BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

In the Matter of Prudence review to determine regulatory treatment of Tampa Electric Company's Polk Unit.	DOCKET NO. 960409-EI



FIRST DAY - MORNING SESSION

VOLUME 1

Pages 1 through 178

PROCEEDINGS: **HEARING**

BEFORE: CHAIRMAN SUSAN F. CLARK
COMMISSIONER J. TERRY DEASON
COMMISSIONER JULIA L. JOHNSON
COMMISSIONER DIANE K. KIESLING
COMMISSIONER JOE GARCIA

DATE: **Wednesday, July 17, 1996**

TIME: Commenced at 9:30 a.m.

PLACE: Betty Easley Conference Center
Room 148
4075 Esplanade Way
Tallahassee, Florida

REPORTED BY: H. RUTHE POTAMI, CSR, RPR
Official Commission Reporter
(904) 413-6732

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APPEARANCES:

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JOHN McWHIRTER, JR., McWhirter, Reeves, McGlothlin, Davidson, Rief and Bakas, P.A., Post Office Box 3350, Tampa, Florida 32601-3350, Telephone No. (813) 224-0866, appearing on behalf of Florida Industrial Power Users Group.

JOHN ROGER HOWE, Deputy Public Counsel, Office of Public Counsel, 111 West Madison Street, Room 812, Tallahassee, Florida 32399-1400, Telephone No. (904) 488-9330, appearing on behalf of the Citizens of the State of Florida.

ROBERT ELIAS, SHEILA L. ERSTLING, MARY E. CULPEPPER and LORNA R. WAGNER, Florida Public Service Commission, Division of Legal Services, 2540 Shumard Oak Boulevard, Tallahassee, Florida 32399-0870, Telephone No. (904) 413-6199, appearing on behalf of the Commission Staff.

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P R O C E E D I N G S

(Hearing convened at 9:33 a.m.)

CHAIRMAN CLARK: Call the hearing to order. Mr. Elias, will you please read the notice?

MR. ELIAS: Notice issued by the Clerk of the Florida Public Service Commission on May 17th, 1996, advises that a public hearing will be held at 9:30 a.m., Wednesday, July 17th, 1996 in Room 148 of the Betty Easley Conference Center located at 4075 Esplanade Way, Tallahassee, Florida. July 18th has also been reserved for the hearing.

The purpose of this hearing shall be to allow Tampa Electric Company to present its testimony and exhibits concerning the prudence of and appropriate regulatory treatment for Tampa Electric Company's Polk unit, to permit any intervenors to present testimony and exhibits concerning this matter, and for such other purposes as the Commission may deem appropriate.

CHAIRMAN CLARK: Thank you. We'll take appearances. Mr. McWhirter.

MR. McWHIRTER: My name is John McWhirter of the law firm of McWhirter, Reeves, McGlothlin --

COMMISSIONER KIESLING: Mr. McWhirter, could you talk into the microphone? The court reporters

couldn't hear you.

MR. McWHIRTER: My name is John McWhirter with the law firm of McWhirter, Reeves, McGlothlin from Tampa, Florida. Our address is in the prehearing order. I'm appearing on behalf of the Florida Industrial Power Users Group.

MR. HOWE: I'm Roger Howe with the Office of Public Counsel. The address is as shown in the prehearing order. We're appearing on behalf of the citizens of the state of Florida.

MR. WILLIS: I'm Lee L. Willis appearing together with James D. Beasley and Kenneth R. Hart with the firm of Ausley & McMullen, Post Office Box 391, Tallahassee, Florida 32302, and appearing together with Harry W. Long, Post Office Box 111, Tampa, Florida 33601.

CHAIRMAN CLARK: Mr. Elias.

MR. ELIAS: I'm Robert V. Elias. Appearing with me are Sheila Erstling, Beth Culpepper, Lorna Wagner, representing the Commission Staff. The address is as indicated on the prehearing order.

CHAIRMAN CLARK: Are there any preliminary matters that we need to take up?

MR. ELIAS: None that I'm aware of.

CHAIRMAN CLARK: Mr. McWhirter?

MR. McWHIRTER: Madam Chairman, Mr. Falkenberg will be here late this afternoon. I perceived, with the number of witnesses ahead of him, it was unnecessary to ask him to come in today, but in the unlikely event that we should get up to him before tomorrow, would you bear with us and let him appear in the morning instead of this afternoon?

CHAIRMAN CLARK: That's fine with me, Mr. McWhirter, as long as it doesn't hold up the hearing and we have somebody else that can take the stand.

MR. McWHIRTER: Thank you.

CHAIRMAN CLARK: Mr. Howe.

MR. HOWE: I have no preliminary matters.

CHAIRMAN CLARK: Mr. Willis.

MR. WILLIS: None.

CHAIRMAN CLARK: If it indicated, I overlooked it; was there any allowance for any opening statements in this proceeding?

MR. ELIAS: The matter was not discussed in the prehearing order or at the prehearing.

MR. WILLIS: We had planned to just go straight to the first witness.

CHAIRMAN CLARK: Okay. That suits me.

MR. WILLIS: We call Girard F. Anderson.

CHAIRMAN CLARK: If Mr. Anderson would come to the stand, and every individual who is going to appear as a witness in this proceeding, if they would stand and be sworn at the same time Mr. Anderson is, I would appreciate it.

(Witnesses collectively sworn.)

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GIRARD F. ANDERSON

was called as a witness on behalf of Tampa Electric Company and, having been duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. WILLIS:

Q Will you please state your name address and occupation, please, sir?

A My name is Girard Anderson. I'm the president of TECO Energy, Incorporated.

Q Mr. Anderson, did you prepare and cause to be prefiled in this docket prepared direct testimony of Girard F. Anderson?

A Yes, I did.

Q Do you have any additions or corrections to that testimony?

A Yes, I do. On May the 24th we submitted a correction to Page 13 of my prefiled testimony.

MR. WILLIS: We have provided that to the court reporter. I don't know whether that got in the Commission packages.

CHAIRMAN CLARK: I don't know either, Mr. Willis.

MR. WILLIS: Will you please summarize it -- with these corrections, we would request that Mr. Anderson's prepared direct testimony be inserted into the record as though read.

CHAIRMAN CLARK: He's affirmed that his answers would be the same today with those corrections; is that correct?

WITNESS ANDERSON: Yes, ma'am.

CHAIRMAN CLARK: Okay. Without objection, the prefiled direct testimony of Mr. Anderson, with the revisions indicated by letter of May 23rd, 1996 to Page 13, will be inserted in the record as though read.

BEFORE THE PUBLIC SERVICE COMMISSION

PREPARED DIRECT TESTIMONY

OF

GIRARD F. ANDERSON

Q. Please state your name, address and occupation.

A. My name is Girard F. Anderson. My business address is 702 North Franklin Street, Tampa, Florida 33602. I am President of TECO Energy, Inc., Tampa Electric's parent company.

Q. Mr. Anderson, please furnish a brief outline of your educational background and business experience.

A. I attended the University of Florida and received a Bachelor of Science degree in Chemical Engineering in 1959. I began my career with Tampa Electric in 1959 as a student engineer in the Production Department. I held various production management jobs until 1980, when I was elected Vice President of Production Operations and Maintenance before being promoted to Senior Vice President of Power Distribution in April, 1985. In July, 1987, I was elected President and Chief Operating Officer of Tampa Electric Company. In 1994, I was named President and Chief

Operating Officer of TECO Energy, Inc., Tampa Electric's parent company.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to encourage the Commission to approve the costs of the Polk Project for all regulatory purposes. The Commission has already approved construction of Polk Unit One at its present site, based on its conclusion that the resulting capacity would be needed and that the project represented the most cost-effective alternative available to provide additional capacity for meeting Tampa Electric's obligation to serve its Customers growing needs for electricity. That decision represented the culmination of many months of effort and data exchange between the Commission's staff, Tampa Electric and other parties to the need proceeding, Docket No. 910883-EI.

In my testimony I will describe the broad decisions made during the process of selecting a site and completing construction of the plant. I will discuss the significant changes that occurred in the environmental, land use, political, regulatory, and public policy arenas and the impact those changes had on the site selection process and the ultimate preparation of the site. I will also describe

Tampa Electric's implementation of the Commission's determination of need for Polk Unit One. Other witnesses from Tampa Electric will provide detailed support in their areas as follows:

Mr. Thomas L. Hernandez will describe the continuing planning studies supporting our conviction that Polk Unit One is the most cost-effective alternative for satisfying Tampa Electric's need for additional capacity and that the plant is a reasonable and prudent addition to Tampa Electric's generating capability.

Mr. Charles R. Black will explain the technology employed at Polk Power Station and will describe the very stringent project management and cost control efforts undertaken by Tampa Electric.

Mr. Hugh W. Smith, will describe the fuel availability and price forecasts and fuel alternative assumptions supporting our conclusion that Polk Unit One remains the most cost-effective solution to the need for additional capacity.

Mr. John R. Rowe, Jr. will describe the appropriate regulatory treatment of Tampa Electric's investment and expenses associated with the Polk Power Station and the

Port Manatee site.

Ms. Elizabeth A. Townes will identify the specific costs Tampa Electric proposes to include in its rate base and net operating income reporting for regulatory purposes. In addition, Ms. Townes will explain how the Polk regulatory treatment proposed by Mr. Rowe should be reflected in the company's accounting system and in the surveillance reports filed periodically with the Commission.

Finally, Mr. Thomas F. Bechtel, Director of the U.S. Department of Energy's (DOE) Morgantown Energy Technology Center, will describe the DOE Clean Coal Technology Program and will explain the basis for DOE's high regard for Tampa Electric's management of the Polk Project.

Preliminary Comments

Q. Do you have any preliminary comments regarding the anticipated economic effects of Polk Unit One from the perspective of your customers?

A. Yes, I do. For over two years now Tampa Electric has had in place a major corporate direction, the goal of which is to carefully control costs and aggressively pursue all available efficiencies, with the ultimate purpose of

driving our rates to the lowest levels possible. We have had some extraordinary achievements in this effort, in anticipation of Polk Unit One coming on line. In particular, we have succeeded in reducing our costs sufficiently to enable us to enter into a stipulation, later approved by the Commission, which will keep our base rates flat for a three-year period. We have strived as hard as possible to avoid having Polk Unit One's commercial operation cause our customers to experience increases in prices. Our corporate direction clearly is not a "business as usual" approach. Instead, it represents an innovative approach to our business, in general and, ratemaking, in particular, that puts our customers first. This effort is ongoing and will continue to be given the highest priority.

Selection of Polk Power Station Site

Q. Please describe some of the events leading to the selection of the site for the Polk Power Station?

A. As far back as the early 1970s, Tampa Electric regarded the area south of Cockroach Bay, on the Hillsborough/Manatee County line in southeast Hillsborough County, as a promising power plant site. That site has had various names over time and I will refer to it in my testimony as

the Port Manatee site. The Hillsborough County plan "Horizon 2000" land use maps covering the Port Manatee site clearly noted its possible use as the location for a future power plant. By the early 1980s, when our plans to build additional capacity to meet projected needs beyond the 1985 commercial operation date of our Big Bend Unit Four began to gel, the Port Manatee site was regarded as a probable location for a new plant.

As we continued to assess the timing of the need for additional capacity, significant external factors affecting the power plant siting process were undergoing dramatic change. In 1985, a major amendment of the Local Government Comprehensive Planning and Land Regulation Act was enacted by the Florida Legislature. This amendment mandated a statewide approach to growth management. Among other things, a phased-in timetable was established requiring all 67 Florida counties to either adopt or modify existing Comprehensive Land Use Plans to meet new requirements of the Act, such as providing infrastructure (water, sewer, transportation, etc.) to support all densities in the plan in a manner consistent with the state's comprehensive plan, the addition of Coastal Zone Management Plans in applicable plans, and the review and approval of such plans on a periodic basis by the Department of Community Affairs,

acting as the primary state land planning agency. In keeping with the established timetable, a Hillsborough county review and amendment process was scheduled to begin in 1988.

By 1987, our plans were to construct a phased-in, oil-fired 440 MW combined cycle unit to meet the company's needs through the year 2000. Based on the site selection study which we performed, the Port Manatee parcel was selected as the preferred site. This study also identified the need to purchase additional land adjacent to the original parcel in Hillsborough and Manatee counties to accommodate the planned plant. Therefore, we initiated efforts to acquire the necessary additional property and began to prepare for participation in the upcoming Hillsborough land use plan amendment process in order to have the Port Manatee site officially designated in the amended land use plan as a power plant site.

Our efforts in the Hillsborough County land use plan amendment process were met with steadily increasing opposition from several key governmental agencies, including the Tampa Bay Regional Planning Council, Hillsborough and Manatee County newspaper editorial writers, owners of land adjacent to the proposed site and

numerous local and statewide environmental groups. In April of 1987, the Governor and Cabinet, acting in their capacities as trustees of Florida public lands, adopted a Department of Natural Resources Cockroach Bay Aquatic Preserve Management Plan, which increased the environmental constraints on the use of the Port Manatee site as the location for a power plant. The plan contained the notation that the Port Manatee site was not a suitable location for a power plant because of the "potential damage" it might do to the coastline parallel aquatic preserve. On another front, our efforts to acquire necessary additional property from the Manatee Port were frustrated by the refusal of the Manatee County Commission to approve the acquisition. In the wake of the Manatee County Commission's action, necessary purchases of private property adjacent to the site became much more complicated and difficult. As these events unfolded, it became increasingly clear that we might not have enough land in the uplands portion of the Port Manatee site to accommodate our proposed plant and still meet necessary buffer requirements.

Power Plant Siting Task Force

In view of the magnitude and diversity of the opposition we were facing, we concluded in April, 1989, that it was

necessary to create a consensus with regard to the siting of the proposed plant if we were to be successful in adding the needed capacity in a timely manner. Therefore, we decided to seek the input of a citizens advisory group, later known as the Citizen's Siting Task Force (the "Task Force"), to assist us in evaluating various plant site alternatives, including the Port Manatee site, in hopes of reaching a consensus. Our objective was to select a viable power plant site that would meet our needs in a cost-effective and timely manner, while balancing the new land use and land development requirements with environmental considerations and public opinion.

Q. Please describe the Task Force and its role in the site selection process.

A. The Task Force consisted of 17 private citizens and policy makers, including environmentalists, economists, educators and business people from within Tampa Electric's service area and throughout the State of Florida. Some of the Task Force members were Dr. Sanford V. Berg, Professor of Economics at the University of Florida; Bruce A. Sampson, former chairman of the Southwest Florida Water Management District board and president of the University of Tampa; Dr. David Denslow, Professor of Economics and member of the

Governor's Council of Economic Advisors for Florida; Nathaniel P. Reed, former Assistant Secretary of the Interior and former chairman of the Florida Department of Air and Water Pollution Control, and Victoria Tschinkel, former secretary of the Florida Department of Environmental Regulation.

The goal of the Task Force was to identify the most suitable site or sites for the needed facilities within a six county area that included Tampa Electric's service territory and adjacent areas. The Task Force provided input, guidance and recommendations to Tampa Electric throughout the site selection process and the company concurred with the Task Force's final guidance and recommendations regarding the selection of the preferred sites for the planned facilities.

Q. Were there other events occurring during the Task Force's advisory participation that heightened your need to select a plant site?

A. Yes. We experienced extreme cold weather over the Christmas Holidays of 1989. This event focused everyone's attention on the need for adequate and reliable generating capability for peninsular Florida.

Q. What was the final input of the Task Force?

A. The Task Force assessed 35 sites and ultimately recommended three alternative sites in the phosphate mining district in southwestern Polk County at their final formal meeting on September 25, 1990. The recommendation was made public at that time through the news media. The Task Force's recommendation was one of the many valuable inputs we would consider as we set about to make our final decision on a plant site.

Q. What is the significance of the Task Force's involvement in the site selection process?

A. I think it represents a new era in power plant siting in Florida. In meeting its statutory obligation to serve its customers, a utility in Florida can no longer plan on implementing the construction of a power plant or any major facility without the consent and cooperation of the communities it serves and the communities in which the facilities will be located. Our process represented the first time in Florida that a citizens advisory group reviewed the facts, recommended that the plant was needed, and recommended preferred site alternatives. Without the advice and consent of the community, years of costly

litigation would have ensued. In adopting the Polk site, Tampa Electric acquired a site that is available for use for future generating units and a site with which its customers and the residents of surrounding communities are satisfied.

Tampa Electric was subsequently awarded the 1994 Florida Growth Management Conflict Resolution Consortium's Timer Powers Dispute Resolution Leadership Award for turning to the public process the company relied on to resolve the power plant siting concerns. It was the first time a private sector organization had been named to receive the honor. The company was also awarded the 1991 Florida Audubon Society's Corporate Award. These awards are a significant tribute to the dedicated efforts of the Task Force members and they underscore the value of the process.

Q. What factors did Tampa Electric consider before acting on the Task Force's recommendation and ultimately selecting the Polk Power Station site?

A. We considered many factors prior to selecting the Polk Power Station site. Those factors generally fell into three major categories. First, we had to take into account the intense opposition we had received on all fronts

approximately 665 acres in Hillsborough County and

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relative to our proposed siting of a plant on the bay. This included opposition from the same governmental entities from whom we would have to obtain permitting in order to construct the plant at Port Manatee.

The second major category of consideration was cost. We knew from experience that the cost of building a new power plant on the bay was uncertain but certainly high, and likely to rise due to the low elevation and resulting need for significant site preparation, environmental considerations and public opinion. As part of the land use planning process, we were required to designate all but 75 acres in Manatee County of our site as either environmentally sensitive land or buffer lands. This required that we acquire additional property suitable for heavy industrial use at an estimated average cost per acre of $13,975, not including potentially significant site preparation costs. In addition, the prospects for final permitting, zoning and land acquisition on the bay were uncertain at best. Therefore, we believed that potential site preparation costs inland likely would be offset by other environmentally related costs at a coastal site.

The third major consideration was the fact that the Task Force, after its very detailed analysis of many, many

factors, recommended the three Polk County sites as optimal locations for the new plant. The Task Force weighed all of the competing factors, including economic and environmental effects, and served as a surrogate for public opinion.

While we carefully considered the Task Force's recommendations, we ultimately reached our own conclusion that the uncertainties and the high costs associated with coastal development, combined with the increasingly strident opposition to a coastal site favored selection of the inland site. Thus, as Mr. Black explained in his testimony, the company selected the Polk Power Station site, from among the inland sites under consideration, as its most viable and cost-effective site alternative. The following determination of need proceeding before this Commission consisted of an exhaustive review of the need for capacity and project alternatives by Tampa Electric, the Commission, its Staff and the various intervenors. In its order approving the project and the proposed site, the Commission indicated that the company had provided sufficient information on this site and the need for capacity for the Commission to adequately evaluate our proposal. The Commission's approval of the project was later affirmed by the State Supreme Court of Florida. We took comfort in your order and its affirmation by the State

Supreme Court and set about the task of securing permitting and developing the site so that construction could begin.

