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June 7, 1996

Ms. Blanca S. Bayo, Director
Division of Records and Reporting
Florida Public Service Commission
101 East Gaines Street
Tallahassee, FL 32399-0870

RE: DOCKET 960409 EI FIPUG TESTIMONY

Dear Ms. Bayo:

Subsequent to the filing of Mr. Falkenburg's testimony in this case, it came to our attention that the price allocation issue listed on preliminary staff issue statements was subsequently removed from consideration. Under the circumstances, a portion of Mr. Falkenburg's testimony is no longer germane to these proceedings, therefore enclosed herewith for filing and distribution is a 3.5" floppy disk in WordPerfect 5.1 format and 15 copies of the redacted version of his testimony which deletes all reference to that issue. In all other respects, Mr. Falkenburg's testimony remains the same.

Please be advised that according to the most recent service list in this docket number, our Tallahassee office is the only one listed. I request that my name and our Tampa location be added to the list of parties of record.

ACK ___
AFA 1
APP ___
CAF ___
CMU ___
CTR ___
EAG ___
LEG ___
LIN ___
OPC ___
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WAS ___
OTH ___

Sincerely yours,

John W. McWhirter, Jr.

JWMjr/jan
Encls.
cc: Joseph A. McGlothlin, Esq.
Mr. Robert Elias - FPSC
Mr. Lee Willis - Macfarlane Ausley Law Firm
Ms. Jana A. Hathorne - TECO
Mr. Roger Howe - Office of the Public Counsel
Mr. Randy Falkenburg

BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION
DOCKET NO. 960409-EI

TAMPA ELECTRIC COMPANY

TESTIMONY CONFORMED TO
FLORIDA ADMINISTRATIVE
CODE NO. 25-22.048 (4)(a)

DIRECT TESTIMONY OF RANDALL J. FALKENBERG

ON BEHALF OF THE
FLORIDA INDUSTRIAL
POWER USERS GROUP

BEFORE THE

FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 960409-EI

DIRECT TESTIMONY OF RANDALL J. FALKENBERG

Q. Please state your name and business address.

A. Randall J. Falkenberg, Suite 475, 35 Glenlake Parkway, Atlanta, Georgia 30328.

Q. What is your occupation and by whom are you employed?

A. I am a utility rate and planning consultant holding the position of Vice President and Principal with the firm of J. Kennedy and Associates, Inc. ("Kennedy and Associates").

Q. Please describe briefly the nature of the consulting services provided by Kennedy and Associates.

A. Kennedy and Associates provides consulting services in the electric, gas, and telephone utility industries. The firm provides expertise in system planning, load forecasting, financial analysis, cost of service, utility accounting, revenue requirements, and rate design. Our clients have included the Georgia, Louisiana, and Oklahoma Public Service Commissions, the Attorneys General of Kentucky and New Mexico, the Office of Public Utility Counsel of Texas, the Consumers' Utility Counsel of Georgia, industrial consumer groups in over a dozen states, a number of publicly-owned utilities,

a major Federal Public Power Authority, and the New Orleans Business Council.

I. QUALIFICATIONS

Q. Please describe your education and professional experience.

A. Exhibit No. ___ (RJF-1) describes my education and experience within the utility industry. I have nineteen years of experience in the utility industry and have worked for utilities, both as an employee and as a consultant, and as a consultant to major corporations, state and federal government agencies, and public service commissions. I have been directly involved in a number of cases related to the Bath County, Beaver Valley, Brandon Shores, Grand Gulf, Millstone, Palo Verde, Perry, River Bend, Trimble County, Vogtle, and Wilson power plants concerning the topics of rate recognition, prudence, power system reliability, and economics.

During my employment with EBASCO Services I developed probabilistic production cost and reliability models used in studies for numerous utility industry clients. I personally directed a number of marginal and avoided cost studies performed for compliance with the Public Utility Regulatory Policies Act of 1978 ("PURPA"). At EBASCO, I also participated in a wide variety of consulting projects in the rate, planning, and forecasting areas.

In 1982 I accepted the position of Senior Consultant with Energy

Management Associates ("EMA"). At EMA I trained and consulted with planners and financial analysts at several utilities in applications of the PROMOD III and PROSCREEN II planning models. In particular, I assisted planners in the application of these models to the preparation of studies of revenue requirements and the financial impact of alternative expansion plans. I also assisted in EMA's educational seminars and trained utility personnel in revenue requirements analysis, production cost modeling, reliability analysis, and other techniques of generation planning.

Since joining Kennedy and Associates in 1984, I have been responsible for the firm's work in the areas of generation planning, reliability analysis, and the rate treatment of new capacity additions. I have presented expert testimony on these and other matters in over seventy-five cases before regulatory commissions and courts in Arkansas, Connecticut, Florida, Georgia, Kentucky, Louisiana, Maryland, Michigan, Minnesota, New Mexico, New York, North Carolina, Ohio, Pennsylvania, Texas, and West Virginia. Included in Exhibit No. ___ (RJF-1) is a list of my appearances.

Q. Have you previously presented testimony before the Florida Public Service Commission?

A. Yes. In 1984 I appeared before the Florida Public Service Commission ("FPSC") in Florida Power Company ("FPC") Docket No. 830470-EI and addressed issues related to the Crystal River 5 generating unit. In 1987 I

filed testimony in FPC Docket No. 870220-EI related to cost allocation and rate design and the performance of the Crystal River 3 nuclear plant. In 1992 I filed testimony in FPC Docket No. 910890-EI related to cost allocation and a variety of revenue requirements issues. Docket Nos. 870220-EI and 91890-EI were settled prior to my appearance. In 1992 I filed testimony in TECO's last general rate case (Docket No. 920324-EI) addressing issues related to cost allocation, jurisdictional separations and interruptible rates. That case was also settled prior to my appearance. I have also presented testimony in a number of smaller proceedings addressing issues related to interruptible load, off-system sales and DSM.

