by investors. Accordingly, we also utilize discounted cash flow, capital asset pricing model, and risk premium methodologies.

Q. Mr. Cicchetti takes issue with your the 2.0 – 2.5% percentage point discount for risks associated with electric companies vis-à-vis the market as a whole in your risk premia analysis. Can you comment?

A. Yes. Our risk premia analysis is determined for the market as a whole, and then adjusted. Our analysis of risk premia is consistent with the efficient market hypothesis, and can be estimated directly for electric utilities over a shorter time frame, as the data are available. However, we prefer to examine fairly long-term periods that provide a close match to the near term future (2004 – 2007). However, doing so requires the adjustment taken. While CAPM alone suggests a

somewhat larger adjustment for risk, it is not clear that all investors are fully diversified, which is inherent to CAPM theory. Second, evidence suggests that CAPM may understate the cost of capital for small capitalization equities. In short, we suggest that the adjustment of 2.0 – 2.5% is appropriate.

Q. Mr. Cicchetti seems to imply that the risk free rate of 4.1% is to high, in view of current rates?

A. While there is no doubt about low interest rates currently, it is important to consider where short- and medium-term rates may reside over the relevant prospective timeframe, through about 2007. Four percentage points appears appropriate for 1-year Treasuries in view of experience over recent years of comparatively low inflation. As shown by the Federal Reserve Bank of St. Louis, 1-year Treasury yields have carried returns of slightly greater than 2.0% in real terms on average over 1993–2001. With observed and expected inflation near 2%, our short-term (risk-free) rate seems appropriate. We might mention that short-term rates are sensitive to the supply of short term funds, as determined by the execution of monetary policy by the U.S. Federal Reserve. Real short-term rates can swing by 3 – 5% within a year's time, and it should not surprise us that 1-year treasury yields would rise to 4% stated in nominal terms (2% real terms) within less than a year.

Q. Mr. Cicchetti suggests that cash flow per share is not an appropriate basis for estimation of investor expectations of growth and thus returns. Please comment.

A. We can never fully understand the basis for investor expectations as they are not observable. This leaves the cost of capital question unresolved. A large range of possible approaches to gauge expectations are available, and the historical series including cash flow, earnings, and dividends are all plausible. Empirical evidence, however, suggests that cash flow is a major if not dominant basis by which investors assess the prospects for future growth. As demonstrated by Burton Malkiel of Princeton University in *The Valuation of Public Utility Equities* in the Rand Journal of Economics, the internal generation of cash (cash flow) has significant impact on investor expectations. In fact, Professor Malkiel finds that cash flow per share to be the most significant measure of historical among numerous alternative measures. Professor Malkiel states, “From the forty candidates, one calculated growth rate was either clearly superior or, at least, no worse than any of the others in each of the years and was used in the regressions based on historical data. This was the ten-year rate of cash earnings per share (i.e., earnings plus depreciation and amortization) calculated as the geometric mean of the first ratios (page 148-149).” It is important to put this into the proper context. Specifically, Malkiel derives a form of Gordon’s discounted cash flow (DCF), which is shown to be applicable for a finite timeframe. Indeed, the finite DCF variation of Gordon’s DCF is the model that we use in our DCF analysis. Conforming to this line of thought, David Luenberger in *Investment Science* specifically mentions that internal cash returns to capital within the context of DCF to be the preferred approach, though recognizes difficulties in determine cash flow. Our experience in investment and asset valuation reveals that the

investment community is strongly focused on cash flow as the basis to assess the future returns to capital. Also, our research has shown that non-cash returns to capital imply higher capital costs, thus emphasizing the importance of internal cash. Finally the analysis presented in our testimony clearly shows that cash flow has much lower volatility than earnings and, within the context of utilities, is close to dividends. This is not surprising because, as a practice matter, cash flow provides a basis to declare and underwrite dividends, thus allowing for greater stability in dividend flows.