The Need Determination Process

Q. On what basis did Tampa Electric decide to apply for a determination of need for Polk Unit One?

A. That decision was made with great care and with detailed consideration of a wide variety of alternatives. As discussed in the testimony of Messrs. Hernandez, Black and Smith, Tampa Electric identified the need for additional capacity through its internal resource planning process. The selection of plant type was based on an exhaustive economic analysis and through technical review of available power station systems. Prior to deciding on the IGCC technology, we had anticipated developing a gas-fired combined cycle unit. However, the opportunity to obtain a significant amount of funding from the United States Department of Energy, creating the potential for significant ratepayer savings, and the technological advancements that improved the operating efficiency, economics and environmental benefits of the IGCC technology were of great interest to the company. Ultimately, these factors had a large influence on our selection of an IGCC unit. The Commission conditioned its determination of

need for Polk Unit One on Tampa Electric receiving the DOE funding.

Q. What impact did the Commission's determination of need have?

A. The process that resulted in approval of the Polk One Project not only assured the public that new generating capacity was needed and that the type of capacity was cost effective, but it also provided assurance to the company, its suppliers and investors that construction could proceed without the undue regulatory risk that the large investment would not be fully recoverable. Tampa Electric proceeded with its financial commitments in reliance upon the findings of the need certification process.

Implementation of the Commission's Determination of Need

Q. Please describe the company's implementation of the Commission's determination of need for Polk Unit One.

A. Based on the Commission's determination of need, Tampa Electric began to seek the permitting, perform the engineering, acquire and prepare the site and put the necessary organization together in order to implement the plan on time and in a cost-effective manner. The

construction of a major power plant is clearly an extremely complex, dynamic and time consuming undertaking. The process requires years of planning, engineering and construction. Such a project also involves numerous necessary contractual commitments, many of which must be made early in the project. These commitments generate costs if the project is curtailed or significantly modified, and these costs must receive constant consideration as the project plans develop. By their very nature, contractual commitments constrain the flexibility of the contract parties.

Q. How has Tampa Electric monitored the continued need and ongoing cost-effectiveness of the project subsequent to the need determination proceeding?

A. As Mr. Hernandez will detail in his testimony, Tampa Electric has regularly reviewed the changes and assumptions, forecasts and plans subject to the need determination process, and re-evaluated and determined the most cost-effective options, taking into account the funds prudently expended, committed, and necessary to change options. Our continued construction of Polk Unit One has been and still remains reasonable and prudent based on our analysis. We expect Polk Unit One to be completed on time

and ready for commercial operation in October of this year.

Q. What recognition should be given to the extent to which you have relied on the need determination as the company proceeded to construct Polk Unit One?

A. In reviewing an on-going cost-effectiveness analysis of the project, subsequent to the need hearing, recognition must be given to the amount of sunk costs which have already been prudently expended in reliance on the need determination and the additional costs to adapt to some new plan, including the cancellation costs that would be incurred if construction commitments were materially changed or terminated. In the case of Polk Unit One, these cancellation costs would include the cost of abandoned equipment, damages on outstanding contracts, and the potential loss of U.S. Department of Energy funding.

Q. Mr. Anderson, can you summarize the effects of changes in your industry in recent years and how these changes should be taken into account by this Commission in considering the prudence of Tampa Electric's construction of Polk Unit One?

A. Yes, I can. Since the mid 1980s significant external

events and longer term changes in the energy business coupled with changes in public perception and policy have changed the viewpoint from which all affected parties analyze the viability of this project.

We believe it is important for the Commission, in considering the prudence of the Polk project, to ask itself whether our various decisions over the course of the project have been rationally based, given the facts and circumstances known to us at the time these decisions have been made.

We also believe that after you make this analysis, you will agree that the Company has acted reasonably and prudently in its management of the construction process and its continuing reevaluation of the project with a careful eye on changing circumstances.

Some of the changes which have occurred are as follows:

I have already mentioned the extended cold weather over the 1989 Christmas Holidays which demonstrated, in an unfortunate way, the important need for power reliability.

We have seen significant changes in the natural gas

markets, especially as they related to the transportation component of the business. Following FERC Order 636, the transportation of natural gas has become more flexible. However, transportation of natural gas in Florida for intermediate or peaking type capacity remains unreliable. Gas prices are directly related to the short term market which has experienced many price spikes which are the result of weather and high demand. This makes us very cautious about over relying on natural gas as a generation fuel.

On the positive side, we have seen the recent emergence of petroleum coke as an available and very economic feedstock for the Polk Unit One gasifier.

Also on the plus side is the fact that the coal market has remained relatively stable with prices actually somewhat lower than they were at the time of the Polk Unit One need determination proceeding.

We have seen the National Energy Policy Act amendments and proposals for changes in wholesale transmission access policy by the Federal Energy Regulatory Commission. This has brought about significant changes in the electric wholesale markets. This has added uncertainty for electric

utilities without removing our retail obligation to serve. We still must have sufficient capability to meet the needs of all our retail customers.

We have also seen amendments to the Clean Air Act. Allowable SO_2 emissions have already been greatly reduced and mandated reductions in the emission of other substances are expected over the next two years. The positive effect of Polk Unit One in this regard is the fact that, with its high efficiency and low emissions, it will dispatch first on our system, ahead of units with higher emissions and thereby help us meet our environmental obligations.

In the final analysis, taking into consideration the changes discussed, we believe the Polk Power project remains in the best interests of all Tampa Electric Customers and represents the best means for Tampa Electric to meet its obligation to serve the future needs of its Customers. We believe that each aspect of the site selection, site development, engineering and construction of this project have been managed extremely well and we will show you why that is so.

Q. Please summarize your testimony.

A. Polk Unit One was determined by the Commission to be, and it still remains, a reasonable, prudent and cost-effective project which will enable Tampa Electric to meet its growing generation requirements. We expect to bring Polk Unit One on line in October of this year in order to continue meeting the needs of our customers with safe, reliable and reasonably priced electric power.

In evaluating the regulatory treatment of Polk Unit One, the Commission should take into account the fact that the need for Polk Unit One was determined by the Commission after exhaustive efforts by Tampa Electric, the Commission, the Staff and various intervenors in a need determination proceeding. The determination of need was also approved by the Supreme Court of Florida. Once that decision was made, Tampa Electric commenced the extremely complex, dynamic and time-consuming construction of this plant.

Relying upon the determination of need by the Commission and our continuing reviews of the cost-effectiveness of this project, Tampa Electric has prudently gone about its business to bring this unit into commercial operation in a timely and cost-effective manner. We urge the Commission to recognize the prudence of our efforts and to recognize the costs of this project for regulatory purposes.

Q. Does that conclude your testimony?

A. Yes it does.

Q (By Mr. Willis) Please summarize your testimony, Mr. Anderson.

A Yes, I will. Good morning, Commissioners. We're nearing completion of the Polk power plant that you approved in 1992. Since last June, the plant has been producing electricity. This is part of the testing program that will run until mid-October.

Later today or tomorrow the plant will begin producing syngas for the first time. The plant is poised to begin commercial operation, and the time has come to determine the regulatory treatment to be afforded to Tampa Electric's investment in the plant.

Our position is quite simple. All of the costs associated with the Polk project have been prudently incurred and merit your approval.

Now, in order to explain the basis for our strong conviction on this point, I'd first like to describe the broader context in which our Polk investment should be evaluated.

We fully realize our responsibility as a regulated Florida utility to serve the present and future needs of the customers within our franchise, to do so reliably at the lowest possible cost, and our commitment to the Polk plant is part of our acceptance of that responsibility.

I'd like to take just a moment and recap our overall performance since the need hearing in 1992. By any index, service to our customers has improved. Customer complaints have declined to the lowest level ever.

For 1995 the Commission's complaint index for Tampa Electric was approximately one-third that of the other peninsula Florida utilities. In the area of distribution system reliability, as reported to the Commission for 1995, our customers enjoyed approximately 40% less outages, and those outages were 70% -- or 30% shorter than the average outage duration on the other systems.

In the very important factor of electricity costs, since 1992 our highest price has been $87.88 per thousand kilowatts for residential customers. Beginning in October of this year, that rate will be $80.38, a decline of over 8%.

Our customers are already seeing the benefits of Tampa Electric's work to reduce our costs. All Tampa Electric employees have worked extremely hard in innovative ways to provide the highest level of service and the lowest cost to our customers. We fully recognize our responsibility to serve customers reliably and at the lowest possible cost. In 1992

that was the premise that we presented to the Commission in asking for a determination of need for Polk.

Now, the question before the Commission in this proceeding is, did the company have a rational basis for the project related decisions made subsequent to the Commission's approval of the IGCC.

The question is not what the Commission would have done had it been exercising the power of management at the time. The question is not whether another reasonable person confronted with the same set of facts and circumstances could have made different decisions. And the question is not how accurate our forecasts might have been in hindsight.

I respectfully submit that the question is whether there was a rational basis for Tampa Electric's decisions, given the facts which were known at the time the decisions were made. And under this standard, I believe that you'll see that Tampa Electric's decisions and the resultant investments were prudently made.

As you've heard before, the site on which the Polk station is located was selected through an award-winning process which involved the establishment of a citizens siting task force.

The work of this group brought to an end months of public conflict. The task force process saved Tampa Electric and its customers many months of potentially costly litigation, protests and conflict within the community.

Now, the successful employment of this process has real value in both human and financial terms. For example, earlier this year Florida Power Corporation cancelled the Kathleen to Lake Tarpon 500 Kv line. This was after eight years of extreme public controversy and litigation.

The announced costs to Florida Power Corporation and its customers was $24 million. The cost of litigation incurred by the citizens and local government in Polk and Hillsborough County who were on the other side is unknown, but significant.

Another example: After two years of highly emotional public confrontation, the governor and cabinet denied approval of Florida Power & Light's plan to burn orimulsion at their Parrish plant. FPL has now appealed that decision to the court system, and the total cost is not yet defined.

Issues like these are frequently raised about Florida's fragile environment. If they cannot be resolved amicably, they result in high costs to all

parties and the development of ongoing negative public perceptions of our industry. Tampa Electric's citizens siting task force produced a joint community solution to an issue that couldn't be resolved by conventional means.

A major point of disagreement among the parties in this case is the accuracy of Tampa Electric's fuel price forecasts. We'll demonstrate that those forecasts at the time decisions were made were not only reasonable and prudent, but they're consistent with today's gas prices. The upward trend in gas prices has been so dramatic that the Company's 1992, '93, '94 and '95 forecasts of 1996 gas prices were all less than today's gas prices, and Tampa Electric expects that the gas prices will continue to increase into the future.

Concerning the cost of the plant, Mr. Black will explain that we put in place a stringent project management process to ensure that costs would be prudently incurred. Our project management team continually monitored the design and the construction of the plant to achieve the most cost-effective solution for our customers and our shareholders.

The team pursued many avenues for cost savings. These efforts, along with very careful

management of our competitive bidding procedure, will soon result in the completion of a multimillion-dollar plant to an approximately 4.3% variance from the preliminary engineering estimates which were used in the need determination.

Now, this excludes the land and site development costs which would have been common for any generation technology at the site. Now, that's a considerable accomplishment, particularly considering that the company is bringing into service a new technology for which the detailed engineering had not been completed at the time of the need determination.

Site development costs are primarily a function of environmental permit conditions and detailed engineering studies, which at that time remained to be completed. At the time of the hearing there was significant uncertainty in estimating these costs, and therefore they weren't included in the project cost estimates.

As discussed in Mr. Hernandez's testimony, Tampa Electric continually monitored the cost-effectiveness of the Polk unit, and as with any activity of this magnitude, senior management was heavily involved. We performed these reviews as a matter of good business policy to assure that

appropriate actions were taken and the methodology used in the evaluations was the same as in all our major projects.

This proceeding represents the last step in an innovative ratemaking structure that was approved by the Commission in 1995. Tampa Electric has voluntarily agreed to a ratemaking plan which will result in the commercial operation of a major plant without any increase in base rates through 1998; and to put this into context, the Polk plant represents 25% increase in our rate base.

At the same time, the company will make a refund to customers of $25 million with the possibility of additional refunds in 1999.

I respectfully suggest that it would be difficult, if not impossible, to devise a more innovative and creative alternative to conventional ratemaking than this approach that was already adopted by the Commission when it approved the joint stipulation.

I also respectfully suggest that this hearing be focused on prudence issues, not on rate case issues which were not ripe for consideration in light of this plan, as Mr. Rowe will explain in his testimony.

We've been prudent in our expenditures, vigilant in monitoring the ongoing cost-effectiveness of this project. We've been responsive to public concerns on siting. And on these grounds, I urge you to approve all of the costs associated with the Polk project for all regulatory purposes.

Thank you very much for your attention.

MR. WILLIS: We tender the witness.

CHAIRMAN CLARK: What was the order of cross examination? Was it to be Mr. McWhirter, then Mr. Howe and then Staff?

MR. ELIAS: I'm sorry. I don't know that that was explicitly addressed in the prehearing conference.

CHAIRMAN CLARK: Well, Mr. McWhirter, you're next in line.

CROSS EXAMINATION

BY MR. McWHIRTER:

Q Good morning, Mr. Anderson.

A Good morning.

Q On Page 13 of your testimony that was just handed out, you indicated that all but 740 acres of your Hillsborough Bay property has been designated as environmentally sensitive. How many acres has been designated environmentally sensitive?

A Mr. McWhirter, I don't remember the exact number, but our total holdings in that area were approximately 2,500 acres.

Q 2,500 acres?

A So that would be somewhere around 1,700 acres.

Q And what are the present plans for the use of the environmentally sensitive land?

CHAIRMAN CLARK: Mr. McWhirter, these microphones just aren't nearly as sensitive as the other ones. If you're going to lean back, bring that microphone back to you.

MR. McWHIRTER: All right; I'll hunch over.

Q **(By Mr. McWhirter)** What are the present plans for the 1,700 acres of environmentally sensitive land?

A Well, as I understand the regulations on that, Mr. McWhirter, they cannot be used for any commercial purpose. They have to be left in their present state. A significant portion of those properties are what's termed -- it's not underwater, but it's within the --

Q Submerged lands?

A Submerged lands, yes, sir. Thank you. So they cannot be used for any commercial purpose.

Q As I understand it, Tampa Electric presently has that land as part of its plant held for future use?

A Yes, that's correct.

Q You are the president of TECO Energy, Inc. That is a holding company that has subsidiary corporations?

A Yes, sir, that's correct; but I was president of Tampa Electric Company during most of the time frame that is dealt with in this case.

Q Is one of the subsidiary corporations of TECO Energy a company known as TECO Power Services?

A That's correct.

Q And does TECO Power Services own a generating facility located in Hardee County, Florida?

A Yes, sir.

Q And what is the capacity of that generating station?

A That plant is about 275 megawatts, as I recall.

Q And it's going to be expanded to 440 ultimately?

A The site is permitted for that, yes, sir, but there's been no commitments made for any expansion.

Q Can you give us an offhand analysis or quantification of the price per kilowatt for the construction of the Hardee power station?

A I'm sorry. I don't remember that number. Perhaps one of our other witnesses would have that information.

Q And that plant, as I understand it, is a combined cycle plant?

A Yes, it is. Well, excuse me. Let me correct that. It has a combined cycle element. It also has one unit that's a stand-alone combustion turbine.

Q And as I understood, it's sort of a phase-in proposition where you put the combustion turbine in and then later on you'll add the heat recovery system to make it a combined cycle; is that correct?

A That's the intent, yes, sir.

Q Is that still in the planning process?

A I believe that is still in our plan, yes, sir. I would be much more comfortable with Mr. Hernandez answering that question.

Q Was it necessary to obtain a certificate of need for that facility?

A Yes, it was.

Q And when was that certificate of need

obtained?

A That would have been in the late '80s, and I've forgotten exactly the time.

Q When did the plant go into commercial operation?

A I am going to have to apologize for my fading memory. It's been in service approximately three years, and I can't recall exactly when it went into commercial operation.

Q Do you know what the total cost of that plant was?

A No, sir. I would prefer not to try to give you that number. Again, my memory does not include that.

Q Is there a witness in this proceeding that would have that information?

A I would have to check.

Q As chief executive officer of TECO Energy, Inc., would you be willing to have Hardee power plant traded to Tampa Electric in return for the Polk power station being given to Hardee, or the TECO power services?

A Well, first, I'm not chief executive officer of TECO Energy. I'm the chief operating officer. And you are talking about a trade of a major asset that

has financing obligations. I think your proposal is probably impossible, if anybody wanted to do such a thing.

Q Did I understand you to say that the Polk power station represents 45% of Tampa Electric Company's total rate base?

A 25.

Q 25%. Do you know what percentage of the production plant investment Polk power station represents?

A I don't have a number on the tip of my tongue, no, sir, but I'm sure that we could provide you with that information.

Q Would it be fair to say it's upward of 50%?

A I'd rather not speculate.

Q All right, sir. Do you know the total installed capacity of Tampa Electric Company's generating capacity at this time?

A Well, let's see. Give me a moment and I'll come up with a quick approximation. (Pause) It's about 3,400 megawatts. Again, that's an approximation.

Q Check my math, if you will. If the Polk Power Station is 220 megawatts and you have 3,400 megawatts of installed capacity, Polk power station

would represent -- let's see -- about 6% of the total installed capacity?

A Well, first, the Polk plant, we expect to have a net output to line of somewhere between 260 and 270 megawatts.

Q So I should redo it -- is Polk power station included in the 3,400 megawatts you just gave me, or is --

A No, sir.

Q So you would add 260 to 3,400, and you would have 3,660. That would make the Polk power station represent about 7% of your installed capacity. Is that fair?

A I'm not going to try to do the math. I'll trust you.

Q This may be beyond the keen of your testimony, but at what point in time do you think the fuel cost savings will equate to the capital cost differential with respect to this plant?

A Any answer I would give on that, Mr. McWhirter, would be completely speculative. I don't have that kind of detail in my head.

Q Did you consider that kind of detail as the chief operating officer of TECO Energy or the president of Tampa Electric at the time the decision

was made to go forward with that plant?

A Yes, sir. On any major capital investment we look at the near term return as well as the return over the life of the asset.

Q And I'll call that point that I referred to as when the capital costs equate with the fuel savings, or capital additional costs equate with the fuel savings, to be the crossover point.

At the time you made the decision, what year was the crossover point?

A Mr. McWhirter, I'm sorry; I don't remember that level of detail. That was some four years ago.

Q Was it before the turn of the century?

A Again, I would prefer not to try to answer the question. I just don't remember that level of detail.

Q That's all the questions I have.

MR. McWHIRTER: I tender the witness.

CHAIRMAN CLARK: Mr. Howe.

CROSS EXAMINATION

BY MR. HOWE:

Q Good morning, Mr. Anderson.

A Good morning.

Q Before Tampa Electric filed their need determination in 1991, Tampa Electric intended to

build a gas-fired combined cycle; is that correct?

A That was one of the options considered, yes, sir.

Q And that gas-fired combined cycle was intended to be constructed in phases, was it not? By that, I mean a 75 megawatt combustion turbine, I believe, in 70 -- in '95, another 75 megawatt combustion turbine in '96, and a heat recovery steam generator in '97?

A Mr. Howe, I apologize. I cannot remember that level of detail. Those scenarios change over time, and certainly that sort of scenario has been in our plan. I don't remember if that was the current plan, or the plan then current at the time of the need hearing.