Q. Please discuss how your qualifications relate to the issues you are addressing in this case.

A. The primary subject matter of this testimony concerns the rate treatment of a new power plant and cost allocation. I have already pointed out my experience in cases related to the rate treatment of new power plants. In addition, as can be seen from Exhibit No. ____ (RJF-1) I began my work in the utility industry in the cost of service and rate design area nineteen years ago. I have been involved in cost of service and rate design analysis during most of my career.

Because it is purported that the selection of a cost allocation technique is intended to reflect the decision process underlying plant construction, I

believe my experience in the planning area and prudence audits enables me to bring the perspective of the planner to this issue. In my previous work I have extensively reviewed a great number of utility planning documents that have led to the construction of new capacity over the period from the 1960s to the present, and have also been involved in a great number of planning cases concerned with major plant additions. As a result, although I will be addressing cost of service related issues, I will be approaching them from the perspective of a system planing expert.

II. INTRODUCTION AND SUMMARY

Q. On whose behalf are you appearing and what is the purpose of your testimony?

A. I am appearing on behalf of the Florida Industrial Power Users Group ("FIPUG"). These industrial customers are among the largest power consumers on the Tampa Electric Company ("TECO") system and have a direct interest in the regulatory treatment of the Polk County power plant which will be addressed in this case. FIPUG has asked Kennedy and Associates to review TECO's filing and comment on the Company's proposed regulatory treatment of the Polk County Unit and to address the issues raised in the Prehearing Order relative to the cost allocation methodology appropriate for the project and certain other issues.

Q. Do you have a summary of your testimony in this case?

A. Yes. I have concluded the following:

1. I do not dispute TECO's need for the added capacity available from the Polk County project and do not question the prudence, used and usefulness or cost effectiveness of the combined cycle portion of the plant. However, the Commission must decide whether the gasifier portion of the project is prudent, used and useful or cost effective.

2. My analysis of the cost effectiveness of the gasifier indicates that the current and near term fuel cost savings are minimal compared to the high initial capital costs of this project. If the Commission approves the prudence of the total investment, I recommend that the Commission utilize a phase-in approach to mitigate these high initial costs.

3. I urge the Commission to reject any notion that TECO will have a stranded cost recovery problem for two reasons. First, TECO's embedded cost of capacity and energy (including Polk County Unit) is lower than the cost of new combined cycle generation. In a competitive market, it is likely TECO would earn higher rates of return on its assets. Second, TECO's investors knew full well that competition was a possibility during the period of the Polk County's Unit construction. Thus, they accepted the risks of any stranded costs for the plant.

4. The FERC Mega-NOPR heralds a new era of wholesale power competition. Owing to this major shift in the regulatory paradigm, the Commission should carefully assess the jurisdictional allocation of the Polk County Unit (and all plants) between the retail and wholesale market. The Commission should make an assignment of any capacity resources not needed to serve retail loads to the wholesale jurisdiction and impute long term wholesale sales at whatever cost it allows for the Polk County Unit.

III. RATE TREATMENT OF THE POLK COUNTY UNIT

Q. Due to the stipulation TECO's rates are frozen until January 1, 1999. Why is rate treatment of the Polk County Unit an issue?

A. The stipulation addresses the crucial issue of TECO's base rate levels by freezing rates. TECO, FIPUG and the OPC are all satisfied with this result. It also determines the treatment of any excess earnings via a deferral mechanism. However, the remaining issue to be addressed is the question of how one measures excess earnings in the surveillance reports. If TECO includes the full cost of the Polk County Unit in its regulatory rate-base, then, all other things being equal, earnings will be depressed. In that case, earnings may not exceed the 11.75% level and revenues previously deferred will be "used up." If, on the other hand, TECO is not allowed the full cost of the Polk County Unit in rate base, then earnings will be increased.

stipulation and recent cost cutting efforts. With wholesale competition on the doorstep, and retail competition perhaps not far behind, the traditional solution of raising rates is becoming less and less attractive within the utility industry. The last few years have seen substantial cost-cutting and downsizing efforts taking place in the utility industry and relative rate stability in most places. It appears that TECO has concluded its best future lies in cutting costs and using innovative regulatory approaches, rather than increasing rates, in order to increase shareholder value. I agree with this perception and support it.

Q. With that as a background, please discuss the issue of the regulatory treatment of the Polk County Unit.

A. The Commission must consider a number of factors in its determination of the rate treatment for the Polk County Unit. These include the traditional issues of prudence, used and useful and the cost-effectiveness of the resource. However, as discussed above, the stipulation itself also has a bearing on the impact of any cost disallowances which the Commission might impose. The Company has addressed the prudence issue in its testimony. For my part, I will note that prudence is not the only standard for ratemaking. Due to the presence of competition in wholesale markets, and the likely emergence of retail competition during the useful life of the Polk County Unit, the latter two standards will take on increasing importance. I will concentrate on the

cost effectiveness of the resource relative to other options and make rate treatment recommendations which will mitigate its initial high cost.

Q. Comment on the cost effectiveness of the Polk County Unit.

A. Exhibit No. ____ (RJF-2) is a cost-effectiveness analysis of the Polk County Unit from the perspective of current ratepayers. The source data for this study comes directly from Mr. Hernandez's Exhibit No. ____ (TLH-1.) This analysis compares the current cost of the Polk County Unit to the costs of a gas-fired combined cycle unit at the site. The only modification I have made to Mr. Hernandez's study is to remove the Polk County gasifier sunk costs and the DOE grant from the analysis. This analysis, therefore, reflects the costs of the Polk County Unit as built compared to TECO simply building a combined cycle unit at the Polk County site.

Q. Why is this a relevant standard of comparison, and how does your analysis differ from that of Mr. Hernandez?

A. In TECO's original certification proceeding, a gas-fired combined cycle unit was one of the alternatives considered. Given that TECO demonstrated a need for new capacity, and the relative economic advantages of combined cycle generation, this would have been considered a reasonable capacity addition at that time, and it remains so today. TECO, however, decided to build a coal gasifier at the site and received the DOE grant for doing so. The Commission conditioned approval of the project upon the DOE grant.

This analysis addresses the question of whether TECO's decision remains the most economic choice from the current perspective. Naturally, the Commission must also consider the question of prudence, i.e. whether the decision to build the gasifier was reasonably expected to be the least cost option in the first place.