Q Well, let me ask you this: Would you agree that Tampa Electric proposed the Polk IGCC in the 1991 need determination filing because Tampa Electric found that although the capital costs of the IGCC were higher than a gas-fired combined cycle unit, the lower coal costs combined with the DOE funding made the IGCC the more economical alternative?

A Yes, sir, that's correct.

Q After the need determination order issued by the Commission in 1992 -- and Commissioners, that's

Order No. PSC-92-0002-FOF-EI, which issued on March 2nd, 1992.

After that need determination order issued, Mr. Anderson, what did you understand that the Commission expected Tampa Electric to do?

A With regard to the construction of the plant? Is that the question, Mr. Howe?

Q Yes, sir.

A I expected that it was our responsibility then to respond to the needs identified for growth on our system in the Commission's order, to do that in the most economical way, to meet the timetable that had been agreed to in the need hearing, and to do all of that in the most economical fashion. To build the IGCC, in other words.

Q Mr. Anderson, you referred to the timetable. Would you agree that at the time of the need determination, it was the company's proposal and the plan that was accepted by the Commission in the need determination order was that the company would first bring on-line a 150 megawatt combustion turbine in 1995 and complete the combined cycle and add the gasification assets to put the whole package together in 1996?

A Yes, sir, that's correct.

Q And, Mr. Anderson, I noticed in your prefiled testimony at Page 10 and again at Page 19 you refer to the extreme cold weather in 1989. If you would look at, for example, the bottom of Page 10 of your prefiled testimony.

A Yes, sir.

Q And there you're pointing out, are you not, that the extreme cold weather had an effect on all of peninsula Florida?

A Yes, sir.

Q Now, Mr. Anderson, I'm going to ask you to take a look at some highlighted language from the Commission's need determination order from Page 17 to conclusion and ask you to read the highlighted portion.

A This portion of the order states, "Phased-in capacity from Polk Unit One is consistent with the needs of Peninsula Florida, and will provide a portion of the additional generating capacity needed between 1995 and 1997 for the peninsula to maintain an adequate level of reliability.

Q And I think we've already established, have we not, that Tampa Electric originally proposed a phased-in construction program for the Polk IGCC?

A Yes.

Q Now, did Tampa Electric read anything into that need determination order as requiring Tampa Electric to bring on-line that 150-megawatt combustion turbine in 1995 and to actually phase in the plant?

A At the time that the order was issued, that was the fashion in which we proceeded with our design and the construction plans for the plant.

However, as time passed, it became apparent, not only on our system but within the state as a whole, that demand growth had slowed. So we realized that it would be economic to defer the start of the combustion turbine to the same time frame as the gasification plant went into service. And I believe that that decision and the rationale behind it were communicated to the Commission at the time.

Q Well, then in answer to my question, Mr. Anderson, would you agree that Tampa Electric did not read anything in that need determination order as requiring the utility to bring on-line a 150-megawatt combustion turbine in 1995?

A Mr. Howe, it's my recollection that again in the contemporary time frame, that we communicated both informally and formally to the Commission through the annual planning process that this was our intent to defer the start of -- not the start, but the putting

into service of that combustion turbine.

Q Mr. Anderson, I'm not trying to trick you or anything, but I honestly feel my question can be answered yes or no with the explanations you've given; and that being, did Tampa Electric construe that order standing alone as requiring them to bring on-line a 150 megawatt combustion turbine in 1995?

A At the time of the order, yes, sir, it did, in my opinion.

Q And would you agree that your decision not to bring on-line the 150-megawatt combustion turbine was the Company's reaction to changed circumstances as the Company perceived them after the order issued?

A Yes, sir, that's correct.

Q Would you agree that the decision to defer the in-service date of the combustion turbine probably saved the customers some money?

A It did.

Q And how would it have saved money?

A There was a reduction in the construction cost. I believe there would have been some additional costs in accelerating some of the construction and equipment procurement activities had we proceeded with the 1995 in-service date of the combustion turbine.

Q Mr. Anderson, in the intervening years since

the need determination order, has Tampa Electric investigated the possibility of making various sales out of Polk Unit One? By that, I mean off-system sales.

A We have done a number of investigations of off-system sales from our system as a whole. I can't recall anything specific that's limited to Polk Unit One.

Q Mr. Anderson, would you be generally familiar with Tampa Electric's yearly strategic visions and their strategic action plans?

A Yes.

MR. HOWE: Just a moment. Commissioners, I want to ask Mr. Willis a question about this document. (Pause)

Commissioners, I should explain. The particular document I'm referencing, we just learned recently that -- Tampa Electric gave us a list of documents that they considered confidential.

This document was apparently provided to us at two different locations, and so I have not treated this particular document as confidential; but found that in another location, they considered it confidential. I just wanted to -- Commissioners, I would ask for an exhibit number please?

CHAIRMAN CLARK: Mr. Howe, it will be Exhibit No. 1. Can you give me a title, please?

MR. HOWE: Tampa Electric 1995 Strategic Vision.

(Exhibit No. 1 marked for identification.)

Q **(By Mr. Howe)** Mr. Anderson, are you familiar with this document?

A Mr. Howe, I haven't seen this specific document.

Q In your role as Tampa Electric's president, and now as the chief operating officer of TECO Energy, Incorporated, would you generally be familiar with the company's annual strategic visions?

A Yes, sir.

Q Would you expect that you would have received this document or another similar document outlining the Company's strategic vision and its strategic action plan for 1995?

A Mr. Howe, I don't know exactly what this document is. It looks like a document that would have been developed or used in the officers' planning session in 1995.

I would not necessarily have seen this specific document, but I would have seen some of the specific action items if, in fact, these were the

action items that came out of that meeting.

Q Well, would this indicate -- if you'd refer to the second page of what has been identified as Exhibit 1 and look at the one, two, three, four, fifth item, it indicates -- it refers to a contract to sell 60 megawatts of Polk capacity, does it not?

A Yes, sir, it does.

Q Has Tampa Electric ever considered the sale of 60 megawatts of Polk capacity?

A I would have to agree that this document seems to indicate that, but I don't know to what level this particular proposed action was taken. I'm sorry. I just can't be responsive to the question.

Q I understand, Mr. Anderson, and I'm not trying to pin you down in terms of what action was actually taken. Right now I'm just asking whether the company considered the sale of parts of the Polk IGCC.

A And I would have to agree that this specific document does seem to indicate that.

Q Has Tampa Electric also considered --

CHAIRMAN CLARK: Mr. Howe, can I interrupt you or for a minute?

MR. HOWE: Certainly.

CHAIRMAN CLARK: Do you make a distinction of actually selling part of the plant ownership and

part of the plant as opposed to capacity?

MR. HOWE: I guess I would construe a sale of capacity to be a sale of a portion of the investment in the -- a long-term sale of a portion of the asset for some time period.

CHAIRMAN CLARK: Is that what --

MR. HOWE: I mean, that's the nature, I understand, of a capacity sale.

CHAIRMAN CLARK: Let me ask a question. As I understand this, this would be to sell capacity. Is that the same thing as a contract to sell firm power, or is it different?

WITNESS ANDERSON: Well, Commissioner Clark, let me just respond to that in kind of a general way and refer to past history. And my recollection goes back to every unit that we have built on our system since Gannon 5, those in that time frame, I've been involved with new plants coming into service.

In every instance, when we brought a new plant into service for some staggered period of time, we would sell capacity -- or lease capacity may be a better way to say it -- to other utilities in the state of Florida. This was true of Big Bend No. 4 for instance, when we sold, I believe it was -- or leased a half of the capacity of Big Bend 4 for a year, then

a quarter of the capacity for an additional, I think, two years. I've forgotten the details, but this is very common in putting a large unit into service.

CHAIRMAN CLARK: Well, would it be your understanding that a contract to sell 60 megawatts of Polk capacity would likely be a similar arrangement to what you have done in the past?

WITNESS ANDERSON: I would speculate that that's what this means, but I really don't know.

CHAIRMAN CLARK: All right. Go ahead, Mr. Howe.

Q **(By Mr. Howe)** Mr. Anderson, perhaps I should tell you why I'm asking you these questions. Would you agree that sales of capacity out of a particular unit or out of all of your units are generally handled by your bulk sales department?

A Yes, sir, that's correct.

Q We don't have a witness in the bulk sales department in this proceeding that I'm aware of, so that is the reason I'm addressing these questions to you.

And what I'm getting at overall, Mr. Anderson, is I'm just asking you questions about what your plans were for the Polk IGCC, or what things you considered during the intervening years between

the need determination order in March of '92 and today.

Mr. Anderson, would you agree that Tampa Electric has considered the sale, a unit power sales arrangement with Kissimmee Utility Authority, to sell various portions, various levels of capacity, that being 30 megawatts, 40 megawatts or 50 megawatts, out of the Polk unit?

A Yes, sir, that's correct.

Q Would you agree that Tampa Electric has considered selling 30 megawatts of Polk capacity to Kissimmee in return for 30 megawatts of their Cane Island combustion turbine peaking capacity?

A Now, we've had some discussion on that, yes, sir, but I have no recollection of just how far that went.

Q Would you agree that Tampa Electric has considered selling the gasification assets of Polk Power, of the Polk IGCC and just retaining ownership of the power block?

A Your reference here is to the acquisition of the Section 29 credits?

Q Well, for any reason has Tampa Electric investigated the sale and actually had negotiations with some parties about selling the gasification

assets?

A 50% of the gasification assets, yes, sir, that's correct.

Q And when you say 50%, Tampa Electric would not own the other 50%? That would be done through as a wholly owned subsidiary of Tampa Electric, would it not?

A That's not my recollection of the proposed transaction. The transaction that I recall was an attempt to qualify the plant for Section 29 tax credits.

Q Has Tampa Electric considered selling the power block and retaining ownership of the gasification assets?

A Yes, for the same reason. And, again, it was 50% of the asset to meet the requirements of the Section 29 credits.

Q Would you agree that none of the sales of capacity or unit power sales or sales of the gasification assets or the power block have gone through at this time?

A That's absolutely correct, yes, sir.

Q Would you agree that Tampa Electric does not consider anything in that need determination order issued by the Commission in 1992 as precluding the

company from entering into these types of transactions if they could have made the sale?

A Mr. Howe, any sale of a company asset, anything of this nature, would be done without approval from the Commission.

Q I understand your answer, Mr. Anderson. Let me phrase the question this way: Does Tampa Electric read anything in the Commission's need determination order as precluding the company from negotiating with various parties to make these various forms of sales, those being unit power sales, capacity sales, swaps for peaking capacity, sale of the power block, sale of the gasifier?

A We're constantly trying to find ways to minimize costs, to maximize the use of assets, and planning and discussion and negotiation are part of getting to that end. And I see nothing in the Commission's prior order which prevents us from looking for better ways to serve our customers.

Q And would you agree what you are doing in the process, by looking for various types of sales, you're testing the market and you're reacting to what you perceive as changed circumstances since the need determination order issued?

A That's correct.

Q If the Commission were to allow Tampa Electric to put its full investment into Polk, into rate base at the conclusion of this proceeding, would that in any way impinge the Utility's ability to continue testing the market and to try to make arrangements to sell part or all of the Polk unit?

A It would not prevent us, in my opinion, from continuing to test the market, but it would prevent us from completing any transaction without Commission approval.

Q If Polk Unit One, as I read your summary -- or listened to your summary -- is a good deal for the company and its customers, putting the whole unit into rate base, why would Tampa Electric try to sell it?

A Again, I'd give the same answer I gave a few moments ago. We're always looking for ways to reduce costs and provide better service to the customers.

Q Mr. Anderson, has Tampa Electric ever had in its resource plans, Ten Year Site Plans, what have you, any plans to be a second IGCC?

A I just don't recall those plans in that level of detail. I'm sorry.

Q Mr. Anderson, in your summary at the beginning of your testimony you referred to Florida Power Corporation's cancellation of their Lake Tarpon

to Kathleen transmission line, did you not?

A Yes, sir, I did.

MR. HOWE: Commissioners, for the record, Florida Power Corporation's Lake Tarpon to Kathleen transmission line was the subject of a need determination in September of 1984. The order was Order No. 13676 in Docket 840044-EI.

Q **(By Mr. Howe)** Mr. Anderson, would you agree that Florida Power Corporation was able to cancel and not construct at all the Lake Tarpon to Kathleen transmission line -- let me rephrase that.

That the fact that a need determination had been issued to Florida Power Corporation in 1984 did not mean that Tampa -- that Florida Power Corporation had to build the Lake Tarpon to Kathleen transmission line if changed circumstances in intervening years showed that that was no longer a prudent decision?

A Well, that's obviously what happened, yes.

Q Mr. Anderson, you made a reference also to environment -- I believe you were referring to the Polk property and environmental concerns.

Would you agree that natural gas is more environmentally friendly than either coal or petroleum coke?

A No. I think it depends on the process of

combustion, the process of handling and utilizing the fuel.

Q Would you agree that you have to make additional investment in power plants' design to use coal or petroleum coke to meet environmental standards than you would have with a natural gas fuel supply?

A Yes, sir, I agree.

MR. HOWE: Commissioners, for the record, I would just point out that the Commission issued an order in October of '95 approving Florida Power Corporation's accounting treatment for the Lake Tarpon to Kathleen transmission line, and that order was Order No. PSC-95-1230-FOF-EI.

Thank you, Mr. Anderson. I have no further questions.

CHAIRMAN CLARK: Staff.

MR. ELIAS: I have a couple of housekeeping matters. The first is that I would request that as to any order of the Commission which is referred to by any party in this proceeding, the Commission take official recognition, absent a timely raised objection, so that the record is complete and clear and we have the benefit of the entire order to work with in preparing the recommendation.

CHAIRMAN CLARK: I think that would be fine.

I think it would be appropriate to give a list. Each party who refers to an order would submit a list to the court reporter which indicates the orders that we will officially recognize.

MR. ELIAS: There are a number of orders that are included as -- or portions of orders that are included as exhibits to testimony, too, just to make the Commission aware of that.

CHAIRMAN CLARK: Well, I'm just concerned about the process that makes it clear that we were taking official notice of it, and I would like a list of those things that we will take official notice of, the orders.

MR. HOWE: Chairman Clark, if it will help things, I will at this time request that the orders I previously identified, that the Commission take official recognition, and that I would be more than happy to provide a list of those orders.

CHAIRMAN CLARK: Thank you, Mr. Howe.

MR. ELIAS: Commissioners, Mr. Dudley is handing each of you a package which contains Staff's exhibits for all the witnesses in this proceeding. The bulk of them are bound, by witness, with a cover sheet. We did this to expedite the handling of the materials and not to create a paper monster.

I've also handed to the parties a copy of Staff's exhibits that relate to Mr. Anderson's testimony, and I would ask that Staff's composite exhibit be assigned the next exhibit number for Mr. Anderson.

CHAIRMAN CLARK: Staff composite exhibit for Witness Anderson will be identified as Exhibit 2.

(Exhibit No. 2 marked for identification.)

MR. WILLIS: I think, Mr. Elias, it would expedite the proceeding, I think, if you provided us with the exhibits for all the witnesses so that we could look at it and have those witnesses understand what they're being handed when they --

MR. ELIAS: We prefer to do that as the witnesses testify.

CHAIRMAN CLARK: Well, Mr. Elias, I think what Mr. Willis is suggesting is the witness will have the opportunity to look at the exhibits and can verify that he can sponsor those documents. I think it would expedite the process.

MR. ELIAS: All right. We will make arrangements during the first break to distribute the remainder of the exhibits.

MR. WILLIS: Thank you.

CROSS EXAMINATION

BY MR. ELIAS:

Q Mr. Anderson, in your summary you referenced TECO's consumer complaints, reliability in pricing over the last four years. Can you point to a page number and line number where any of those subjects are discussed in your direct testimony?

A Not the specific numbers, no, sir, if that's the question. But I do talk about the actions that we have taken to reduce costs within the company, and I'd be glad to point that out to you. For instance, on Page 4, in response to the question at the bottom of the page --

CHAIRMAN CLARK: Let me interrupt you, Mr. Anderson. Mr. Elias, I'm aware of the fact that some of the testimony provided by Mr. Anderson in his summary was not strictly within the confines of his direct testimony. Is the purpose to move to strike it at this time?

MR. ELIAS: No. I just want to point that fact out.

Q (By Mr. Elias) Would you turn to Page 37 of the exhibit package that you were handed out? And I'm referring to the Bates stamp number that is in the lower right-hand corner of that document.

A Yes, sir, I think I've got it.

Q And would you describe that exhibit as you know it?

A This is a letter to Mr. Robert B. Hunter at the Hillsborough County Planning Commission. It's signed by me. The letter is dated September 28th, 1990.

Q And in substance would you describe what that letter says?

A It makes reference to our selection of the site in Polk County as being the location of our next power plant. It requests part of an upcoming plan amendment in the Hillsborough County Comprehensive Plan that the EPGF site designation be removed from our Port Manatee property.

Q And how was that site subsequently reclassified?

A It was reclassified agricultural, which was really the site designation which it had under the EPGF designation. It was EPGF agricultural.

Q And was it also natural preservation?

A That I don't remember, but there are, as we spoke earlier, some environmentally sensitive lands. So it -- obviously some of the property was classified in some environmental fashion, some of it was

classified agricultural.

Q Now, in your direct testimony, you reference a figure of approximately $13,000 in additional site development that would be necessary to construct a facility on the Port Manatee site; is that correct?

A I believe that reference is the purchase of additional property to meet the requirements of a plant, and our estimate for that purchase was about $13,000 an acre.

Q And could you tell the Commission, if you know, what the site development costs, land and site development costs, on a per acre basis were for the Polk project?

A Mr. Elias, I'm trying to remember the number. It was in the general range of $13,000.

Q And how many megawatts is the Polk site certified for?

A Again, if I remember correctly, it's 1,150.

Q And on a megawatt basis, what is Tampa Electric's annual load growth approximately?

A I really would be more comfortable if Mr. Hernandez answered that question, but it's approximately 75 megawatts.

Q Is it fair to say, then, that the Polk power station could fulfill Tampa Electric's generating

requirements with additional units on that site well into the next century?

A That's correct, and I believe that's what's stated our site plan -- in our planning document.

Q Now, in your summary, you referenced FPC's Lake Tarpon Kathleen transmission line. Why did FPC decide ultimately not to build it?

A I can't speak to that. My reference was the example of public controversy and cost and being unable to get to an end point with the community on whether to build a major facility.

Q You also referenced FPL's orimulsion project at its Parrish plant. And what was the major concern among the environmental community with that facility?

A Well, as I recall, there were two concerns; one was the ability to contain a spill of that material in the bay, the other was the incremental addition of nitrogen oxides on the air shed.

Q Now, in your testimony, you referenced the fact that there was considerable opposition in the late '80s to developing the Port Manatee site; is that a fair summary?

A Yes, sir, that's correct.

Q Can you tell the Commission what has changed in the last 10 years that would make the community

opposition to a plant located in that facility no longer a concern?

A Well, I don't really know how to answer that question, because the question has not been posed to the community. I believe that absent some different technology, different from what exists today, that it would remain very difficult to permit that site for a generation facility.

Q That site is in Tampa Electric Company's rate base; is that correct?

A Yes, sir, that's correct.

Q And in 1992, Tampa's last price change proceeding, was the fact that the land use designation had been changed in the Hillsborough County comprehensive plan part of the record of that proceeding?

A Mr. Elias, I don't know the answer to that. It's certainly public record, but I do not know the answer to whether it was specifically in the --

Q Did Tampa Electric Company advise the Commission in that case that the land use designation for this plant had been changed?

A I don't know the answer to that.

Q Let me ask you, if the land is not currently zoned for power plant, if you anticipate, absent a

change in technology, that the land will not be used to develop a power plant, if your company has invested approximately $13,000 an acre in a site, in excess of $4,000 to construct a power plant, how is this plant used and useful in -- or the Port Manatee site used and useful in providing utility service to Tampa Electric's ratepayers?

A Mr. Elias, it's a hard question to answer. I've already said that I don't see how that plant site -- how that site could be developed for a plant using today's technology.

We recognize that even though the site was purchased beginning back in the 1960s in good faith for what at that time was an excellent power plant site, that it's highly unlikely that anytime in the near future we're going to be able to use that to build a power plant.

Q Now, you referenced in your direct testimony continuing cost-effectiveness evaluations that were prepared by Mr. Hernandez's group since the time of the need determination; is that correct?

A Yes, sir, that's correct.

Q Isn't it true that none of those evaluations was reduced to writing?

A I'm not sure what you mean by reduced to

writing. I'd certainly --

Q Well, let me ask the question a different way. Did you ever review a written report comprising or consisting of the cost-effectiveness evaluation, any cost-effectiveness evaluation, that Mr. Hernandez's group has done since the need determination?

A The major reports that we did on an annual basis were presented orally. They were presented with the use of slides and written information, but there was never a bound report produced, to my recollection.

Q Now, the Polk site consists of approximately 4,300 acres; is that correct?

A Yes, sir.

Q And 775 of those acres were purchased from American Cyanamid at about $4,700 per acre and the balance of 3,571 acres from Freeport McMoRan, the parent company of Agrico, for $3,500 an acre?

A I don't remember the exact numbers, either the dollar cost or the acreage. We purchased two distinct tracts of land, one from Cyanamid and one from Agrico, yes.

Q Would you accept, subject to check, that the total cost of the land for the Polk site is approximately 19,840,000 acres -- 840,000 dollars?

A Subject to check, yes, sir.

Q Did Tampa Electric Company assume all the mining reclamation responsibilities for the land purchase from Freeport McMoRan?

A Yes, sir. That was part of the development of the site.

Q Would you please turn to the composite exhibit that you were just handed and look at the beginning of Page 3? And, again, those are the Bates stamps in the lower right-hand corner.

A I see. Yes, sir.

Q And Mr. Causey appraised that parcel at approximately $2,500 highest and best use?

A That's what the document indicates, yes, sir.

Q And that price also assumed -- and I can give you a cite to the bottom of Page 8, the last paragraph -- that the buyer at that $2,500 price would not be required to reclaim any portion of the land in compliance with the Agrico reclamation plan currently on file with the DEP?

MR. WILLIS: Excuse me just a moment. Mr. Elias, I believe these detailed type questions should be deferred to Mr. Black, who is our witness in this case.

MR. ELIAS: Well, I understand that some of this stuff might be beyond the scope of Mr. Anderson's direct knowledge, but my ultimate questions for him are conceptual, and I think fair for the CEO of the whole -- the parent company of Tampa Electric Company.

MR. WILLIS: Well, we'll see if he's able to respond. If not, he'll have to defer --

MR. ELIAS: If he's not, he's not.

Q **(By Mr. Elias)** Can you tell the Commission why TECO paid more than $1,000 over the appraised price of the land and assumed the reclamation responsibility?

A I'll give you a general answer to your question, Mr. Elias, and I'll have to defer the details to Mr. Black.

First, there were several appraisals, as I recall, for this piece of property, with different dollar amounts. There was intense negotiation between ourselves and Agrico for the purchase of this land.

This site, this particular site, we felt was the most cost-effective site because of the configuration of the property, the absence of any significant amount of clay settling ponds, which are very difficult and expensive to reclaim, and the portion of the property that was undisturbed land,

that is land that had not been mined, and provided a site for the power block of the plant. So this was an excellent site, in our opinion.

I'd also go on to say that the development of the site for a power plant has to be by its nature different from the reclamation plan that a mining company would use for mined out property.

Q Okay. You've been a utility employee essentially your entire working life; is that correct?

A That's correct.

Q Are you familiar with the term "least cost planning"?

A Yes, sir.

Q Would you define that term?

A In simple terms, it's providing resources to serve customers' needs at the lowest possible cost among the alternatives.

Q Does Tampa Electric Company practice least cost planning on behalf of its ratepayers?

A Yes.

Q Did TECO's obligation to practice least cost planning terminate on the date that the need determination order that is PSC 92-002 became final?

A I really don't understand that question.

Q Did TECO's obligation to practice least cost

planning terminate on the date that the need determination order became final?

A I don't see any connection between least cost planning and the need determination termination date. As far as I know, that remains the policy of both the company and the Commission.

Q So then is it fair to say that if subsequent to the time that that order became final, Tampa Electric Company found a viable lower cost alternative to constructing the Polk IGCC, it would pursue that alternative?

A Yes, sir.

Q Would you turn to Page 2 of your prefiled direct testimony, please? And beginning on Line 14 you make the statement that the decision -- or the Commission's decision to grant the determination of need was the culmination of many months of effort and data exchanged between the Commission's Staff, Tampa Electric and other parties to the need determination docket.

When was the need determination filed?

A I'm sorry. I just don't remember.

Q Would you accept, subject to check, that it was December -- I mean, September of 1991?

A Yes, sir, subject to check.

Q And do you recall when the hearing was held in that docket?

A Well, no, sir, really, I don't.

Q Would you accept, subject to check, that it was within four months of the day that the petition was filed?

A Yes.

Q So when you say many months, the total time that we're talking about is four; is that correct?

A That was the pendency of the hearing, but my recollection is there was a discussion preceding the filing. Again, I don't remember the details, but certainly four months by your numbers, yes, sir.

Q You referenced the stipulation that was entered into by Tampa Electric Company sometime ago to freeze its current rates at -- for a period of three years. Are you familiar with that stipulation?

A Well, again I have to apologize. I don't remember all of the details, but yes, sir, I am.

Q That stipulation permitted Tampa Electric Company to use $50 million of 1995 overearnings to achieve its authorized ROE over the next three years; is that correct?

A That number is, as best I recall, close, yes, sir.

Q So that's money in excess of what this Commission previously determined was a reasonable rate of return for Tampa Electric Company? Is that fair to say?

A I think that's a correct statement, yes, sir. I'd like to expand that. I think we need to recognize that the reason for that -- that additional earnings was a very significant effort on the part of the company to reduce costs, operating costs and capital costs, and we were able to make some very significant achievements in cost reduction; and we did that for the benefit of our ratepayers.

Q You're aware that Florida Power Corporation is also developing a large generating station in Polk County?

A Yes, sir, I am.

Q And it is true that Tampa Electric Company turned down an opportunity to jointly develop that site with Florida Power Corporation in the 1990-1991 time frame; is that correct?

MR. WILLIS: I object to this line of questions. I believe that that is totally irrelevant to this, what was done parallel with Florida Power Corporation, and based on their unique system characteristics, is not relevant to this proceeding.

MR. ELIAS: I'm not sure I understand the nature of the objection.

MR. WILLIS: It's relevance to that question.

MR. ELIAS: And if I might proffer, I believe that a showing that Tampa Electric Company turned down an opportunity to jointly develop a site with another utility which may have saved the ratepayers costs is relevant to an analysis and a determination of whether the costs that were incurred by Tampa Electric Company in this proceeding --

MR. WILLIS: That's not --

MR. ELIAS: -- or for this plant are reasonable.

CHAIRMAN CLARK: Do you wish to respond?

MR. WILLIS: My point is that that's not relevant to the prudence of this -- of the actions that Tampa Electric Company took, and that is the subject of this proceeding.

CHAIRMAN CLARK: I'll allow the question.

WITNESS ANDERSON: That we turned down an opportunity to -- I'm sorry. Please repeat the --

Q **(By Mr. Elias)** To jointly develop FPC's Polk site with Florida Power Corporation.

A I just don't recall the specifics of

anything like that.

Q Do you recall any discussions with Florida Power Corp concerning a joint development of a site in Polk County?

A I remember a letter from Mr. Keesler, but I don't recall there being any substantial discussion following that. I believe the letter was reported in the press.

Q And what was the substance of the letter, as you recall?

A Mr. Elias, I can't recall specifics. I would have to look at the letter and think about it. I do vaguely remember, as I think more, there were some timing things involved. I'm sorry. I just can't recall.

Q Would you turn to Page 22 of your prefiled direct testimony, and specifically Lines 1 through 3. Beginning at the top of the page you state that Polk Unit One was determined by the Commission to be, and still remains, a reasonable, prudent and cost-effective project which would enable Tampa Electric to meet its growing generation requirements.

Can you point to an order of this Commission where it was determined that the Polk project was prudent?

A No. Prudent is after the fact.

Q Now, on a per-megawatt-hour basis, do you know what the current cost estimates are for the electricity being produced at the -- to be produced at the Polk power station?

A Approximately 6 cents a kilowatt hour.

Q So that's $60.00 a megawatt hour?

A Yes, sir.

Q And on Page 22 at Line 14 -- I'm sorry -- Line 7, you speak to reasonably priced electric power. Do you believe that $60.00 a megawatt hour is reasonably priced electricity?

A Over the life of the plant, yes, sir, I do.

Q Are you aware of the expected costs on a per-megawatt-hour basis of the power to be generated at Florida Power Corporation's Polk power station?

A I'm aware of some numbers that have been quoted in the press, yes.

Q And what numbers are those?

A $35.00 a megawatt hour.

Q Do you have reason to dispute those numbers?

A Yes, sir, I do.

Q Okay. Could you tell us why?

A I'm going to give you an overview, and I think some of our other witnesses can be much more

specific. The incremental cost of gas today delivered in Florida, delivered in central Florida, is somewhere around $3.50, $3.50 a million Btu.

The carrying cost, the O&M and owning costs, for a combined cycle unit is somewhere around, oh, 12 to 15 plus dollars a megawatt hour. So when you add $15.00 to a $3.50 gas price, I come up with somewhere close to 4 and a half to 5 cents.

I'd like to point out that's today's cost for gas, and I'd also like to point out that the cost of gas is very likely to increase in the future. There's been a significant change in gas prices just this year.

Q And of late, gas prices have retreated from their winter high; is that true?

A They always retreat from their winter high in the late spring and early summer, yes, sir.

Q I have no further questions.

CHAIRMAN CLARK: Commissioners? Mr. Anderson, would you just refresh my memory? The Hardee plant that is now owned by TECO Power Services, was that always owned by TECO Power Services?

WITNESS ANDERSON: Yes, ma'am, it was. The plant jointly serves the needs of Seminole Electric and Tampa Electric.

CHAIRMAN CLARK: Oh, okay. Redirect, Mr. Willis.

REDIRECT EXAMINATION

BY MR. WILLIS:

Q Mr. Anderson, I want to follow up on the question Mr. Elias just concluded with; that is the comparison of the $60.00 per megawatt figure with the 4 and a half or 5-cent figure. I take it that that was -- is that a comparison in the first year of operation of the unit?

A Yes, sir, that's the way that I'd characterize it.

Q Would a unit that has a higher capital cost but lower operating cost over the life of the process as compared to the gas-fired plant have a crossover point sometime in the future?

A Yes. There would be a declining cost of power produced from the larger capital cost plant.

Q So is that a fair comparison that he just asked you to make?

A I think not.

Q Mr. Howe asked you a number of questions about the phase-in of the project. Do you believe that the Commission expected Tampa Electric to cost-effectively manage the construction of the IGCC?

A Yes, I do.

Q Was it more economical to defer the in-service date of the CT with the -- so that it would go into service at the same time as the overall plant in 1996?

A Yes, it was.

Q In managing the construction of the project, Mr. Anderson, do you believe the Commission intended you to use your common sense in managing how that project --

A Yes.

Q Now, Mr. Howe also asked you a number of questions about the strategic action plan. Has Tampa Electric continued to review as many ways as it can to reduce its revenue requirements?

A Yes, we have.

Q Have you challenged your officers and managers to come up with any kind of a method that would do that?

A Yes. And that's what I meant in my statement where all of our employees have worked in innovative and imaginative ways to lower costs.

Q And some of those plans have been implemented and some of them have not been; is that right?

A That's correct.

Q Now, in looking at the possibility of selling some of the capacity of the Polk plant for a time, that would -- would that be a part of your plan of trying to lower the revenue requirements of the company?

A Yes. That's one of the ways it's done.

Q And for the benefit of all ratepayers?

A Yes.

Q Now, you've mentioned a couple of questions were asked whether you considered selling a portion of the Polk assets in order to qualify for the Section 29 tax credits. What was the purpose of Tampa Electric's reviewing those various options?

A Well, the Section 29 tax credits would produce considerable reduction in the overall operating costs of the plant. As I recall, the numbers that we generated were somewhere between 8 to $12 million a year in operating costs that could be reduced, the reduction in income tax.

Q And under the proposals that were considered, did Tampa Electric plan to buy back the output of the unit?

A Oh, absolutely. The revenue requirement for the investment remains the same. It's just that with

the different designation of ownership, we then become eligible for the tax credits.

Q So it was a means of structuring a transaction for the benefit of your customers?

A That's correct.

Q Several questions were asked to you with regard to land cost. Mr. Anderson, was the total acreage of the Polk site and the cost paid for the parcels that have been purchased by the Company disclosed to the Commission in the need proceeding?

A The cost of the property was, yes.

Q As well as the total acreage of the site; is that correct?

A That's my recollection. I believe that in the pendency of this case I've seen an interrogatory in the 1991 case in which we gave those figures.

Q You were asked several questions with regard to the use of the Polk site for future generation additions.

Mr. Anderson, is it true that a given site may be more appropriate for the use of a particular technology than another site?

A Yes. Generally -- yes. Let me not qualify that. Yes.

Q Is it appropriate for a public utility to

have different options to site power plants in the future?

A I believe it is, yes.

Q And is that a part of your obligation to serve your customers, to explore and have available different options?

A Yes.

Q Now, you were asked about the change in land use designation of the Port Manatee site. Is the change in the land use designation really relevant to the future use of that site?

A I believe it's not relevant.

Q Could you explain that?

A The property at Port Manatee, as I think I said earlier, basically has an agricultural land use designation and it had, at one time, the additional notation of EPGF.

I think it's important to note that this is a land use. In both instances it is a land use, it is not a zoning; and that in any event, in order to use the property for any purpose other than agricultural, that we would have to go through the entire zoning and permitting process.

Q Mr. Anderson, does that site continue to be used and useful for utility purposes?

A I believe so, yes, sir.

Q I have no further questions.

CHAIRMAN CLARK: Exhibits.

MR. HOWE: We would move the admission of Exhibit 1.

CHAIRMAN CLARK: Without objection, Exhibit 1 is admitted in the record.

(Exhibit No. 1 received in evidence.)

CHAIRMAN CLARK: Exhibit 2 is admitted in the record without objection.

(Exhibit No. 2 received in evidence.)

CHAIRMAN CLARK: Thank you very much, Mr. Anderson; you're excused. We will take a break until 11:15, and then we will begin with Mr. Hernandez.

(Witness Anderson excused.)

(Brief recess.)

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CHAIRMAN CLARK: We'll call the hearing back to order. Mr. Hernandez, have you been sworn in?

WITNESS HERNANDEZ: Yes, I have.

- - - - -

THOMAS L. HERNANDEZ

was called as a witness on behalf of Tampa Electric Company and, having been duly sworn, testified as

follows:

DIRECT EXAMINATION

BY MR. BEASLEY:

Q Mr. Hernandez, would you please state your name, your business address and your position with Tampa Electric?

A My name is Thomas L. Hernandez. The business address is 702 North Franklin Street, Tampa, Florida 33602. I am the director of resource planning for Tampa Electric Company.

Q Did you prepare a document entitled "Testimony and Exhibit of Thomas L. Hernandez" and cause it to be filed in this proceeding?

A Yes, I did.

Q Do you have any corrections, Mr. Hernandez, to your testimony?

A Yes, I do. I have a change in a date that occurs twice in my testimony. On Page 24, Line 21 I wish to change the date, "December 1, 1996," and change it to January 1, 1997.

CHAIRMAN CLARK: I'm still finding Page 24.

WITNESS HERNANDEZ: It's on Page 24, Line 21. And I'd like to strike "December 1, 1996," and the correct date is January 1, 1997.

CHAIRMAN CLARK: Okay.

WITNESS HERNANDEZ: And to make that same change on Page 25, Line 8.

Q **(By Mr. Beasley)** Mr. Hernandez, having made those changes, if I were to ask you the questions in your prepared testimony, would your answers be the same?

A Yes, they would.

MR. BEASLEY: I would ask that Mr. Hernandez's testimony be inserted into the record as though read.

CHAIRMAN CLARK: The prefiled direct testimony of Mr. Hernandez will be inserted in the record as though read.

BEFORE THE PUBLIC SERVICE COMMISSION

PREPARED DIRECT TESTIMONY

OF

THOMAS L. HERNANDEZ

Q. Please state your name, address and occupation.

A. My name is Thomas L. Hernandez. My business address is 702 North Franklin Street, Tampa, Florida 33602. I am the Director of Resource Planning at Tampa Electric Company.

Q. What is your educational background and business experience?

A. I graduated from Louisiana State University in August 1982 with a Bachelor of Science degree in Chemical Engineering. I have been employed by Tampa Electric in various engineering positions since August 1982. My current position is that of Director of Resource Planning, responsible for system reliability studies, energy resource planning studies, business development studies and regulatory support. I represent Tampa Electric as the Chairman of the Generation Task Force (GTF) of the Florida Electric Power Coordinating Group, Inc. (FCG). I also represent Tampa Electric on the EEI Transmission Subject

Area Committee (SAC), the EEI Generation SAC, and the Southeastern Electric Reliability Council (SERC) Engineering Committee.

Q. Mr. Hernandez, have you previously testified before this Commission?

A. Yes. I testified before this Commission in the last annual planning hearing, Docket No. 910004-EU. I also submitted testimony on Tampa Electric's Integrated Resource Planning (IRP) process in Docket No. 930551-EI, which dealt with the numeric conservation goals for Tampa Electric.

Q. Have you previously presented summaries of Tampa Electric's Ten Year Site Plans before this Commission?

A. Yes. I presented a summary of Tampa Electric's Ten Year Site Plan at the FPSC Staff Workshop to Review Ten Year Site Plans on August 7, 1992. I also provided a description of Tampa Electric's planning process at the FPSC Staff workshop on March 3, 1994. As Chairman of the Generation Task Force, I also prepared summaries of the FCG Peninsular Florida Ten Year Plan for presentation at the FPSC Staff Workshop to review Ten Year Site Plans held on August 19, 1994 and August 16, 1995.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to explain the analytical basis underlying Tampa Electric's conclusion that Polk Unit One is a reasonable and prudent addition to Tampa Electric's generating system and remains the most cost-effective alternative for meeting Tampa Electric's need for capacity. The need for the Polk One IGCC unit was originally determined and has been verified since using Tampa Electric's Integrated Resource Planning process. My testimony explains the Tampa Electric IRP process methodology and the associated forecasts, base assumptions, system reliability analyses, and economic analyses of generation and energy management alternatives used to develop Tampa Electric's energy resource plans. My testimony also explains the ongoing review of key planning assumptions and forecasts, and the results of several cost-effectiveness studies completed during construction of the Polk IGCC unit since issuance of the Commission's Order No. PSC-92-0002-FOF-EI approving the need.