Mr. Hernandez's study addresses the question of completion vs. cancellation of the project. By reflecting the gasifier-related sunk costs in his study, he focusses solely on the question of whether it made sense to complete or abandon the gasifier project. With so little left to be spent on the project, the answer is obviously yes, assuming that reasonable operating performance is possible from the gasifier.

Q. What are the results of your study?

A. My study shows that over its entire lifetime the Polk County Unit *may* be an economic resource compared to a conventional combined cycle plant built at the same site. However, the projected economic advantage is rather small ($27 million in NPV in 1996 dollars) and it will take until approximately the year 2021 before the high initial cost of the gasifier is overcome by the projected long term fuel cost benefits on a cumulative present value basis. Long term projections such as this are obviously quite uncertain. What is highly certain, however, is the fact that the initial costs of the gasifier dwarf any possible fuel cost benefits during the early years of operation of the

plant. In the initial years of operation during TECO's rate freeze (1996 to 1998), the gasifier results in additional capital costs of $64 million (NPV) but produces less than $ 13 million in fuel cost savings.

Q. In your view, what is the primary consequence of the cost-effectiveness test you have performed regarding the issue of rate treatment?

A. The analysis performed demonstrates two problems. First, there is some doubt as to the long-term economic advantages of the gasifier portion of the plant. However, irrespective of the question of long-term cost effectiveness, the high initial cost of the project relative to a "plain vanilla" combined cycle plant is the most pressing concern. I propose that the Commission seek to implement a rate treatment for the gasifier which will mitigate its high initial cost.

Q. Why is the high initial cost of the gasifier such a concern?

A. There are two reasons. First, there is the question of intergenerational equity. Today's ratepayers could well end up subsidizing future ratepayers by paying the highest costs of this asset when it produces minimal fuel savings. Second, with the likely prospect of both wholesale and retail competition in the years ahead, current ratepayers may find themselves of paying down much of the costs of the Polk County Unit under a regulated regime, while TECO reaps the benefits of the project's lower operating costs in the years ahead in a deregulated environment. TECO's current ratepayers

may not retain the claim on the eventual benefits of the plant under competition, even after having suffered its high costs under regulation.

Q. Having identified this, please proceed now to the question of the rate treatment of the Polk County Unit.

A. In FIPUG's view, the high initial cost of the gasifier is not a major problem, so long as it does not give rise to a rate increase. We believe that it is possible to craft a solution to this problem.

Exhibit No. ____ (RJF-3) is a copy of a letter from Mr. Gordon Gillette, Vice President of Regulatory Affairs of TECO, to Mr. John Slemkewicz, Supervisor of Electric and Gas Accounting for the FPSC. The letter demonstrates that from 1994 to 1996, TECO would experience excess earnings, with a reduction in earnings in 1997, due to the inclusion of the Polk County Unit in rate base. However, the shortfall in 1997 was not as great as the over earnings in expected in the period 1994-1996. In addition, TECO's sales growth projections are not particularly large, averaging 3% or less. The interesting point is that for 1997 TECO's ROE was projected to be 9.28%, apparently without any base rate increases. While I do not intend to address the question of TECO's appropriate ROE, this indicates a shortfall of a magnitude which could potentially be eliminated via higher sales growth, cost cutting, etc.

Q. Are there any other factors which bear upon this question?

A. Yes. Under traditional utility regulatory accounting, the initial year of a new plant is the highest cost. Every subsequent year has a lower cost as the rate base is depreciated, and the deferred tax reserve decreases. In the present case, TECO hopes to be allowed a seven-year tax life for the project. This will greatly accelerate the reduction in cost during the initial years of operation. This suggests that if TECO could stave off the necessity for a rate increase in the first few years of the Polk County Unit, it will be easier to do so after that. Thus, the necessary ingredients are in place for recognition of the new plant in rates without a rate increase.

Q. Would this be unusual?

A. When viewed in the context of the period from the 1980s to 1990, this would have been unusual indeed. However, as Mr. Rowe points out in his direct testimony, FP&L has recently accomplished the inclusion of the costs of a number of new power plants into rate base without a base rate increase.

Q. Please describe FIPUG's proposed rate treatment for the Polk County Unit.

A. FIPUG proposes to allow TECO to initially include the cost of the combined cycle portion of the plant into rate base for purposes of surveillance reporting in conjunction with the rate freeze. This approach will be equitable to shareholders and will assure ratepayers that they are paying for a cost-effective resource.

Q. Why do you recommend inclusion of the cost of the combined cycle portion of the plant in rate base as opposed to the total booked cost of the unit?

A. A combined cycle plant represents a reasonable standard of comparison for a new utility plant. My review of planning studies in recent years indicates this has become the capacity addition of choice for most utilities. TECO contends that completion of the Polk County Unit as a coal gasification project was a lower total cost option than a combined cycle unit, based on its studies over the period 1992 to 1996. However, I seriously doubt that any one would have proposed a prudence disallowance had TECO decided that the added costs and technological risks of coal gasification did not warrant the investment and chose to build a conventional combined cycle plant instead. In addition, the higher than expected costs of the project and reduced fuel savings cast some doubt on its long-term benefits. Had the Commission expected these in the first case, I question if the plant would have ever been certified. Thus, under present economic circumstances, the combined portion of the cycle plant represents an option which would be both prudent and cost-effective. For this reason, I do not dispute inclusion of at least that amount of cost into rate base. Given the need for and cost-effectiveness of the combined cycle portion of the plant, the problems of intergenerational equity and the potential regulated ratepayer subsidization of

TECO's competitive future discussed above are not concerns.

However, the gasifier portion of the plant cost represents an added investment which must pass the regulatory tests of prudence and used and usefulness, or cost-effectiveness, particularly in light of the issues of intergenerational equity and the prospect for electric utility competition.

Q. Assuming the Commission determines that the gasifier is a prudent expenditure, how do you propose that TECO treat the additional investment?