Q. What exhibits are you sponsoring as part of your testimony in this proceeding?

A. My Exhibit No.__(TLH-1), consisting of eight documents, was

prepared under my direction and supervision. It consists of: a detailed description of Tampa Electric's IRP process; a summary of Tampa Electric's Ten Year Site Plans (1992-1996); a summary of the Polk Unit One construction cost estimates; comparisons of key planning assumptions and forecasts; a summary of the Polk Unit One cost-effectiveness studies, and interrogatory responses prepared under my direction and supervision.

POLK UNIT ONE NEED

Q. Why is Polk Unit One needed?

A. Tampa Electric is required by law to provide reasonably sufficient, adequate and efficient service to each person who applies for service in the company's service area. In order to meet this obligation, Tampa Electric must construct and maintain an adequate and reliable production, transmission and distribution system. The company is dedicated to the efficient use of energy and has an aggressive conservation program that has been effective to date and which will continue to reduce future capital expenditures from what they would have been without such a program. Nevertheless, from time to time the continued growth in the number of customers on our system requires the construction of new generating capacity.

Polk Unit One is a state-of-the-art 250 megawatt integrated gasification combined cycle (IGCC) unit which the company is constructing in order to enable itself to cost-effectively meet the additional capacity needs on its system while maintaining an adequate reserve margin and the company's reliability criteria of 0.1 days/year loss of load probability.

Q. Has the need for Polk Unit One been addressed by the Commission?

A. Yes it has. After extensive review in Docket No. 910883-EI the Commission found that Tampa Electric had provided sufficient information on the need for additional capacity, the site, design, and engineering characteristics of Polk Unit One to enable the Commission to conclude that Polk Unit One was the most cost-effective generation alternative available to Tampa Electric. The Commission subsequently approved the need in Order No. PSC-92-0002-FOF-EI issued in Docket No. 910883-EI, In re: Petition for Determination of Need for a Proposed Electrical Power Plant and Related Facilities in Polk County by Tampa Electric Company.

Q. Was the Commission's determination of need specific to an IGCC unit?

A. Yes. The Commission conditioned its approval of Polk Unit One on Tampa Electric receiving $120 million in funding from the Department of Energy which is only available for construction of an IGCC unit. It is this funding, along with the low operating cost of the unit, that makes the IGCC unit the lowest cost unit addition for our ratepayers.

Integrated Resource Planning Process Overview

Q. Please describe the process used to identify the need for Polk Unit One and to determine the cost-effectiveness of the project on an ongoing basis.

A. We used our IRP methodology, as described in Document No. 1 of my Exhibit, to evaluate the cost-effectiveness of the Polk Unit One project. The objective of our IRP process is to evaluate, on a fair and consistent basis, numerous combinations of demand side and supply side resources in order to determine how to satisfy future energy requirements in a cost-effective and reliable manner.

REVIEW OF PLAN AND IGCC COST-EFFECTIVENESS

Continued Need for Polk Unit One

Q. In the years subsequent to the Commission's determination that Polk Unit One should be built, has Tampa Electric

periodically reviewed the continuing need for this unit to meet the company's energy resource requirements?

A. Yes. The need for the Polk One IGCC unit was identified in 1991 to maintain our electric system reliability and integrity at a reasonable cost. The plant is still needed in 1996. Under my direction and supervision, Tampa Electric annually reviews key planning assumptions and forecasts as standard business practice. In addition, numerous economic evaluations of the IGCC project have been completed during the construction of Polk Unit One. As part of this process, all reasonable conservation measures that might delay the timing of need for Polk Unit One were included in each evaluation. The large amount of additional DSM resources that would have to be developed and implemented in order to have any effect on the Polk Unit One timing was not reasonable. In addition, the Commission in Docket No. 910883-EI specifically found that: "it appears that further timely and cost-effective conservation measures can not reliably defer the need for the IGCC unit." (Docket No. 910883-EI, Order No. PSC-92-0002-FOF-EI, at page 17.) The Florida Supreme Court later affirmed that decision. In each evaluation, the IGCC technology selected for Polk Unit One has been shown to be the most cost-effective alternative available.

Q. When does Tampa Electric plan to place Polk Unit One into commercial operation?

A. Polk Unit One will be placed in service on or about October 15, 1996. However, at the time of the need hearings for Polk Unit One, the most cost-effective plan was to construct the unit as a phased construction IGCC plant with a commercial operation date of July 1, 1995 for the General Electric 7F advanced combustion turbine and commercial operation as an IGCC unit by July 1, 1996. As a part of our ongoing economic and system reliability analyses, we determined during August 1993 that the advanced combustion turbine could be deferred from July 1995 to July 1996 while cost-effectively maintaining system reliability. Thus, we deferred the combustion turbine as was shown in our 1994 Ten Year Site Plan. That deferral postponed revenue requirements that would have otherwise occurred beginning July 1995. A summary of the recommended expansion plans for each of our Ten Year Site Plans from 1992 through 1996 is provided in Document No. 2 of my Exhibit.

Q. What accounts for the change in the projected commercial operation date from the originally forecasted July 1996 to

the current date of October 15, 1996?

A. The change in the commercial operation date from July 1996 to October 1996 was reported in our 1995 Ten Year Site Plan as shown in Document No. 2 of my Exhibit. The primary reason was a delay in obtaining the necessary federal permit required to commence construction at the Polk Power Station site. The actual field construction start date was May 1994 but was originally anticipated to be January 1994, as shown in Tampa Electric's 1992 and 1993 Ten Year Site Plans. This four month delay in construction resulted in a three month delay in the commercial operation date.

Q. Should the commercial operation date of Polk Unit One be deferred beyond October 1996?

A. No. There were significant costs associated with deferring the Polk Unit One in-service date beyond October 1996. Deferring the project beyond October 1996 would result in additional fuel and purchased power costs to our retail Customers since Polk Unit One will be the first unit dispatched on our system on an incremental cost basis, and one of the lowest cost units to operate in Peninsular Florida. Another consideration is the level of construction expenses that have been devoted to the

project. By year end 1994, we had spent approximately $200 million net of DOE reimbursements, or almost 40% of the total construction costs. By year-end 1995, our total expenditure was approximately $410 million net of DOE reimbursements, over 80% of the total construction costs. Therefore, from a practical and economic perspective, the avoidance or further deferral of Polk Unit One was not a prudent, viable alternative.

Q. How did you verify the continued cost-effectiveness of Polk Unit One?

A. Several economic evaluations of Tampa Electric's generation expansion plan have been completed since the Determination of Need proceedings in December 1991. In each review, the continued cost-effectiveness of Polk Unit One was examined in light of more current data and assumptions. The evaluations supported the development of the company's annual planning efforts as well as the annual Ten Year Site Plan filing and afforded Tampa Electric an opportunity to re-examine its expansion plan in light of revised assumptions. Each Ten Year Site Plan submitted by Tampa Electric from 1992 through 1996 provided updates to the Commission on both the cost of Polk Unit One as well as changes to the timing and type of future generating plant

additions. A summary of the plan and Polk Unit One costs for each year 1992 through 1996 is shown in Document No. 4 of my Exhibit.

Q. What were the results of your cost-effectiveness evaluations?

A. Document No. 4 of my Exhibit summarizes the five cost-effectiveness evaluations of the Polk IGCC project that were completed based on various stages of construction between 1992 and 1996. The format and methodology of the original studies were revised to more accurately reflect all of the factors considered by management. In developing the costs associated with the combined cycle unit, the costs incurred up to the time of the study for the development and construction of the IGCC unit were included as sunk costs. For example, the 1994 cost-effectiveness study includes all actual project expenses and commitments through April 1994 for both the IGCC unit and combined cycle unit alternatives. The remaining estimated costs to complete the IGCC unit or combined cycle unit are then included separately for each plan.

This analysis methodology of using costs incurred up to the time of the study to determine sunk costs is conservative

in that contractual commitments and associated contract cancellation penalties are excluded. Given the fact that our sunk cost estimate significantly understates the actual sunk costs that we would incur, consideration of offsetting revenues attributed to the sale of equipment, deferral of contracts, or the value of salvage would not result in a lower sunk cost estimate. A more detailed engineering analysis would likely result in an increase in sunk cost estimates. These additional costs would be assignable to the combined cycle plan as sunk costs if Tampa Electric had not continued with the construction of the IGCC plant. In addition, the DOE funding received on a cash-call basis was not assumed to be refundable from Tampa Electric to DOE. The sunk costs for the combined cycle plan would, therefore, increase if DOE requested any refund or if the cost of removal were to exceed gross salvage costs. Our assumptions regarding such costs in each of our annual cost-benefit analyses were reasonable.

Q. What was the significance of the 1994 conservation goals proceedings with regard to Polk Unit One?

A. In the course of this proceeding, the Commission reviewed and approved Tampa Electric's resource planning process which was the same process used to determine the need for

Polk Unit One. In effect, the Commission reviewed and approved the continued need for Polk Unit One in the course of identifying the next avoidable unit on Tampa Electric's system. Tampa Electric's avoided unit was a 1999 Combustion Turbine for establishing the conservation goals in Docket No. 930551-EG. This unit was the first deferrable or avoidable unit after Polk Unit One identified in Tampa Electric's resource plan. By recognizing that Polk Unit One could not be avoided in Tampa Electric's conservation plan, this Commission affirmed the need for the unit.

Q. Have you continued to monitor the cost-effectiveness of burning natural gas as a fuel option for Polk Unit One after the need determination order was issued?

A. Yes, we have. The use of natural gas as a primary fuel source was carefully considered in the need determination proceeding. Tampa Electric compared a wide variety of alternative technologies including combustion turbines and combined cycle units fueled primarily with natural gas. After considering the detailed evidence presented, the Commission concluded that the company had demonstrated that the proposed IGCC unit was the most cost-effective alternative to provide additional needed capacity for Tampa

Electric and peninsular Florida. One of the major reasons for that decision was the Department of Energy funding for construction of a gasified coal demonstration project. The Commission approved the plant's construction on the condition that the company receive the $120 million in Department of Energy funding. In order to qualify for the funding the plant had to be constructed to use gasified coal as its primary fuel source. Nevertheless, Tampa Electric continued to monitor the natural gas market as a potential secondary fuel as described in Mr. Hugh Smith's testimony. We also continued to review alternatives using natural gas in the ongoing cost-effectiveness studies which compared IGCC technology to combined cycle technology.

Review of Forecasts and Key Assumptions

Q. What key assumptions and forecasts were used in the Determination of Need proceedings and the IRP analysis used to support the cost-effectiveness of the Polk Unit One project?

A. Our key assumptions and forecasts pertained to the operations of existing and future Tampa Electric generating resources and include: unit cost estimates; unit operating parameters; fuel price forecasts; demand and energy forecasts; economic and financial assumptions (including

escalation rates, cost of capital, capital structure, AFUDC rates, taxes, book and tax life, and the discount rate). The treatment of these key assumptions and forecasts and their roles in our planning process are described in more detail in Document No. 1 of my Exhibit.

Q. What was the Polk Unit One cost estimate used in the need determination proceeding?

A. An estimate of $413 million was the basis for the $195 million savings identified in the need hearing order. However, there were three estimates of the Polk Unit One costs shown in the record for Tampa Electric's Determination of Need proceedings. In Document No. 3 of my Exhibit, Table 1-1 shows the basis and origin of these estimates and the estimated cash flow streams. The original estimate of $291.9 million in 1991 dollars (or $372.6 million in 1996 dollars) was the basis for the $62 million savings referenced on page 4 of the Prepared Direct Testimony of John B. Ramil submitted on September 5, 1991. An intermediate estimate of $305.0 million (or $389.5 million in 1996 dollars) was provided in the December 4, 1991 Deposition of John B. Ramil conducted by the FPSC Staff. This estimate was apparently the basis for the $389 million cost later referenced in Commission Order No. PSC-

92-0002-FOF-EI on March 2, 1992.

This Order also references the estimate of $319.9 million in 1991 dollars (or $413 million in as-spent dollars through 1996) submitted on December 9, 1991 in the revisions to the Prepared Rebuttal Testimony of John B. Ramil originally filed on November 20, 1991. This estimate was the basis for the $195 million system savings referred to on page 9 of the Order for constructing an IGCC unit compared to constructing a combined cycle unit and also shown in Document No. 1 of the Rebuttal Exhibit of John B. Ramil titled "Comparison of Unit Parameters and Customer Savings." The $413 million installed cost estimate including AFUDC was also provided in the 1992 Tampa Electric Ten Year Site Plan (Table 10-1, Form 8A) filed April 1, 1992.

Q. In the need determination proceeding in Docket No. 910883-EI was the cost of land, land improvements and environmental mitigation included in the cost-effectiveness evaluation of alternative generation technologies?

A. No they were not. Since all seven of the alternative technologies were technically suitable for the selected Polk County site, and the selection of any one of the

technologies would not affect the location or amount of land purchased or the associated site development and land improvement costs, including environmental mitigation, these combined costs were considered the same for all resource plan alternatives. Therefore, the net differential cumulative present worth of system revenue requirements would be the same with or without the inclusion of the site acquisition and development costs. We did include a nominal generic cost per acre in 1991 dollars. The source of this generic cost was the 1989 EPRI Technical Assessment Guide. The Polk site would be the site of choice for each of the seven technologies that passed the initial economic screening and were included in the detailed system revenue requirement analysis.

The $195 million system savings that was referenced by the Commission in the Order was based on the $413 million estimate which accounted for the DOE funding and AFUDC but did not include the land and site development expense as part of the unit installed cost.

Q. How has the original construction cost estimate of $413 million changed since the Need proceeding?

A. Document No. 3 of my Exhibit summarizes the various total

project cost estimates from the need hearing forward to our most recent estimate in the fall of 1995. As shown in this document, using a consistent comparison which excludes the estimated land acquisition, site development and AFUDC expense, the comparative cost of Polk Unit One has remained relatively unchanged (4.3% above the December 9, 1991 need hearing estimate). The need hearing estimate was completed before any project specific engineering or design work had been completed, as was the case with all the estimates examined as alternatives. At the time of the need hearing, only one IGCC unit had been built in the United States, and no unit exactly like the Polk unit has been built to date. Mr. Charles R. Black further explains the evolution of the construction cost estimates in his direct testimony.

Q. As the project moved forward, did you continue to monitor Tampa Electric's annual demand and energy forecast?

A. Yes. Document No. 5 of my Exhibit summarizes the demand and energy forecast used in the Polk Unit One Need proceedings compared to subsequent forecasts used in Tampa Electric's annual planning process. The tables in Document No. 5 show the annual variance and cumulative variance for the projected winter peak on a total system and firm system basis, as well as the annual system net energy for load

(NEL) requirements.

Also included in Document No. 5 are Tampa Electric's actual total system and firm system peaks for the winter and system NEL requirements for the period 1993 through 1996. The actual 1996 winter peak of 3,445 MW was 19 MW higher, or 0.6% higher, than the total peak of 3,426 MW originally forecasted for 1996 at the time of the 1991 need hearing. On a firm peak basis, the actual 1996 winter peak was 26 MW higher, or 0.9% higher, than the forecast for 1996 at the time of the need hearing.

Q. Were the actual winter peaks that Tampa Electric experienced in 1995 and 1996 higher than forecasted?

A. Yes. This was primarily due to colder than normal weather which resulted in higher than expected heating-degree days for the winter period and also accounted for higher than expected system peaks.

Q. How is extreme weather considered in Tampa Electric's demand and energy forecasts?

A. We do not assume extreme weather conditions in developing the annual demand and energy forecast. However, colder

than expected weather can have a significant impact on our winter peak. The normalized winter temperature of 31°F is assumed for planning purposes to forecast our winter peak. The actual temperature at the time of our peak experienced in 1996 was 26°F. The lower temperature by five degrees resulted in a 274 MW (8%) increase in the total system peak.

Q. What is Tampa Electric's reserve margin using the actual winter peak experienced in 1996?

A. Substituting the projected system firm winter peak of 2,856 MW as shown in our 1996 Ten Year Site Plan with the actual firm peak of 3,025 MW would result in a 1996 firm reserve margin of 20.9%. On a total system peak basis, a similar calculation would result in a reserve margin of 6.1%. Without the additional generating capacity, the reserve margin will continue to decline as we experience continued growth in our system peak and energy requirements.

Q. How did you ensure the reasonableness of your demand and energy forecasts in each of the annual Polk Unit One IGCC cost-effectiveness evaluations?

A. An internal review is based on trend analyses of past

projections compared to actual experience. We also relied on external reviews of our demand and energy forecast methods and results by the Commission and the Department of Community Affairs (DCA). In Order No. PSC-93-0165-FOF-EI, Docket No. 920324-EI, the Commission reviewed Tampa Electric's demand and energy forecast models and found they were "... capable of and have produced reliable projections and that the input assumptions are reasonable." (Reference page 12.) In each annual review of Tampa Electric's Ten Year Site Plans for the years 1992 through 1995, DCA found that our forecasting methods were reasonable and the accuracy of the forecasts was one of the best in the state. In the FPSC Review of 1995 Ten Year Site Plans (December 1995), the Commission found that Tampa Electric's demand and energy forecast methodology is reasonable for planning purposes. The average forecast error for Tampa Electric was less than the average error for the state's eleven largest utilities. In addition, the Commission found that "forecast errors reveal no evidence of either systematic over-forecasting or under-forecasting by TECO." (Reference page 65.)

Q. Why is it important to track the fuel price forecast and projected operating characteristics of Polk Unit One?

A. The projected fuel prices and unit operating characteristics are key parameters for production cost projections used in the cost-effectiveness studies. Understanding the relative changes from one forecast to the next is helpful in understanding the result of subsequent cost-effectiveness studies. Document No. 6 of my Exhibit compares the fuel price forecasts as explained by Mr. Hugh W. Smith that were used in the cost-effectiveness studies. Document No. 7 of my Exhibit compares the key operating characteristics of the IGCC and CC unit.

Q. What assumptions did you make in your analyses concerning the cost of fuel?

A. The fuel assumptions for the IGCC unit varied in each study to reflect the most cost-effective and viable primary fuel source at the time of the study. The 1992 cost-effectiveness study assumed coal as the primary fuel throughout the study. In 1993, Tampa Electric realized the significant savings to our ratepayers which could be achieved by taking advantage of the wide range of fuels that can be gasified in the IGCC unit. One such fuel is petroleum coke and in the 1993 study, we assumed a blend of petroleum coke with coal. The 1994 and 1995 cost-effectiveness studies utilized coal with Section 29 tax

credits due to the increased savings relative to a blend of petroleum coke with coal. However, the petroleum coke/coal blend also resulted in significant cost savings when compared to other generation alternatives. The 1996 cost-effectiveness study assumed a blend of petroleum coke with coal based on the status of Tampa Electric's efforts to realize the Section 29 benefits. The fuel assumptions for the combined cycle unit were based on as-available natural gas in the spring (March, April, May) and the fall (October, November) and distillate oil in the remaining months.