A. In that case, TECO should be allowed to recover all operating expenses and depreciation on the plant as a whole. However, in order to mitigate the high initial cost of the plant, I recommend that the Commission defer the return on the gasifier to effectuate a phase-in of its costs, so that the total rate impact of the project is as close to neutral as possible during its initial years of operation. Under the stipulation, TECO's investment and expenses for financial reporting purposes are largely independent of the rate treatment of the Polk County Unit during the rate freeze, because rate levels and expenses are independent of this.

Q. Do you have a specific schedule for this phase-in proposal?

A. Yes. I propose that in the first full year of operation, a deferred return be allowed on 100% of the gasifier investment ($191 million). Each year after that an additional 20% of the gasifier's initial rate base would be allowed a

current return. At the end of five years, the full rate base would be allowed a current return. Deferrals would be amortized over years 10-30. This approach will mitigate any current rate impact of the plant, but will also provide a rapid and definite phase-in. At the end of the rate freeze, TECO could petition the Commission to accelerate the phase-in if it can demonstrate lower than currently expected costs or larger fuel savings benefits.

IV. JURISDICTIONAL SEPARATION FACTORS

Q. Will the Polk Unit have an impact on the relationship between wholesale and retail sales?

A. Yes. The Commission needs to carefully consider the issue of jurisdictional separation factors and the treatment of the Polk County Unit's costs in the wholesale jurisdiction. As a result of the FERC Orders 888 and 889 (stemming from the Mega-NOPR) TECO, and all utilities, will now be participating in a competitive wholesale market. While, in the past, the wholesale and retail jurisdictions were both regulated markets, now TECO will be involved in a regulated retail, but increasingly deregulated wholesale power business. Commissions have traditionally had strong concerns in instances where utilities operated in both regulated and competitive businesses and have frequently instituted special measures to protect regulated customers from subsidizing the deregulated or unregulated businesses. In the present

case I urge the Commission to take special care that retail ratepayers do not subsidize wholesale ratepayers.

Q. How can the Commission ensure this?

A. The Commission should revisit the jurisdictional separation factors, particularly for generation resources and ensure that a reasonable portion of the costs of the Polk County Unit (and, in fact, all plants) is assigned to the wholesale jurisdiction. This can be done by allocating the wholesale jurisdiction all capacity not required to serve retail peak demands. In addition, the Commission should make it a rebuttable presumption that the allowed cost of the Polk County Unit is the cost of serving long term (greater than 5 years) wholesale loads. In other words, it should impute the costs of the Polk County Unit as the revenues derived from long term contracts in the wholesale market.

Q. Explain why you believe that this should be done.

A. TECO and all other utilities are now in a position to compete on a much broader scale for wholesale loads. A danger in this situation is that TECO could build unneeded capacity in an attempt to expand wholesale market share. To prevent retail customers from subsidizing TECO's unregulated wholesale efforts, the Commission should assign excess capacity to the wholesale jurisdiction and impute the allowed cost of the latest capacity addition to the wholesale market as the price of long term sales.

V. STRANDED COSTS AND PRICE INDEXING

Q. Do you believe that the Polk County Unit should be recognized in any future stranded cost recovery type of exit fee?

A. No. There is no evidence that TECO will have a stranded cost recovery problem. In fact, an excellent case can be made that TECO would earn higher returns on its resources under a competitive regime than would be the case with continued regulation.

Q. Please explain.

A. In considering stranded costs, it is important to recognize the entire generation mix of a utility, not just its highest cost, or most recently completed plant. In TECO's case, the Company's embedded cost of capacity (even with the Polk County Unit) is a less than $400/kW. This is lower than the current cost of a new combined cycle generator or combustion turbine. However, TECO's capacity mix is 87% coal-fired. Since coal fuel prices are now lower than natural gas or oil (and expected to remain so), it is clear that TECO's existing capacity mix will be lower in cost than either a new CT or combined cycle plant. Thus compared to the cost of new generation resources, TECO's existing resources would have a substantial competitive advantage. TECO can generate energy from its existing units at a lower cost than a new generation resource would require.

Q. Why is this significant?

A. In a competitive market, economic theory holds that price will equate to marginal cost. If excess capacity is present, then the price will equal short run marginal cost. However, in an equilibrium position, without excess capacity, price will equal the long run marginal cost of new generation. Currently, the load and capacity balance in the area is in balance. SERC, as a whole, has a reserve margin of 24% over the firm summer peak, while the Florida and Southern subregions have reserve margins of 23% and 20%, respectively. There is no longer a substantial amount of excess capacity in the region. Therefore, we can expect that under competition, the market price will equate rather quickly to the cost of new generation, and eventually settle in at a level higher than TECO's embedded cost of capacity. For this reason, TECO would expect to earn higher returns in a competitive market than under continued regulation. In light of this, it is clear that TECO's stranded costs are probably negative.

Q. Does the recent time frame for the Polk County Unit's construction have any bearing on this issue?

A. Yes. It is frequently suggested that investors would perceive it to be unfair if high cost nuclear plants were not included as part of a stranded cost recovery charge. While there is room to debate this point, at least one thing is clear. Unlike a nuclear plant, which was originally conceived in the early 1970s and perhaps completed in the 1980s, the Polk County Unit is a product

of the last five years. While utility investors might claim to have had no idea that electricity competition would someday become a reality when nuclear plants were undertaken, the same cannot be said for TECO's current investors. The prospects for both retail and wholesale competition were well known in the early 1990s when TECO began its involvement in the project. In 1992, for example, the federal EPACT was passed which required the institution of wholesale competition. Thus, TECO's current investors made their choices with their eyes open as regards the possibility that the Polk County Unit might someday be an asset used in a competitive market. Thus, to this extent, investors should bear the risk (if any) of stranded costs for the Polk County Unit.

Q. Should the Commission establish a performance-based rate indexing as a method of cost recovery for TECO's Polk IGCC unit?

A. No. FIPUG has already proposed a ratemaking mechanism for the Polk County Unit. Performance-based ratemaking is a frequently used term these days, and may mean different things to different people. I am assuming that in this instance, it means some form of rate indexing. Generally speaking, this has meant that utilities are allowed to automatically increase prices based on an index of inflation and fuel prices with, perhaps, a productivity offset. While there is no specific proposal on the table, this type of performance based ratemaking is unwarranted because it simply allows the utilities the

opportunity to overearn. If such a system had been in place in Florida over the past decade, the current TECO refunds as well as the 1987 FPC rate reduction would have never taken place. Instead, steadily rising rates would have occurred, and substantial over collections would have resulted.