Q. What assumptions did you make regarding tax credits in your 1994 and 1995 Polk IGCC cost-effectiveness studies?

A. The 1994 and 1995 cost-effectiveness studies included additional savings related to tax credits under Section 29 of the Internal Revenue Code of 1986, amended for producing synthetic gas which effectively lowered the overall cost to construct and operate the IGCC unit. These credits were assumed applicable for the first eleven and twelve years of IGCC operation respectively with an approximate present worth value of $98 million in the 1994 study and $87 million in the 1995 study.

Q. If you had continued to assume a blend of petroleum coke and coal in the 1994 and 1995 studies and excluded any savings for the credits under Section 29 of the Internal Tax Code, what would be the result?

A. If the 1994 and 1995 studies included a petroleum coke/coal blend for the same period (excluding the two year demonstration period), the IGCC technology still provides significant savings although slightly lower than Section 29 tax credits using unblended coal. Consequently, using a petroleum coke and coal blend results in continued cost-effectiveness of the project.

Q. On what did you base your assumption that the Section 29 tax credit would be available?

A. In order to realize the Section 29 tax credit benefits, Tampa Electric proceeded aggressively beginning in late 1993 to attempt to meet the federal requirements necessary to qualify for the credit, including the extension of the qualifying "window" by one year to ~~December 1, 1996~~ January 1, 1997. One of the qualifications was to have the qualifying plant commercially operable by December 31, 1995. The credit for alternative fuels was first enacted in the Windfall Profits Tax Act in 1980, and received very little use initially

because of the limitations on the use of the credit. These limitations were eased in the late 1980s. When initially enacted, the credit was limited to assets placed in service prior to January 1, 1990. This date was subsequently extended to January 1, 1991 and then to January 1, 1993. In the Energy Policy Act of 1992, the credit was partially extended for alternative fuels produced from biomass or coal to assets placed in service prior to ~~December 1, 1996~~ January 1, 1997. At that time, Tampa Electric was attempting to have the third party sale rule amended and we believed that the prospects for success were very good. Tampa Electric's efforts to amend this section continued through 1995 when the prospects of success decreased. Although we were unsuccessful, our efforts continue to date. The 1994 and 1995 cost-effectiveness studies included the tax credits, and the 1996 study excluded the tax credits in light of the decreased prospects for success and the primary fuel for the IGCC unit is now assumed to be a petroleum coke/coal blend after the two-year demonstration period.

Q. Is the continued construction of Polk Unit One cost-effective today?

A. Yes, most definitely. There is no question that based on the facts and circumstances we know today the continued

construction of Polk Unit One is the most cost-effective alternative available. This option provides a savings to Tampa Electric's ratepayers of $201 million over the life of the unit compared to Tampa Electric's next best option.

Q. Please summarize your testimony.

A. My testimony describes the Polk Unit One project including the determination of need for the project and our continuous monitoring of the cost-effectiveness of constructing this facility using our proven IRP methodology. The Tampa Electric IRP process is a comprehensive economic, engineering and strategic analysis of the Tampa Electric system to determine the most cost-effective mix of energy resources to reliably meet our system requirements. This dynamic process allows the flexibility to incorporate changes in key assumptions, new regulatory or legislative requirements and unexpected business developments. The net output of the process is an integrated resource plan that defines the appropriate mix of existing and new supply and demand side resources. The same IRP process was used in the Polk One Need Hearing.

The subsequent cost-effectiveness reviews used the same analytical tools and methods, and review of key assumptions

and forecasts. Based on these reviews, the comparative cost of Polk Unit One has remained relatively unchanged from that utilized in the Polk Unit One need determination proceeding. The five studies described in my testimony compared the cost-effectiveness of the IGCC unit to a combined cycle unit as the next generating plant addition to our system. In Document No. 4 of my Exhibit, Table 3-1 summarizes the IGCC plan savings compared to a plan that replaces the IGCC unit with a combined cycle unit. This table shows the continued cost-effectiveness of the IGCC project each time it was reviewed during the construction of the unit. The savings ranged from $101 million to the current projection of $201 million. This shows the reasonableness and prudence of the company's continued construction of the unit.

Q. Does this conclude your testimony?

A. Yes it does.

MR. BEASLEY: And I would also ask that Mr. Hernandez's exhibit attached to his testimony, marked TLH-1, be identified with an exhibit number.

CHAIRMAN CLARK: TLH-1-B? Did you say 1-B?

MR. BEASLEY: It's got a short code, TLH-1, but I believe it would be Exhibit 3 for the purposes of the hearing.

CHAIRMAN CLARK: Yes, it will be identified as Exhibit 3. Thank you.

(Exhibit No. 3 marked for identification.)

Q **(By Mr. Beasley)** And was that exhibit prepared under your direction and supervision?

A Yes, it was.

Q Mr. Hernandez, would you please summarize your direct testimony?

A Yes, I will. Good morning, Commissioners. Tampa Electric's Polk IGCC project has been consistently cost-effective during the period since the need hearing, and remains so today under any reasonable set of assumptions.

The cost-effectiveness analysis methodology used in this determination is a comprehensive economic, engineering and strategic analysis of the Tampa Electric system to determine the most cost-effective mix of energy resources needed to

reliably meet system energy requirements.

We have constantly evaluated and tested the key assumptions to assure the continued reasonableness in light of changing market circumstances. This same cost-effectiveness analysis methodology was used in the Polk One need hearing and other cost-effectiveness evaluations of supply and demand-side alternatives reviewed in a number of proceedings since this Commission's approval of the project.

The five studies described in my testimony compared the cost-effectiveness of the IGCC unit to a combined cycle unit as the next generating plant addition to our system. The continued cost-effectiveness of the IGCC project was demonstrated each time it was reviewed during the construction of the unit.

The savings ranged from 101 million to the current projection of 201 million. The results of these studies support the reasonableness and prudence of the company's continued construction of the unit.

MR. BEASLEY: We would tender Mr. Hernandez for questions.

CHAIRMAN CLARK: Mr. McWhirter.

CROSS EXAMINATION

BY MR. McWHIRTER:

Q Mr. Hernandez, do I glean from your testimony that it is your conclusion that the Polk unit is the most competitive unit that could have been built within the time frame that it was planned?

A What I state in my testimony is that the Polk IGCC unit is the most cost-effective alternative for Tampa Electric system, based on the information that we had at the time.

Q Do you still contend that it's the most cost-effective unit based upon the information available today?

A Yes, sir, I do.

Q Are you familiar with the term "stranded investment"?

A Somewhat.

Q Would you define what stranded investment is, based on your understanding of that term?

A My general understanding is an investment in a project that -- depending on circumstances, that you may elect not to complete the project, or you may have circumstances in which you would not be able to receive full cost recovery. That's my general understanding.

Q Based on that understanding of the term, is it your opinion today that if you are asked whether or not the Polk unit would be a stranded investment to Tampa Electric in a competitive environment, you would say that it would not be a stranded investment?

A I would say that it is not a stranded investment; that's correct.

MR. McWHIRTER: I tender the witness.

CHAIRMAN CLARK: Mr. Howe.

CROSS EXAMINATION

BY MR. HOWE:

Q Good morning, Mr. Hernandez.

A Good morning.

Q Mr. Hernandez, I asked Mr. Anderson a question, and he answered in general terms, but not specifically, about what the Company asked for.

What was the Company's plan prior to the need determination in 1991? Can you tell me what the Company's -- what unit or units was the Company planning on building in the 1995 to 1997 time frame, immediately before the Polk IGCC was proposed in the need proceeding?

A Okay. I'll refer you to the 1991 Ten Year Site Plan that was filed in April, 1991, and that same plan was used in another proceeding known as the mini

APH, the annual planning hearing.

Tampa Electric's expansion plan for the next 10 years at that time was the phased construction of a combined cycle unit beginning in year 1995, with the addition of a 75-megawatt combustion turbine in 1995, a second 75-megawatt combustion turbine in 1996, and the addition of a heat recovery steam generator in 1997 that would be rated at 70 megawatts that would result in the phased construction of a 220-megawatt combined cycle unit.

Q Did the Polk IGCC then supplant that construction plan? By that I mean -- I see you have 220 megawatts of combined cycle. And the Polk plan gets you about 260 megawatts of combined cycle, does it not, as an IGCC?

A We assumed 250 megawatts in that output for the IGCC unit.

Q And did the IGCC configuration replace the scenario described previously of the two combustion turbines followed by the heat recovery steam generator?

A Yes, it did, based on a system cost-effectiveness analysis that we completed in the summer of 1991.

Q What was the fuel supply? What was the fuel

source for the combined cycle that was to be constructed over the years 1995 to 1997 before you decided on the IGCC?

A The assumption was as-available natural gas as the primary fuel and distillate oil as a secondary fuel.

Q Would you agree that the IGCC was deemed to be more economical to Tampa Electric because, although the capital costs were higher than the phased construction of the combined cycle, the fuel costs were expected to be lower over the life cycle of the unit and the DOE funding also contributed to the economics of the IGCC?

A There are additional factors, but those are certainly key contributing factors.

Q What other factors would you address?

A The Polk IGCC unit will have the lowest incremental cost in our system, and it will therefore dispatch first in our system, and as a result, there are other system economics associated with a unit commitment and start-up that is not directly related to fuel. But there are additional benefits associated with the IGCC project, but you named the two or three primary ones.

Q And when you say that the IGCC will dispatch

first, is that because the feedstock, whether it be coal or a petroleum coke/coal blend, will be less expensive than Tampa Electric's other coal-fired units?

A In part. We dispatch a system on incremental fuel and incremental O&M, so it's a combination of those two variables that would result in the lowest incremental cost on our system.

Q What do you mean by incremental fuel as you use it for dispatch services?

A Once the unit has been deemed necessary to commit for that day, or for a period of time, you look at the incremental cost to load subsequent units on our system to match the daily demand in energy requirements expected on our system.

Q And what fuel price do you use?

A I'm sorry?

Q What fuel price do you use in that incremental dispatch analysis?

A It's an incremental fuel price.

Q Would that generally be a spot price?

A Generally.

Q Would that be the next increment of fuel that you're going to have to purchase to make that sale?

A Generally, that's true.

Q Generally, do you ignore the sunk costs of the fuel that you have in the coal pile?

A I believe that's true.

Q Mr. Hernandez, I'd like to refer to your exhibits, but I want to do it in a logical fashion.

Now, as I understand it, referring to what has been identified as Exhibit 3, the exhibits appended to your testimony, if we go -- you identify your Document No. 4 in your testimony as being the cost-effectiveness studies done in the years 1992 through 1996; is that correct? Document No. 4 begins on Page 31.

A This is a summary of the cost-effectiveness studies in response to Interrogatory No. 3; that's correct.

Q If we were to -- want to look at more detail, could we go to Interrogatory No. 3 of your responses, those beginning on, oh, approximately on Page -- for detail purposes, Page 72 of the exhibit to your testimony?

A I believe the full response begins on Page 69.

Q All right, sir. And what I'm trying to do is, for example, I notice on Page 34, which is a

summary, you show that the cumulative present worth savings of the IGCC plan for 1992 is $154,964,000, and if we go to Page 74, we'll see the same number for '92; and we could go back and forth for '92, '93, '94, '95, '96.

And I'd just like to verify, Mr. Hernandez, that if we address Pages 72 and following, we will be addressing the support for your summary figures shown in your Document No. 4?

A Yes, that's correct.

Q If you would refer to Page 72, then, sir, of your exhibits -- and by 72, I will always be referring to the Bates stamp number down in the lower right-hand corner -- this is a summary of the results of your cumulative present worth revenue requirement analyses comparing the IGCC against the combined cycle; is that correct?

A That's correct.

Q And would you agree that for each year, 1992 through 1996, that you always have found the capital and O&M associated with the IGCC to be more costly than that of the combined cycle, but they are more than offset in your analyses by the fuel savings?

A That's correct.

Q And so you get a net system benefit for the

IGCC attributable to the fuel savings over the life of the generating unit; is that correct?

A That is correct.

Q And Page 73 starts the 1992 cost-effectiveness study. I'd like you to first refer to Page 74, please. I note that there are more units listed under the resource plan for the Polk combined cycle than for the Polk IGCC; is that correct? In other words, that more units would have to be added over the succeeding years under the Polk combined cycle scenario than under the IGCC scenario?

A It appears there may be one additional unit on the Polk combined cycle. What we did, in order to determine what the expansion plan would be, by replacing the IGCC unit with a combined cycle unit, you have to do a reliability analysis and determine how many megawatts you need subsequent to the addition of units on our generating system. And so that may, in fact, result in a different number of units being added, but an approximate, same number of megawatts added to the life of the study.

Q What is different about the combined cycle that would cause more units to have to be added in subsequent years when compared to the IGCC plan?

A In addition to the timing, as you note on

Page 74, we have in 1995 on the combined cycle side the addition of the 7F advance combustion turbine, and then in 1997 we have the addition of a 75-megawatt combustion turbine, and so you don't complete the combined cycle project until 1998 with the addition of the HRSG.

So the timing and the amount of the capacity, as well as the availability associated with the different units that you're adding on your system, will impact the timing and, effectively, the amount of megawatts or units added on your system.

Q Thank you, Mr. Hernandez. If you would refer, please, to the next page, 75. Now I'm going to be focusing mostly on the Polk CC column, and that CC stands for combined cycle, does it not?

A Yes, it does.

Q And we start with the plant cost of $145,025,000. Am I correct that that would be the cost of the combustion turbines followed by the heat recovery steam generator shown on Page 74 to give you a combined cycle in 1998?

A It would be the single 7F combustion turbine, not this -- not the second combustion turbine that was shown on the prior page.

Q Well, what do you mean by the combined cycle

on the heading on Page 75?

A If we refer back to Page 74, the combined cycle was composed of the 7F combustion turbine at 150 megawatts, with an in-service date of 1995, and the HRSG with an in-service date in 1998.

Q I see.

A It does not include that other --

Q I see. So we're not talking about paired combustion turbines in this scenario?

A That's correct.

Q And then the next entry you have is -- I'm still on Page 75. You have "gasifier related sunk costs." Could you please explain that entry for $4,792,000?

A In general I can explain it. The $4.792 million that are shown in that table is the amount of expenses incurred to date at the time that we did this study directly related to the gasification process, or the gasification related equipment.

There are additional sunk costs that are included in the plant and common numbers, but we pulled out the gasifier related sunk. So it's expenses up to the month prior to doing this study.

Q And what are the characteristics of that combined cycle that will cost $145,025,000? Can you

describe that? What is the configuration of that combined cycle?

A It's what I just described; the 7F combustion turbine combined with a 70-megawatt, approximately, heat recovery steam generator.

Q Is it a stand-alone natural gas-fired combustion turbine, or is it a combustion turbine configured to run off of synthesis gas?

A It is a -- for purposes of this analysis, it would be a natural gas-fired combined cycle.

Q Yes, sir, but I'm asking about the characteristics of the combustion turbine portion of the combined cycle. And what I'm really asking in simple terms, Mr. Hernandez, are we looking at a stand-alone natural gas-fired combined cycle in this right-hand column on Page 75, or are we looking at the power block from the IGCC?

A For the 1992 analysis it was a natural gas-fired combined cycle, and not the IGCC power block.

Q Did you say not the IGCC power block?

A That's correct.

Q In subsequent analyses in subsequent years did you ever use the IGCC power block?

A Yes. Beginning with the 1993 study and

subsequent studies we used the Polk Unit One IGCC power block.

Q Still staying with Page 75 for a moment, sir, can you tell me where your fixed and variable O&M figures came from on the Polk combined cycle column?

A I believe those figures were obtained from using the EPRI TAG guide.

Q And what was the source of the figures for the Polk IGCC O&M, both fixed and variable?

A From the project management team assembled at Tampa Electric.

Q Down towards the bottom of the combined cycle column, the heat rate of 7,996, 7,996 Btu per kilowatt hour, where did you get that number?

A I believe we got that from the -- an estimate, a cursory estimate from the Polk project management team; and it's a combination of running the unit on natural gas and distillate oil. It's not just natural gas.

Q So this analysis is not done at all on firm natural gas; is that correct?

A None of the analyses assume firm natural gas.

Q If you would refer, please, then, to Page 78. This is the detail supporting the 1993 analysis;

is that correct?

A Yes, it is.

Q Given your earlier explanation, the plant costs for the combined cycle of 142,431,000, is that for the power block from the IGCC?

A Yes, it is.

Q Now, am I correct that that power block would be configured to operate on synthesis gas?

A For the combined cycle unit?

Q Yes, sir.

A The power block that we would be using for purposes of this analysis, and the one that we acquired for the IGCC unit, was certainly set up for the syngas produced from the gasification system. But in terms of doing the analysis, the fuel assumed was as-available natural gas and distillate oil.

Q Would that then -- would you assume the use of as-available natural gas and distillate oil, but being burned in a unit configured to operate on synthesis gas or distillate oil?

A That's correct. The unit would certainly be capable of using either of those two fuels, and distillate oil is the secondary fuel for the IGCC unit.

Q Would I be correct to say in your 1993

analysis you did not evaluate the Polk IGCC against a stand-alone natural gas-fired combined cycle unit similar to what Tampa Electric was proposing to build before they decided to construct the IGCC?

A That's correct. As I mentioned earlier, the phased construction of the combined cycle in our 1991 plan, prior to determining that the IGCC unit was the most cost-effective option, was comprised of two 7EA type combustion turbines. In this configuration we're using a 7F advanced combustion turbine. It has different operating characteristics.

Q On that point, going -- the heat rate that you show on Page 78, the 7,841 Btus per kilowatt hour, where did that come from?

A From the project management team.

Q You're aware, are you not, that Florida Power & Light's Martin Units 3 and 4 are configured with GE 7F combustion turbines?

A I'm not exactly sure what their selection is at this point. I know they're combined cycle units. I'm not sure what type.

Q Have you read Mr. Water's deposition?

A Yes, I did.

Q And he, in that deposition, refers specifically to the combustion turbines as being GE

7Fs, does he not?

A He may. I don't recall at this point.

MR. HOWE: Excuse me just a moment, Commissioner. (Pause)

Q **(By Mr. Howe)** Mr. Hernandez, I'm referring you to Page 53 of the deposition of Mr. Samuel Waters. I believe you stated you had read that deposition.

A Yes.

Q Would you agree that he indicates on Page 53 that the Martin Units 3 and 4 are configured with GTE (sic) 7F combustion turbines?

A Yes, I would agree.

Q Would you agree that he ascribes a heat rate to those units of 7,200 Btus per kilowatt hour?

A That's what he states here, yes.

Q Thank you.

COMMISSIONER DEASON: Mr. Howe, was that GTE, or GE?

MR. HOWE: I'm sorry. If I said GTE, I was incorrect. I mean GE.

Q **(By Mr. Howe)** Still referring to Page 78 of your exhibits, Mr. Hernandez, you show a gasifier related sunk cost. The figure is now higher than it was in the previous year, for 1992. It is now

$17,347,000; is that correct?

A That's correct.

Q And what does that reflect?

A Additional expenses directly related to the gasification system that were incurred approximately a month prior to the time that we did this cost-effectiveness study.