Further, formalistic ratemaking standards have been a one-way street. For example, the Commission has had an O&M benchmark methodology for years, but has been reluctant to apply it when it implied a large disallowance. For example, in the FP&L tax refund case, the Commission declined to reflect an O&M benchmark concept in determining the refund level. Unless the Commission is prepared to implement this type of approach, even if it spells serious problems for utilities at some future date, it should not allow it to be introduced now when "times are good."

The fundamental flaw with performance based ratemaking is that it tends to capture only increases to cost, such as due to inflation, without giving credit to sources of decreasing costs, such as sales growth, rate base depreciation, etc. For most electric utilities, very little of the actual cost of service is related to inflation, at least in the short run. Most electric utilities revenue requirements are dominated by the capital investment in production, transmission and distribution plant. In the absence of a new plant, these costs will decline over time. Labor related costs, such as O&M, may follow inflation to some extent, but are hardly driven by inflation. For example,

utilities, such as TECO, have actually been able to freeze or even cut O&M expenses in some cases, even when overall inflation in the economy has been running at 3% or more. Finally, a utilities' fuel prices are driven by existing contracts, as well as prices in fuel markets. Simply because a neighboring utility has an increase in fuel costs does not mean TECO should be granted a fuel price increase.

The primary argument in favor of performance-based ratemaking is that it allows a utility to reap some of the rewards of its own cost cutting efforts and efficiency gains. However, FIPUG's proposal accomplishes that goal, while still allowing ratepayers to share in some of those benefits as a costly new power plant is worked into customer rates. I recommend that the Commission reject any form of rate indexing such as performance based ratemaking and adopt the FIPUG proposal instead.

Q. Does this conclude your testimony?

A. Yes.

BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

TAMPA ELECTRIC COMPANY

DOCKET NO. 960409-EI

TESTIMONY CONFORMED TO
FLORIDA ADMINISTRATIVE CODE NO. 25-22.048 (4)(a)

EXHIBITS

OF

RANDALL J. FALKENBERG

ON BEHALF OF THE

FLORIDA INDUSTRIAL POWER USERS GROUP

KENNEDY AND ASSOCIATES
ATLANTA, GEORGIA

JUNE 1996

QUALIFICATIONS OF RANDALL J. FALKENBERG, VICE PRESIDENT

EDUCATIONAL BACKGROUND

I received my Bachelor of Science degree with Honors in Physics and a minor in mathematics from Indiana University. I received a Master of Science degree in Physics from the University of Minnesota. My thesis research was in nuclear theory. At Minnesota I also did graduate work in engineering economics and econometrics. I have completed advanced study in power system reliability analysis.

PROFESSIONAL EXPERIENCE

After graduating from the University of Minnesota in 1977, I was employed by Minnesota Power as a Rate Engineer. I designed and coordinated the Company's first load research program. I also performed load studies used in cost-of-service studies and assisted in rate design activities.

In 1978, I accepted the position of Research Analyst in the Marketing and Rates department of Puget Sound Power and Light Company. In that position, I prepared the two-year sales and revenue forecasts used in the Company's budgeting activities and developed methods to perform both near- and long-term load forecasting studies.

In 1979, I accepted the position of Consultant in the Utility Rate Department of Ebasco Service Inc. In 1980, I was promoted to Senior Consultant in the Energy Management Services Department. At Ebasco I performed and assisted in numerous studies in the areas of cost of service, load research, and utility planning. In particular, I was involved in studies concerning analysis of excess capacity, evaluation of the planning activities of a major utility on behalf of its public service commission, development of a methodology for computing avoided costs and cogeneration rates, long-term electricity price forecasts, and cost allocation studies.

At Ebasco, I specialized in the development of computer models used to simulate utility production costs, system reliability, and load patterns. I was the principal author of production costing software used by eighteen utility clients and public service commissions for evaluation of marginal costs, avoided costs and production costing analysis. I assisted over a dozen utilities in the performance of marginal and avoided cost studies related to the PURPA of 1978. In this capacity, I worked with utility planners and rate specialists in quantifying the rate and cost impact of generation expansion alternatives. This activity included estimating carrying costs, O&M expenses, and capital cost estimates for future generation.

QUALIFICATIONS OF RANDALL J. FALKENBERG, VICE PRESIDENT

In 1982 I accepted the position of Senior Consultant with Energy Management Associates, Inc. and was promoted to Lead Consultant in June 1983. At EMA I trained and consulted with planners and financial analysts at several utilities in applications of the PROMOD and PROSCREEN planning models. I assisted planners in applications of these models to the preparation of studies evaluating the revenue requirements and financial impact of generation expansion alternatives, alternate load growth patterns and alternate regulatory treatments of new baseload generation. I also assisted in EMA's educational seminars where utility personnel were trained in aspects of production cost modeling and other modern techniques of generation planning.

I became a Principal in Kennedy and Associates in 1984. Since then I have performed numerous economic studies and analyses of the expansion plans of several utilities. I have testified on several occasions regarding plant cancellation, power system reliability, phase-in of new generating plants, and the proper rate treatment of new generating capacity.

PAPERS AND PRESENTATIONS

Mid-America Regulatory Commissioners Conference - June 1984: "Nuclear Plant Rate Shock - Is Phase-In the Answer"

Electric Consumers Resource Council - Annual Seminar, September 1986: "Rate Shock, Excess Capacity and Phase-in"

The Metallurgical Society - Annual Convention, February 1987: "The Impact of Electric Pricing Trends on the Aluminum Industry"

Public Utilities Fortnightly - "Future Electricity Supply Adequacy: The Sky Is Not Falling" What Others Think, January 5, 1989 Issue

Expert Testimony Appearances
of
Randall J. Falkenberg
As of April 1996

Date	Case	Jurisdict.	Party	Utility	Subject
3/84	8924	KY	Airco Carbide	Louisville Gas & Electric	CWIP in rate base.
5/84	830470-EI	FL	Florida Industrial Power Users Group	Florida Power Corp.	Phase-in of coal unit, fuel savings basis, cost allocation.
10/84	89-07-R	CT	Connecticut Industrial Energy Consumers	Connecticut Light & Power	Excess capacity.
11/84	R-842651	PA	Lehigh Valley Power Committee	Pennsylvania Power & Light Co.	Phase-in of nuclear unit.
2/85	I-840381	PA	Phila. Area Industrial Energy Users' Group	Philadelphia Electric Co.	Economics of cancellation of nuclear generating units.
3/85	Case No. 9243	KY	Kentucky Industrial Utility Consumers	Louisville Gas & Electric Co.	Economics of cancelling fossil generating units.
3/85	R-842632	PA	West Penn Power Industrial Intervenors	West Penn Power Co.	Economics of pumped storage generating units, optimal reserve margin, excess capacity.
3/85	3498-U	GA	Georgia Public Service Commission Staff	Georgia Power Co.	Cancellation of nuclear unit, load and energy forecasting, generation planning economics.
5/85	84-768-E-42T	WV	West Virginia Multiple Intervenors	Monongahela Power Co.	Economics of pumped storage generating units, optimal reserve margin, excess capacity.
7/85	E-7, SUB 391	NC	Carolina Industrial Group for Fair Utility Rates	Duke Power Co.	Nuclear unit economics, fuel cost projections.
7/85	9299	KY	Kentucky Industrial Utility Consumers	Union Light, Heat & Power Co.	Interruptible rate.
8/85	84-249-U	AR	Arkansas Electric Energy Consumers	Arkansas Power & Light Co.	Prudence review.
1/86	85-09-12	CT	Connecticut Industrial Energy Consumers	Connecticut Light & Power Co.	Excess capacity, financial impact of phase-in of nuclear plant.
1/86	R-850152	PA	Philadelphia Area Industrial Energy Users' Group	Philadelphia Electric Co.	Phase-in and economics of nuclear plant.
2/86	R-850220	PA	West Penn Power Industrial Intervenors	West Penn Power Co.	Optimal reserve margins, prudence, off-system sales guarantee plan.

Expert Testimony Appearances
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As of April 1996

Date	Case	Jurisdict.	Party	Utility	Subject
5/86	86-081-E-GI	WV	West Virginia Energy Users' Group	Monongahela Power Co.	Generation planning, economics prudence of a pumped storage hydro unit.
5/86	3554-U	GA	Attorney General Georgia Public Service Commission Staff	Georgia Power Co.	Cancellation of nuclear plant.
9/86	29327/28	NY	Occidental Chemical Corp.	Niagara Mohawk Power Co.	Avoided cost, production cost models.
9/86	E7-Sub 408	NC	NC Industrial Energy Committee	Duke Power Co.	Incentive fuel adjustment clause.
12/86	9437/613	KY	Attorney General of Kentucky	Big Rivers Electric Corp.	Power system reliability analysis, rate treatment of excess capacity.
5/87	86-524-E-SC	WV	West Virginia Energy Users' Group	Monongahela Power	Economics and rate treatment of Bath County pumped storage County Pumped Storage Plant.
6/87	U-17282	LA	Louisiana Public Service Commission Staff	Gulf States Utilities	Prudence of River Bend Nuclear Plant.
6/87	PUC-87-013-AD E002/E-015 -PA-86-722	MN	Eveleth Mines & USX Corp.	Minnesota Power/ Northern States Power	Economics of sale of generating unit and reliability requirements.
7/87	Docket 9885	KY	Attorney General of Kentucky	Big Rivers Electric Corp.	Financial workout plan for Big Rivers.
8/87	3673-U	GA	Georgia Public Service Commission Staff	Georgia Power Co.	Nuclear plant prudence audit, Vogtle buyback expenses.
10/87	R-850220	PA	WPP Industrial Intervenors	West Penn Power Co.	Need for power and economics, County Pumped Storage Plant
10/87	870220-EI	FL	Occidental Chemical Corp.	Florida Power Corp.	Cost allocation, interruptible rate design.
10/87	870220-EI	FL	Occidental Chemical Corp.	Florida Power Corp.	Nuclear plant performance.
1/88	Case No. 9934	KY	Kentucky Industrial Utility Consumers	Louisville Gas & Electric Co.	Review of the current status of Trimble County Unit 1.

Expert Testimony Appearances
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As of April 1996

Date	Case	Jurisdict.	Party	Utility	Subject
3/88	870189-EI	FL	Occidental Chemical Corp.	Florida Power Corp.	Methodology for evaluating interruptible load.
5/88	Case No. 10217	KY	National Southwire Aluminum Co., ALCAN Alum Co.	Big Rivers Electric Corp.	Debt restructuring agreement.
7/88	Case No. 325224	LA 19th Div I Judicial District	Louisiana Public Service Commission Staff	Gulf States Utilities	Prudence of River Bend Nuclear Plant.
10/88	3780-U	GA	Georgia Public Service Commission Staff	Atlanta Gas Light Co.	Weather normalization of gas sales and revenues.
10/88	3799-U	GA	Georgia Public Service Commission Staff	United Cities Gas Co.	Weather normalization of gas sales and revenues.
12/88	88-171-EL-AIR 88-170-EL-AIR	OH OH	Ohio Industrial Energy Consumers	Toledo Edison Co., Cleveland Electric Illuminating Co.	Power system reliability reserve margin.
1/89	I-880052	PA	Philadelphia Area Industrial Energy Users' Group	Philadelphia Electric Co.	Nuclear plant outage, replacement fuel cost recovery.
2/89	10300	KY	Green River Steel Co.	Kentucky Utilities	Contract dispute, interruptible rates.
3/89	P-870216 283/284/286	PA	Armco Advanced Materials Corp., Allegheny Ludlum Corp.	West Penn Power Co.	Reserve margin, avoided costs.
5/89	3741-U	GA	Georgia Public Service Commission Staff	Georgia Power Co.	Prudence of fuel procurement.
8/89	3840-U	GA	Georgia Public Service Commission Staff	Georgia Power Co.	Need and economics of coal and nuclear capacity, power system planning.
10/89	2087	NM	Attorney General of New Mexico	Public Service Co. of New Mexico	Power system planning, economic and reliability analysis, nuclear planning, prudence.
10/89	89-128-U	AR	Arkansas Electric Energy Consumers	Arkansas Power Light Co.	Economic impact of asset transfer and stipulation and settlement agreement.