Q So the '93 analysis has a larger gasifier sunk cost associated with it because you've incurred additional gasifier related costs in the intervening time between the 1992 study and the 1993 study; is that correct?

A Just as we planned. That's correct.

Q If you would refer, please, to Page 81. Am I correct that the Polk combined cycle shown there is, again, the power block from the IGCC, and not a stand-alone natural gas-fired combined cycle?

A Okay. It is the Polk IGCC power block, but it can operate as a stand-alone natural gas-fired unit.

Q Mr. Hernandez, would you agree that if Tampa Electric had decided not to correct the IGCC and instead had decided to build a combined cycle to be fired with natural gas, that there would be certain modifications or differences in the configuration of

the combustion turbine? By that I mean the turbine blades or the igniters.

Would you agree that there's a difference in the way GE builds a GE 7F combustion turbine to be run on synthesis gas than the way they build one to be run on natural gas?

A I believe there would be some differences in the design, primarily in the fuel introduction and the combustion component of the combustion turbine.

There would also be some additional engineering design changes, but Mr. Black would be the best one to describe those changes specifically.

Q I don't know if it was in documents you supported in interrogatories or Mr. Black, but I seem to remember that there was a difference in what was called a volumetric flow rate and in the Btus of the synthesis gas that was generated by the gasifier, as opposed to natural gas provided through a pipeline. Is that correct?

A That's correct.

Q And for the O&M on your Page 81 under the combined cycle column, did you again use EPRI TAG figures?

A I believe so, but there was an interrogatory response where we clarified which assumptions we used

for each of the studies, and if you'd like, we can take a few minutes and check.

Q I believe there was. I believe it was EPRI TAG, wasn't it?

A I believe you're right.

Q And for gasifier related sunk costs, you now show an amount of $34,847,000. This means you're assigning all of the gasifer related sunk costs up to the time of the study you've done in 1994 to the combined cycle; is that correct?

A That's correct.

Q Mr. Hernandez, isn't this type of analysis basically asking -- or answering the question whether you should build an IGCC, or just run the IGCC's combined cycle as configured for an IGCC but instead fed by natural gas and distillate oil?

A Could you repeat that question?

Q I will try. Mr. Hernandez, this type of analysis that you show here on your Page 81 and you've shown on previous pages, doesn't this type of analysis answer the question whether it is cheaper to build an IGCC, or whether it is cheaper to use the power block from the IGCC configured to run as part of the IGCC but instead feed it natural gas or distillate oil?

A No. I disagree. I believe it answers the

question, what would Tampa Electric do in the event that the Polk IGCC unit was not as cost-effective as building a combined cycle unit; what Tampa Electric would do in the event that -- for whatever circumstances that would occur, if the Polk IGCC unit was not as cost-effective as a combined cycle unit, we would move towards a combined cycle unit using the power block that we had acquired for the IGCC unit.

That's simply not the case in any of the cost-effectiveness studies that we've evaluated since the time of the need hearing.

Q So you've never evaluated, then, the Polk IGCC versus a stand-alone natural gas-fired combined cycle configured from the get-go to run on natural gas, have you?

A The 1992 analysis did not use the Polk IGCC power block, so I would say that we did do that type of analysis in 1992.

Q All right. But you did not do that type of analysis in '93, '94, '95 or '96, did you?

A No, sir. At that point in time we had committed to the acquisition of the GE 7F machine configured for the gasification process. And we were able to use that power block because it can, in fact, use distillate oil as a fuel and can be reconfigured

at some additional expense for natural gas usage.

Q Mr. Hernandez, did Tampa Electric ever respond to changed circumstances -- and by that I mean changed natural gas prices and natural gas price forecasts -- after 1992 by evaluating whether it would be more economical to stop construction of the IGCC and instead build a stand-alone combined cycle unit configured from the outset to run on natural gas?

A All of the studies, as I've mentioned before, beginning with 1993 used the IGCC power block, and we did not look at acquiring a second power block since we had a perfectly good power block to use that we had already acquired.

Q Would it also be true that you never looked at modifying your power block to run as a stand-alone natural gas-fired combined cycle?

A I'm going to qualify -- I'll say yes, but the power block that we acquired to utilize the syngas produced from the gasification system has additional surface area. It has to account for additional process streams that result in power augmentation, additional capacity output that offsets some of the consumptive power usage in order to drive the gasification system.

So because of that, those things that are

set up to handle the syngas produced from the system would not be as useful as if the unit was running on syngas, but it certainly can accommodates a distillate oil or natural gas; and that's why we selected that and stayed with that power block for all of our studies.

Q Mr. Hernandez, would you agree that if Tampa Electric or any other utility was to go to General Electric Company and order a 7F combustion turbine, that if one utility asked for it configured to run on synthesis gas and the other utility asked for a 7F to run on piped natural gas, that General Electric would configure the two units differently?

A Yes, I agree with that.

Q And would you agree that the unit originally configured to run on synthesis gas could be reconfigured to run on natural gas and, in fact, you would arrive at the same type of unit, a stand-alone natural gas-fired combined cycle?

A I believe you could do that, as well, yes.

Q And would you agree that Tampa Electric never pursued that type of evaluation, and that would be converting the combined cycle power block from the IGCC to be a stand-alone natural gas-fired combined cycle?

A That we did not do that analysis?

Q Yes, sir.

A That's correct. My understanding is that there will be additional cost to convert that power block, but that it could be done.

Q If you'd refer to Page 84 of your exhibits, Mr. Hernandez, here under the Polk combined cycle column, we have the same type of analysis, do we not, with now showing $170,417,000 of gasifier related sunk costs assigned to the Polk combined cycle scenario?

A That's correct.

Q And, again, would you agree that the $170,417,000 figure shows what Tampa Electric considers to be the gasifier related sunk costs up to the date of the 1995 analysis?

A Yes, that's correct.

Q If you would refer, please, Mr. Hernandez, to Page 87. This is the 1996 analysis, is it not?

A Yes, it is.

Q And, again, we have the same approach -- you might tell me. Do we have the same approach? Is there a change made in 1996 for the fixed and variable O&M estimate?

A For what?

Q I seem to remember in your deposition you

referred to -- at some point I believe you said you used the Hardee power station O&M as a surrogate; am I correct?

A Are you referring to the fixed and variable O&M for the combined cycle --

Q Yes --

A That's what I was trying to clarify.

Q Yes, sir.

A That is correct.

Q Okay. So for the '96 analysis, instead of EPRI TAG figures, you used data available from the Hardee power station; is that correct?

A That's correct.

Q And did you just adjust the Hardee power station data to match the size of the combined cycle used in this -- used in these assumptions?

A In general we reviewed the actual operating data experience at Hardee and put it on a dollar per Kw or a dollar per megawatt hour produced, and based on that information, we decided that we would use that information on -- as part of our combined cycle cost analysis.

Q And in your 1996 study, as shown on Page 87, the combined cycle is assigned $244,942,000 of gasifier related sunk costs; is that correct?

A That's correct.

Q Throughout these studies, I note that down in the capacity of the combined cycle it is always reflected as less than the capacity of the IGCC. Could you explain why that is true?

A Technically, no. I believe Mr. Black would be able to address that. But I note that with recent operation of the IGCC combined cycle power block, we did operate at approximately 230 megawatts, so the 233-megawatt number down there seems pretty reasonable.

Q Mr. Hernandez, if I could, please, refer you to Page 81 of your exhibits. This is Tampa Electric's response to Staff's first set of interrogatories, No. 27. Do you have that, Mr. Hernandez?

A Yes, I do.

Q The analysis for the combined cycle is shown -- is reflected on Tables 27-5A, 6A, 7A and 8A, as shown in that next to last column for the years 1992 through 1995; is that correct?

A Are you still referring to page --

Q Page 181, sir.

A There's two page numbers down there, so --

Q Yes. This one -- I'm referring to the far right-hand page number, 181. I believe that the

central page numbers sometimes come from the Bates numbers that were stamped on the interrogatory responses themselves.

A Okay. And what was the question again? I'm sorry.

Q The column headed "Table," the second column headed "Table" referring to 27-5A, dash 6A, dash 7A and dash 8A for the years 1992 through '95, those show the results of the combined cycle cumulative present worth revenue requirement analysis for each of those years; is that correct?

A That's correct.

Q If you would refer, please, to page 191, which is the analysis for 1992 -- do you have that, sir?

A Page 190?

Q Yes. 190 is where it starts, and then 191 has the detail, the assumptions and so forth; is that correct?

A Yes.

Q And what is shown on page 191 is for the year 1992; is that correct?

A Yes.

Q And for 1992 you have assigned to the combined cycle gasifier related sunk costs up through

1996; is that correct?

A You're referring to the 244,942,000 number?

Q Yes, sir.

A Yes, that's correct.

Q And if we go to Page 194, again the lower right-hand corner page number, this is the analysis for 1993, is it not?

A Yes.

Q And again you have used the gasifier related sunk costs through 1996 in that analysis, have you not?

A That's correct. Just to clarify, the response to this interrogatory was a fuel price sensitivity requested by Staff. They requested us to use a straight Illinois coal-based forecast, and it was clearly a fuel price sensitivity; and so what we modified for each study were the fuel price forecasts, as requested.

Q Why are you including this as an exhibit in your testimony, Mr. Hernandez? What is the point you are trying to establish?

A The comparison that I make on Page 181 is that in comparing the IGCC unit to the combined cycle unit, given this fuel price sensitivity, indicates that the IGCC is more cost-effective under the

sensitivity in each case for each study.

Q Well, looking at your Page 181, Mr. Hernandez, for example, for 1992 if, instead of using the 1996 gasifier related sunk costs of approximately 245,000,000, we use the sunk costs you ascribe to the gasifier in your other analyses up through '92 of 4.7 million, we could essentially deduct $240 million from the 1548 and find that the combined cycle cumulative to present worth revenue requirement is less than the IGCC on a comparable basis, couldn't we?

A No. You should not reduce or subtract out the gasifier related sunk costs on the combined cycle case. If you're going to do that, you need to subtract it from the IGCC case as well, so that you're consistently on an incremental cost basis. Why would --

Q I see, sir. But on all those earlier analyses we went through you assigned the gasifier sunk costs to the combined cycle scenario, did you not?

A Yes, sir, so that we had a incremental cost analysis. If I excluded those costs, then I would not have an incremental cost analysis to complete the IGCC project.

Q And for 1992 in your earlier documents you had a gasifier related sunk cost of $4.7 million; is that correct?

A That's correct.

Q That is approximately $240 million less than the 1996 gasifier related sunk costs which you have included in your 1992 analysis, as shown in the summary on your page 181; is that correct?

A As I said before, we did include the sunk costs associated with the 1996 analysis. This is a fuel sensitivity analysis requested by Staff.

Q Mr. Hernandez, is this being offered to the Commission as part of the exhibits to your testimony, though, to show that even under this analysis, the IGCC is more economical on a cumulative present worth revenue requirements basis?

A As a sensitivity, yes.

Q And to reach that result, you had to assign the 1996 gasifier related sunk costs to each of the analyses, '92 through '95; is that correct?

A That's what we did in the response to this interrogatory, yes.

Q Mr. Hernandez, would it be under your department's responsibility to run cumulative present worth revenue requirement analyses for the various

types of sales Tampa Electric has been considering out of the Polk unit, those being such things as unit power sales of 60 megawatts, 50 megawatts and so forth, the sales of the gasifier and so forth?

A We support the efforts of the Bulk Power Department in terms of evaluating potential off-system sales.

COMMISSIONER DEASON: Mr. Howe, are you leaving the Pages 181 and so forth?

MR. HOWE: Yes, sir.

COMMISSIONER DEASON: Let me ask a question. I'm looking at Page 183 in the lower right-hand corner, and on that page there is a -- this is for the IGCC, and under the description "Gasifier Related Sunk Costs," it just indicates that that amount is included in plan.

Do you know the dollar amount that is included in the plant figure related to the gasifier for that scenario?

WITNESS HERNANDEZ: No, sir, I don't, but it is included in that total plant number.

COMMISSIONER DEASON: And this is for the year 1992?

WITNESS HERNANDEZ: Yes.

COMMISSIONER DEASON: And then for the

comparison of the combined cycle for 1992 you're including 245 million of gasifier costs? I think that's just shown on Page 191. Is that correct?

WITNESS HERNANDEZ: Yes, we did; and by doing that, it focuses on utilizing the Illinois #6 coal price forecast that was prescribed by Staff as the fuel, and that was not the fuel in each of the cost-effectiveness studies. So by isolating on the fuel price forecasts, you were able to look at the relative impact associated with that fuel.

COMMISSIONER DEASON: But wouldn't it be necessary to have the same amount of gasifier cost for both the IGCC and the CC to have a valid comparison; that is you would have to have 245 million of gasifier costs included in the 385 million of plant costs shown on Page 183? And if that's not the case, explain to me why that would still be a valid comparison.

WITNESS HERNANDEZ: The question as posed in the interrogatory, as I understood it, was to focus on substituting the fuel assumptions that we had used in the analysis and to evaluate what that change in making that fuel assumption would result in.

So by providing the two numbers, the two streams, you effectively can take the differential shown in that summary and -- I think it's page 1 of

that response -- take that differential and compare it to the response to Interrogatory No. 3, and comparing those two differentials will give you the impact of making that single change, the fuel price change, versus making several changes.

COMMISSIONER DEASON: Well, you reference Page 1 of the interrogatory, which I assume is Page 181 in the lower right-hand corner.

WITNESS HERNANDEZ: That's correct. I did not show a differential, but if you were to take a differential between the two columns titled IGCC Cumulative Present Worth Revenue Requirements and then the Combined Cycle, calculate that differential and compare it to the differential in the response to Interrogatory No. 3, you take the difference between those two differentials and you have the resulting impact of this fuel price sensitivity, which is the way the question was asked, as I read it.

Q (By Mr. Howe) Mr. Hernandez, what type of a transaction -- by that I mean what type of a sale of capacity or the gasifier assets or the combined cycle power block of the Polk IGCC -- what type of a transaction led to the lowest cumulative net present worth revenue requirements for Tampa Electric's customers?

A None of these studies included any additional off-system sales or unit power sales from the Polk Unit One.

Q No. I was asking you about -- earlier before, you answered some questions from Commissioner Deason. I had asked you whether your department was responsible for running the analyses, the cumulative net present value or cumulative present worth revenue requirement analyses for the various types of sales scenarios that Tampa Electric has considered for Polk Unit One, and I understood you to say yes, that would be under your responsibility.

A That's correct. We support the efforts of the Bulk Power Department in that area.

Q So you have done cumulative net present value, or present worth revenue requirement analyses for the Bulk Power Department; is that correct?

A No. What we do is look at -- we project out what the expected fixed and operating cost of the Polk IGCC unit will be, either as a unit power sale configuration or to support a system type sale.

That information is provided to the Bulk Power folks, and then they configure it and look at and market that to any prospective utilities. We do not do a revenue requirement analysis to support that.

Q Thank you very much. I have no further questions.

CHAIRMAN CLARK: Staff.

CROSS EXAMINATION

BY MR. ELIAS:

Q Mr. Hernandez, were you present when Mr. Anderson was testifying?

A For most of the proceeding. I stepped out a few times.

Q Do you have a definition of "least cost planning"?

A If that was discussed, I was out of the room at that time.

Q What do you understand least cost planning to be?

A I don't use it in the same vein as cost-effective; cost-effective, most cost-effective option. Least cost planning to me implies that you just look at the bottom line dollar without considering other strategic issues or conducting a risk analysis, which I would include in making the -- using the phrase "most cost-effective."

So least cost planning, I would say, is based on minimizing system revenue requirements solely, and not considering those other parameters.

Q Do you agree that Tampa Electric Company has an obligation to practice or employ least cost planning for the benefit of its customers?

A I believe we have the obligation to do cost-effectiveness planning. In that, I mean the first step is to do least cost planning, and that looking at our system and making decisions on our system based purely on economics, you're going to first focus on the lowest cost alternatives.

But then to make your decision as to which alternative you should move towards, you've got to consider other parameters. That includes strategic issues and concerns, and conduct a risk analysis, and not just base your sole decision on the lowest dollar number.

Q Is a project which presents savings based on future fuel prices more risky than one that projects savings based on capital cost savings?

A I'm not sure I understand what you mean by more risky.

Q More subject to variation.

A Could we try that question again? Could you rephrase the question again, or try the question again?

Q Is a project based on capital costs savings,

or justified on the basis of capital cost savings, more concrete than one based on future fuel price savings or fuel cost savings?

A That depends on the terms and conditions of procuring the fuel. I think there's a lot of other parameters that have to be considered, so I can't answer your question outright.

Q Did Tampa Electric's obligation to make cost-effective -- to use your terminology -- generation addition decisions terminate with respect to the Polk plant when the need determination order was final?

A If I understood your question correctly, you're asking did we stop doing cost-effectiveness analyses of our system once we received the order. No, we did not.

Q And you would agree with Mr. Anderson that if a lower cost viable alternative to constructing the integrated gasified combined cycle plant had presented itself during -- subsequent to the need determination, TECO would have opted for that alternative?

A Not just based on lowest cost. In consideration of other issues and concerns and risk, if that proved to be the most cost-effective alternative, then I would agree.

Q Could you define "installed cost"?

A For purposes of doing system revenue requirement analyses and for purposes of what would be presented for our cost-effectiveness studies, installed costs in this sense is the construction costs associated with the power plant.

Q What costs associated with the power plant would it not include?

A What we broke out in their response to several interrogatories. We pulled out and identified the land acquisition and site development costs separately. We pulled out other costs associated with the plant, but what we called common, and these were facilities that would be common to not only the first unit addition, but subsequent unit additions. And we also pulled out gasifier related costs when we referred to the combined cycle configuration.

So we're not only looking at the first unit cost, we're looking at other costs associated with the Polk Power site; so ultimately the potential build-out of 1,150 megawatts.

Q Do you disagree that installed costs would be the same amount as the amount that the company would be seeking inclusion in its rate base?

A Could you ask that again? I'm sorry.

Q Do you disagree that the installed cost of a unit would be identical to the amount being added to the company's rate base?

MR. BEASLEY: We have two witnesses who are addressing the accounting aspects and ratemaking treatment, and we'd be happy to offer them to --

MR. ELIAS: I'd like to hear what Mr. Hernandez believes as far as the subject.

WITNESS HERNANDEZ: I don't have an opinion.

Q **(By Mr. Elias)** What is the installed cost of the Hardee power station on a per Kw basis?

A Approximate numbers? These are rough numbers, but I believe it's approximately in the range of $750.00 per Kw to $860.00 per Kw, depending on 1993 dollars or what year dollars you're looking at, but somewhere in that range.

Q What's the installed cost for the combined cycle alternative referenced in your 1992 cost-effectiveness analysis on Page 75 of your testimony?

A One minute, please. (Pause) Okay. That was Page 75? This is the response to Interrogatory No. 3?

Q Yes, sir.

A And the question was, what was installed

cost for the combined cycle?

Q Yes.

A We're showing $145 million approximately under the plant number, but there's additional costs, as I mentioned before.

Q So then is it fair to compare, or is it fair to calculate the installed cost by dividing the capacity by the total with AFUDC of $309,601,000 shown on your cost-effectiveness analysis on that page?