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Date	Case	Jurisdict.	Party	Utility	Subject
11/89	R-891364	PA	Philadelphia Area Industrial Energy Users' Group	Philadelphia Electric Co.	Sale/leaseback of nuclear plant, excess capacity, phase-in construction delay imprudence.
1/90	U-17282	LA	Louisiana Public Service Commission Staff	Gulf States Utilities	Sale/leaseback of nuclear power plant.
4/90	89-1001-EL-AIR	OH	Industrial Energy Consumers	Ohio Edison Co.	Power supply reliability, excess capacity adjustment.
4/90	N/A	N.O.	New Orleans Business Counsel	New Orleans Public Service Co.	Municipalization of investor-owned utility, generation planning, reliability analysis.
7/90	3723-U	GA	Georgia Public Service Commission Staff	Atlanta Gas Light Co.	Weather normalization adjustment rider.
9/90	8278	MT	Maryland Industrial Group	Baltimore Gas & Electric Co.	Revenue requirements, gas and electric CWIP in rate base.
9/90	90-158	KY	Kentucky Industrial Utility Consumers	Louisville Gas & Electric Co.	Power system planning.
12/90	U-9346 Rebuttal	MI	Association of Businesses Advocating Tariff Equity (ABATE)	Consumers Power Co.	Demand-side management.
5/91	3979-U	GA	Georgia Public Service Commission Staff	Georgia Power Co.	Demand-side management, load forecasting, and integrated resource planning.
7/91	9945	TX	Office of Public Utility Counsel	El Paso Electric Co.	Power plant planning, prudence, quantification of damages of imprudence, environmental costs of electricity.
8/91	4007-U	GA	Georgia Public Service Commission Staff	Georgia Power Co.	Integrated resource planning, regulatory risk assessment.
11/91	10200	TX	Office of Public Utility Counsel	Texas-New Mexico Power Co.	Imprudence disallowance.
12/91	U-17282	LA	Louisiana Public Service Commission Staff	Gulf States Utilities	Year-end sales and customer adjustment, jurisdictional allocation.
1/92	89-783-E-C	WVA	West Virginia Energy Users Group	Monongahela Power Co.	Avoidnd costs, reserve margin, power plant economics.
3/92	91-370	KY	Newport Steel Co.	Union Light, Heat & Power Co.	Interruptible rates, design, cost allocation.

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Date	Case	Jurisdict.	Party	Utility	Subject
5/92	91890-EI	FL	Occidental Chemical Corp.	Florida Power Corp.	Incentive regulation, jurisdictional separation, interruptible rate design.
6/92	4131-U	GA	Georgia Textile Manufacturers Assn.	Georgia Power Co.	Integrated resource planning, demand-side management.
9/92	920324-EI	FL	Florida Industrial Power Users Group	Tampa Electric Co.	Cost allocation, interruptible rates decoupling, DSM
10/92	4132-U	GA	Georgia Textile Manufacturers Assn.	Georgia Power Co.	Residential conservation program certification.
10/92	11000	TX	Office of Public Utility Counsel	Houston Lighting and Power Co.	Certification of utility cogeneration project.
11/92	U-19904	LA	Louisiana Public Service Commission Staff	Entergy/Gulf States Utilities (Direct)	Production cost savings from merger.
11/92	8469	MD	Westvaco Corp.	Potomac Edison Co.	Cost allocation, revenue distribution.
11/92	920606	FL	Florida Industrial Power Users Group	Statewide Rulemaking	Decoupling, demand-side management, conservation, performance incentive factor.
12/92	R-009 22378	PA	Armco Advanced Materials	West Penn Power Co.	Energy allocation of production costs.
1/93	8179	MD	Eastalco Aluminum/ Westvaco Corp.	Potomac Edison Co.	Economics of QF vs. combined cycle power plant.
2/93	92-E-0814 88-E-081	NY	Occidental Chemical Corp.	Niagara Mohawk Power Corp.	Special rates, wheeling.
3/93	U-19904	LA	Louisiana Public Service Commission Staff	Entergy/Gulf States Utilities (Surrebuttal)	Production cost savings from merger.
4/93	EC92 21000 ER92-806-000 (Rebuttal)	FERC	Louisiana Public Service Commission Staff	Gulf States Utilities/Entergy	Merger.
6/93	930055-EU	FL	Florida Industrial Power Users' Group	Statewide Rulemaking	Investigation of proposed stockholder incentives for off-system sales of capacity and energy by investor-owned utilities.
9/93	92-490, 92-490A, 90-360-C	KY	Kentucky Industrial Utility Customers and Kentucky Attorney General	Big Rivers Electric Corp.	Prudence of fuel procurement decisions.

Expert Testimony Appearances
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As of April 1996