A Well, as long as we qualify it, that it's related to -- it's very site specific. That 309,601,000 number you just referenced includes the effect of the DOE credit. It includes the land and site development costs.

So when you're making comparisons to other technologies, you've got to either substitute these same costs or you're on an apples and apples basis -- or you're mixing your comparison, and you really can't do that.

Q What is, on that basis, the installed cost of the Polk combined cycle in 1992 on a per Kw basis?

A I'll have to calculate that.

Q Please do.

A Okay. Looking at the plant number, taking 145,000,000, approximately, and dividing by the

capacity we're showing on that page of 217 megawatts, you come up with approximately $668.00 per Kw.

Q What about if you do it on the total cost of the plant, the $309,601,000 figure?

A Again, that includes additional costs associated with the build-out at the site, but that would be AFUDC -- I'm sorry -- including AFUDC now, as well, that works out to $1,427 per Kw.

Q And would you turn to Page 78 of that same exhibit, and could you calculate for us the same installed cost for 1993 for the Polk combined cycle?

A For the plant number, which is basically just your power block, it's approximately $675.00 per Kw. When you look at the total with AFUDC, it is now $1,323 per Kw, approximately.

Q Would you turn to Page 81 and calculate the installed cost per Kw including the land site development common costs and all other factors -- amounts shown in the total with AFUDC?

A Okay. Let me first say that the power block, the plant number, would be approximately $682.00 per Kw. When you do it on a total basis with AFUDC and including all those other costs, it's $1,422 per Kw.

Q Would you turn to Page 84 and perform the

same calculation?

A The combined cycle power block, just the plant number, would be $593.00 per Kw. The total with AFUDC would be $1,678 per Kw.

Q And the same calculation for '96 based on the numbers on Page 87?

A The plant number, the power block would be $610.00 per Kw, approximately. The total with AFUDC is approximately $1,987 per Kw.

Q You indicated to Mr. Howe that you reviewed and you read the deposition transcript of Mr. Waters; is that correct?

A Yes, I had reviewed his deposition transcript.

Q What's the installed cost on a per Kw basis of the Martin 3 and 4 units?

A I don't have that in front of me, and I don't recall at this point.

Q Well, would you accept, subject to check, that it was something less than $600.00 per Kw?

A I'd like to know more about what was included or excluded in that estimate, but subject to check, I'll agree that that's what he said in his deposition.

MR. ELIAS: Madam Chairman, I'd ask that a

two-page exhibit plus a cover sheet be identified as the next exhibit, titled Martin 3 and 4, Cost Summary.

CHAIRMAN CLARK: Staff exhibit which is printed as Samuel S. Waters, Staff exhibit number, which has attached to it the Martin 3 and 4 cost summary will be identified as Exhibit 4.

(Exhibit No. 4 marked for identification.)

Q **(By Mr. Elias)** Now, looking at those numbers, do you have a -- and accepting, subject to check, that that's the amount used to determine the installed cost on a per Kw basis, do you have a feeling for how comparable they are to the Polk combined cycle addition?

MR. LONG: Chairman Clark, if I may. I was going to wait until the depositions of FPL --

CHAIRMAN CLARK: Mr. Long, you need to get close to that microphone.

MR. LONG: Okay. Is this better?

CHAIRMAN CLARK: Yes. Is the light off?

MR. LONG: It is. I was planning to wait until the depositions were offered into evidence to make my objection, but since pieces of that material are being offered now, I wonder if you would entertain argument on the relevance of this material.

CHAIRMAN CLARK: Go ahead, Mr. Long.

MR. LONG: I'm quite concerned about the inclusion of the FPL-FPC depositions, given my understanding of the purpose for which they're being offered.

I think the parties are attempting to make two parallels that I can discern. One is some kind of parallel between the decision of these companies to postpone other development of IGCC units on their system. The other is an attempt to make some comparison with regard to the cost of a plant on one system versus the cost of a plant on Tampa Electric's system.

And I would submit that both of those parallels will yield no information that has any probative value with regard to the cost-effectiveness with regard to the prudence of Tampa Electric's investment in an IGCC plant on its system.

For one thing, the systems involved have very different generation mixes, the system economics are entirely different, and one major factor that this Commission explicitly recognized in the need order is that unlike the other utilities, Tampa Electric had the advantage of a very sizable grant from the DOE, which had a profound effect on the economics of that project on Tampa Electric's system.

Given that fact, I think that the attempt to draw these parallels will be confusing and will not provide information that is of any probative value, and on that basis I would ask the Commission to consider excluding this information from the record.

CHAIRMAN CLARK: Mr. Long, I'm just going to focus right now on the introduction of this exhibit. Mr. Elias, there's an objection to this exhibit.

I'm inclined to let him ask his questions. Are you now objecting to any questions as they relate to this exhibit?

MR. LONG: Well, Chairman, to the extent that the questions are attempting to draw the parallels which I feel can't be drawn, I think the objection is timely, and it should be noted that both of the Company witness in their depositions acknowledged clearly that the fact that a plant might be cost-effective on their system would not say that that same plant would necessarily be cost-effective on another utility's system. They have, in effect, agreed with the points that I'm making in their depositions.

CHAIRMAN CLARK: Mr. Elias, would you address the relevancy of this document and questions relating to the cost of Martin Units 3 and 4 to this

proceeding?

MR. ELIAS: Certainly. The Administrative Procedures Act provides that evidence that is reasonably relied on by people in the conduct of their affairs may be admitted in a Section 120-57 proceeding, even if it's not otherwise admissible in a circuit court.

The questions that I've asked thus far, the numbers detailed in this exhibit, the numbers detailed in a similar exhibit for Florida Power Corporation do not speak to the cost-effectiveness of a particular unit on their system, but rather the bricks and mortar costs for combined cycle capacity.

We would endeavor to offer for the Commission's consideration the relative costs assessed for bricks and mortar for these type facilities on the system -- on Tampa Electric's system, on Florida Power Corporation's system and on FP&L's system.

Absent some reasonable explanation by Tampa Electric Company as to why a 7F turbine delivered to TECO's Polk site costs more than one delivered to Florida Power Corporation's Polk site or to FPL's Martin site, we think the bricks and mortar costs associated with the three unit additions may be relevant to prove an issue that's at issue in this

case, i.e., the prudence --

CHAIRMAN CLARK: Mr. Elias, you just said "may be relevant." You have to tell me why it is relevant.

MR. ELIAS: Because it tends to show what TECO's cost -- what other costs for the same type of equipment and the same type of capacity are around the state.

MR. LONG: Chairman, if I might be heard. The point was made earlier that it's not the same type of equipment, that the units were configured to burn different fuels.

COMMISSIONER KIESLING: Will you please speak into the mike? As soon as you turn your head down there, you turn away from the mike, and then I can't hear you.

MR. LONG: I apologize, Commissioner.

COMMISSIONER KIESLING: Thank you.

MR. LONG: My point is that the testimony we've heard already this morning indicates that they aren't the same units, that the units were designed to burn different fuels, and that that means that they are different in some respects, number one.

Number two, I still don't see how the cost of a unit on Florida Power's system tells us anything

about the cost-effectiveness or the prudence of Tampa Electric's investment, given the unique system economics and generation mix that apply to Tampa Electric's system, since that's the purpose of the proceeding this morning.

MR. ELIAS: And I would respond by saying that if this evidence demonstrates that TECO overstated the cost for the combined cycle alternative to which its IGCC was prepared, and of such a magnitude as to render combined cycle alternative the preferred alternative, it does go to the prudence of TECO's decision to construct an IGCC.

MR. LONG: Well, Chairman, there's certainly no evidence, and the material that counsel seeks to admit has no probative value.

CHAIRMAN CLARK: Mr. Elias, do you have other questions not relating to Martin 3 and 4 that you need to ask at this time, or have you concluded your cross-examination of Mr. Hernandez?

MR. ELIAS: No. I have additional questions.

CHAIRMAN CLARK: Why don't you leave this line of questioning and proceed with your other questions while I have a moment to think about this.

Q **(By Mr. Elias)** Do you have access to

Mr. Black's prefiled testimony?

A I believe I will shortly.

Q When you get it I'd ask that you turn to Page 220 of his exhibits.

A Page 220?

Q Yes. Actually, I mean Page 219. Who is D.O. Pless?

A Mr. Pless is a director that works in TECO Power Services.

Q And what's his area of expertise?

A I believe it's in the area of power plant construction and alternative generating technologies.

Q And who is D.A. Cowdrick?

A He is an engineer in Tampa Electric.

Q Have you ever seen this document before?

A Yes, I have.

Q And would you describe what you know it to be?

A We're referring to this document 19-4, just so I can clarify --

Q Yes; consisting of some seven pages.

A May I have a moment to look at it? (Pause) Okay.

Q And would you describe what you know it to be?

A I believe it is a memorandum from Mr. Cowdrick to Mr. Pless that is an assessment, Mr. Cowdrick's assessment, short of any actual operating data, on potential Polk Unit One performance estimates based on different fuel types used as a primary feedstock for the unit.

Q Would you turn to your 1994 cost-effectiveness analysis located on Page 81 of your prefiled direct testimony?

A I'm sorry. That was Page 81?

Q Yes.

A All right.

Q And looking towards the bottom of the page, there are two numbers there, heat rate and Btus per kilowatt hour. Heat rate is a measure of a plant's efficiency; is that correct?

A That is correct.

Q And the source of the heat rate used for the gasifier in the 1994 study was what?

A It was provided to my department from the project management team.

Q And when was this 1994 study performed?

A June of 1994.

Q Was this May 16th memo the basis for the heat rate used in your 1994 study?

A Not that I'm aware of.

Q Well, if you would turn to Page 221 of that exhibit -- and I'm looking in the middle of the page down towards the bottom where it says "net heat rate and Btu," under the Illinois 6 type coals -- and in the fourth column over, that 8935 number, does that correspond to the same heat rate that's used in the '94 cost-effectiveness study?

A The number appears to be the same, yes.

Q Looking at the next page, Page 222 of Mr. Black's prefiled exhibits, what heat rate is shown for the combined cycle operating on natural gas at 90 degrees Fahrenheit?

A 7,000 Btus per kilowatt hour, lower heating value.

Q What number was used in the cost-effectiveness study?

A 7,641 Btus per kilowatt hour.

Q On Page 222 what number was used for distillate oil?

A 7,195 Btus per kilowatt hour.

Q And there was no separately broken out heat rate for distillate oil?

A No, I --

Q For the combined cycle.

A That's simply a composite. The 7,641 is the result of dispatching on both natural gas and distillate oil.

Q Why wasn't the heat rate utilized for the combined cycle alternative in the 1994 study based on the information that's shown on Page 222?

A Our Mr. Cowdrick is not our sole source of information for estimates on expected operating characteristics. This is a memorandum from Mr. Cowdrick to Mr. Pless that apparently that one number appears to match up, and that may be a coincidence, or that may be the basis for our estimates.

But we receive our information from the Polk project management team that has the input of several engineers, and not just one, as well as the input from Texaco and General Electric.

Q Where was the source of the heat rate for the Polk combined cycle in the '94 study?

A I'm not sure at this point.

Q Was it an EPRI TAG number?

A No. It was input -- or assumptions provided from the project management team, but I don't have that specific document in front of me.

Q Now, if the Polk unit were to achieve on

natural gas and distillate oil efficiencies, as reflected on Page 222, what would that do to the cost of the unit on a cumulative and present worth requirements basis?

A I don't know. I have not run that analysis.

Q Would it tend to reduce the cost of the unit?

A It's hard to say, if this was the only change. But I'm not sure what you would have to do in order achieve this heat rate, either.

Q Well, if the heat --

A The heat rate --

Q -- rate was achievable, would the unit then burn fuel more efficiently?

A Yes, given that you've improved the efficiency. But, again, without knowing --

Q But in isolation, that change would improve the efficiency of the unit?

A Without consideration of any other additional costs that may be required to achieve this type of efficiency, I'll agree with you.

Q And might increased efficiency for the combined cycle alternative change the dispatch order of a combined cycle unit on Tampa Electric's system?

MR. BEASLEY: Chairman Clark, this, I

believe, is beyond the scope of Mr. Hernandez's testimony, and Mr. Black is certainly well-versed to address the documents contained in his exhibit.

MR. ELIAS: And Mr. Hernandez has sponsored those cost-effectiveness evaluations, which Tampa Electric believes show that the unit is cost-effective; and I think I'm fairly entitled to inquire as to Mr. Hernandez how changes in different assumptions would manifest themselves in the cost-effectiveness evaluations.

MR. BEASLEY: Well, they're Mr. Black's exhibits, and I think our time would probably be more efficiently spent if we asked him about his own exhibits, because --

MR. ELIAS: And the questions that I have go to Mr. Hernandez's deposition exhibits or -- and interrogatory responses.

CHAIRMAN CLARK: Go ahead, Mr. Elias.

Q (By Mr. Elias) The question that was on the floor was: Couldn't this change the dispatch order of combined cycle unit on Tampa Electric's system?

A Without doing the analysis, I'm not sure to what extent it would change the dispatch.

Q But it could?

A It may.

Q And if it did, it would be in a positive direction as far as the cumulative present worth revenue requirements associated with the combined cycle unit? When I say positive, I mean to lower those revenue requirements.

A Again, with not knowing what additional cost would have to be incurred in order to achieve this efficiency, and you're saying -- you're asking me to accept that as is, just making this change and improving the unit's efficiency will reduce its operating cost by itself.

But, again, I can't agree with you that our system revenue requirements would be lower, effectively lower, without knowing what additional costs there would be.

Q If, all other things being equal, the dispatch of this unit is improved on Tampa Electric's system as a result of lower fuel costs, that would tend to increase the cumulative -- or decrease the cumulative present worth revenue requirements associated with the combined cycle; is that correct?

A That's correct.

Q Now, staying on the 1994 study and turning back one page to Page 80, that analysis shows a

cumulative present worth revenue requirement savings of $101,032,000; is that correct?

A That's correct.

Q That wasn't the number that was originally presented to management for the '94 study, was it?

A No, it was not.

Q And what was the number that was originally presented to management?

A A differential cumulative present worth revenue requirement savings in 1994 dollars of 159,000,000.

Q And what was the difference?

A It's approximately $58 million.

Q What was the reason for the difference?

A There are a couple of factors. One of the factors has to do with at the time that we did the original analyses and presentations to management there were different versions of software, the production costing models that we use.

In taking the same assumptions that we had available at the time that we made those analyses and made those presentations to management, and using our current models to be consistent with the format and the methodology used to respond to these interrogatories, we -- in the course of having updates

for those computer models, you cannot get back to the exact same number; but in comparing alternatives, the relative changes in the model are going to be consistent when comparing alternatives. So that's one part of it.

Another part of getting updates in versions were corrections to the software logic in dealing with a very complex calculation or estimation of when a unit is going to be unavailable to use its primary fuel and when a unit is going to be available to use its secondary fuel. And the term for our PROSCREEN computer model is call Limited Fuel Logic.

Basically there were logic errors in the earlier versions that did not account for matching that timing of fuel and unit correctly, so we made adjustments giving newer versions of our PROSCREEN computer model to account for this, this estimate of dual fuel capability. That resulted in a change in the calculation for the fuel savings. That's one primary factor.

Another factor was a change in how the sunk costs were calculated or treated in the PROSCREEN model, and that resulted in a differential in the capital revenue requirement stream.

Netting those two together, one increase and

one decrease, resulted in that approximately $58 million differential.

Q Now, also on Page 80 down close to the bottom you show a tax credit of $98,356,000. What was that related to?

A The 98 million, approximately, is the result -- or is the cumulative present worth system revenue requirement value of Section 29 tax credits that would be applied to the first 10 years of operation in this study utilizing coal as the primary feedstock.

Q Is coal the designed fuel for the gasifier?

A The gasification system that we have designed is capable of utilizing several types of fuels.

Q What performance -- what fuel type are the performance guarantees received by the manufacturer associated with?

A I believe Mr. Chuck -- I'm sorry -- Mr. Black should address that.

Q Now, at the time Tampa Electric included these tax credits in its cost-effectiveness calculation, was Tampa Electric entitled to -- or did Tampa Electric qualify under Section 29 of the Internal Revenue Code for these tax credits?

A We believe at the time that we did the 1994 study, as well as the 1995 study, that we had every reason to believe that we were going to secure that ability and that potential to realize these savings for our ratepayers.

Q Those tax credits required a change in the federal tax law; is that correct?

A Yes, it did.

Q Why was it reasonable to count on $100 million, approximately, in savings that was contingent upon a change in the tax law before it was changed?

A Let me answer that in two parts. The first part is our plan was to use a petroleum coke/coal blend, which is what we used in the 1993 cost-effectiveness study. That also resulted in significant fuel savings associated with the IGCC unit compared to the combined cycle unit.

We elected to show and represent the Section 29 tax credit savings for two reasons; one, they resulted in higher savings when compared to the petroleum coke/coal blend option. And so therefore it reduced the revenue requirements and made the IGCC unit more cost-effective for our ratepayers.

And the second point is that we believed at

that point in time that -- had every reason to believe that we were going to be able to secure the Section 29 tax credits and get the changes that were required in order to receive those benefits.

Q What was your basis for your belief that the law would be changed?

A Based on conversations between TECO Energy senior management and other organizations in Washington, D.C. and individuals in Washington, D.C.

Q The law, in fact, was not changed; is that correct?

A That's correct.

Q Looking at that same 1994 study, you show a tax life for the gasifier of 10 years, and 20 years for all other components.

A What page are we looking at now?

Q Page 81.

A Okay.

Q What tax life was assumed for the gasifier in the need determination?

A I believe it was 20 years, but I would have to check.

Q Did Tampa Electric Company approach the Internal Revenue Service seeking to determine -- or seeking a private letter ruling relative to the tax

life of the gasifier?

A Could you repeat that again?

Q Did Tampa Electric submit to the Internal Revenue Service a private letter ruling request concerning the tax life of the gasifier?

A I know that was discussed. I'm not sure if we received any --

Q What was your basis for assuming that the gasifier would have a 10-year tax life?

A That was information provided to me via the project management team and, I believe, with the input of our tax department.

Q What is the cumulative present worth revenue requirements difference in the 1994 study of assuming a 10-year tax life for the gasifier versus a 20-year tax life as had been assumed in prior studies?

A Can you refer me to that interrogatory, or was there a question --

CHAIRMAN CLARK: Why don't we do this. We need to take a break. Why don't you let him know what interrogatory you're looking at. It will allow you the opportunity to look at it.

We need to go ahead and take a lunch break. We'll break for lunch until 20 to 2:00. Mr. Elias, do you want to tell him, though, what the interrogatory

was?

MR. ELIAS: It was, I believe, supplied by Ms. Townes.

CHAIRMAN CLARK: Well, let me encourage Staff to -- let's not cover the same ground with successive witnesses, and let's target the appropriate witnesses as to who supplied the information. Can you identify that?

MR. ELIAS: It was Ms. Townes, I do believe. I'm sorry. Interrogatory No. 69 directed to you in Docket No. 960409-EI.

CHAIRMAN CLARK: We will take a break until 20 minutes to 2:00.

(Thereupon, lunch recess was taken at 1:00 p.m..)

(Transcript continues in sequence in Volume 2.)

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