Date	Case	Jurisdict.	Party	Utility	Subject
9/93	4152-U	GA	Georgia Textile Manufacturers Assn.	Georgia Power Co.	Allocation of cost of pollution control equipment.
4/94	E-015/ GR-94-001	MN	Large Power Intervenors	Minnesota Power Co.	Analysis of revenue requirements and cost allocation issues.
4/94	93-465	KY	Kentucky Industrial Utility Customers	Kentucky Utilities	Review and critique proposed environmental surcharge.
4/94	4895-U	GA	Georgia Textile Manufacturers Assn.	Georgia Power Co	Review of purchased power agreement and fuel adjustment clause.
4/94	E-015/ GR-94-001	MN	Large Power Intervenors	Minnesota Power Light Co.	Revenue requirements, incentive compensation.
7/94	94-0035-E-42T	WV	West Virginia Energy Users' Group	Monongahela Power Co.	Revenue annualization, ROE performance bonus, and cost allocation.
8/94	8652	MD	Westvaco Corp.	Potomac Edison Co.	Revenue requirements, ROE performance bonus, and revenue distribution.
1/95	94-332	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric Company	Environmental surcharge.
1/95	94-996-EL-AIR	OH	Industrial Energy Users of Ohio	Ohio Power Company	Cost-of-service, rate design, demand allocation of power
3/95	E999-CI 93-583	MN	Large Power Intervenors	Minnesota Public Utilities Commission	Quantification of environmental costs.
4/95	95-060	KY	Kentucky Industrial Utility Customers	Kentucky Utilities Company	Six month review of CAAA surcharge.
11/95	I-940032	PA	The Industrial Energy Consumers of Pennsylvania	Statewide - all utilities	Direct Access vs. Poolco, modeling Poolco, market power.
11/95	95-455	KY	Kentucky Industrial Utility Customers	Kentucky Utilities Company	Clean Air Act Surcharge, Court Ordered Refund.

EXHIBIT NO.____(RJF-2)

Cost Effectiveness Test for Polk County IGCC
Cost Difference Between Polk IGCC and CC

	O&M	FUEL	CAPITAL	TOTAL	ACC NPV$
1996	-1179	-1423	7413	4811	4,811
1997	-3129	-5462	34974	26383	28,958
1998	-1742	-7441	29442	20259	45,929
1999	6822	-18470	26790	15142	57,537
2000	7033	-20210	24437	11260	65,439
2001	7265	-21854	22678	8089	70,633
2002	7498	-23710	20864	4652	73,368
2003	7738	-25725	19539	1552	74,203
2004	7977	-27998	21126	1105	74,747
2005	8241	-30291	21213	-837	74,370
2006	8505	-32867	21315	-3047	73,113
2007	8777	-35673	21441	-5455	71,053
2008	9049	-38831	21578	-8204	68,219
2009	9348	-42009	21722	-10939	64,760
2010	9647	-45573	21873	-14053	60,692
2011	9955	-49431	22026	-17450	56,070
2012	10263	-52501	22184	-20054	51,208
2013	10602	-55433	22347	-22484	46,219
2014	10942	-58706	22516	-25248	41,091
2015	11292	-62178	22691	-28195	35,850
2016	11641	-66054	22522	-31891	30,424
2017	12027	-69756	21831	-35898	24,835
2018	12411	-73880	21325	-40144	19,114
2019	12809	-78250	20828	-44613	13,295
2020	13205	-83124	20336	-49583	7,375
2021	13641	-87780	19852	-54287	1,444
2022	14078	-92971	19374	-59519	(4,508)
2023	14528	-97334	18904	-63902	(10,357)
2024	14978	-102206	18442	-68786	(16,119)
2025	15473	-106694	17999	-73222	(21,733)
2026	15969	-111698	13625	-82104	(27,494)
CPW (96$)	69,695	(343,900)	246,711	(27,494)	

TAMPA ELECTRIC
A TECO ENERGY COMPANY

EXHIBIT NO.___(RJF-3)

March 16, 1995

Mr. John Slemkewicz, Supervisor
Electric and Gas Accounting Section
Bureau of Revenue Requirements
Division of Auditing and Financial Analysis
Florida Public Service Commission
101 East Gaines Street, Room 352
Tallahassee, FL 32399-0850

Dear Mr. Slemkewicz:

Enclosed is the additional information requested by Tim Devlin that we discussed today related to our deferred revenue proposal. You will find a schedule indicating our projected jurisdictional adjusted rate of return analysis through 1997 and a schedule listing the major forecast assumptions included in that analysis. This information is our current best forecast without the effects of deferring revenues for these periods and, thus, is the beginning point for our revenue deferral discussions.

We are looking forward to meeting next week to further discuss our proposal.

Sincerely,

Gordon L. Gillette
Vice President - Regulatory Affairs

cc: Tim Devlin, Florida Public Service Commission
Roger Howe, Office of Public Counsel

bcc: A. D. Oak
L. L. Lefler
J. R. Rowe, Jr.
L. L. Willis, Esq.

enclosures

10-Mar-95

TAMPA ELECTRIC COMPANY
Jurisdictional Adjusted Rate of Return Analysis
1994 - 1997
(000's)

	1994	1994 (1)	1995	1996	1997
Revenues	$572,693	$572,693	$595,970	$612,223	$627,284
Expenses	437,189	424,106	431,633	441,989	470,521
Net Operating Income	$135,504	$148,587	$164,337	$170,234	$156,763
Rate Base	$1,748,663	$1,748,663	$1,742,486	$1,804,837	$2,154,891
Rate of Return	7.75%	8.50%	9.43%	9.43%	7.27%
Return on Equity	11.26%	12.87%	14.28%	13.81%	9.28%

(1) Excludes restructuring charge of $21.3 million.

TAMPA ELECTRIC COMPANY
1995 - 1997 MAJOR FORECAST ASSUMPTION

	1995	1996	1997
Customers:			
Residential	435,601	444,470	454,157
Commercial	54,432	55,459	56,536
Industrial	520	520	520
Other	4,187	4,273	4,362
Total	494,740	504,722	515,625
MWH Sales:			
Residential	6,162,000	6,308,000	6,467,000
Commercial	4,728,000	4,868,000	5,040,000
Industrial	2,289,000	2,359,000	2,300,000
Other	1,152,250	1,183,000	1,314,000
Total	14,331,250	14,718,000	15,021,000

OTHER MAJOR FORECAST ASSUMPTIONS:

REVENUES:			
Retail Customer Growth	1.90%	2.00%	2.20%
Retail Sales Growth	3.00%	2.70%	2.10%
Sales for Resale	2,132,409 MWHs	2,417,866 MWHs	2,611,688 MWHs
OPERATION & MAINTENANCE EXPENSES:			
% Incr over Prior Year	-3.70%	0.00%	3.70%
CONSTRUCTION EXPENDITURES (excl AFUDC)	$319.9 Million	$177.3 Million	$119.2 Million

EXHIBIT NO.____(RJF-4)