

WITNESSES - VOLUME 6

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P R O C E E D I N G S

(Transcript follows in sequence from
Volume 5.)

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TOM BALLINGER

was called as a witness on behalf of the Staff of the
Florida Public Service Commission and, having been
duly sworn, testified as follows:

D I R E C T E X A M I N A T I O N

B Y M R . E L I A S :

Q Would you please state your name for the
record, please?

A Yes. My name is Tom Ballinger.

Q And by whom are you employed?

A I'm employed at the Florida Public Service
Commission as a utilities systems communication
engineer supervisor in the Bureau of Conservation and
System Planning and Electric Safety.

Q Did you cause to be filed direct testimony
in this docket consisting of 15 pages?

A Yes.

Q If I asked you the questions contained in
your prefiled direct testimony, would your answers be
the same?

A Yes.

1 Q Do you have any corrections to your prefiled
2 direct testimony?

3 A Yes, I do. These were handed out. I don't
4 know if you want me to read through them.

5 CHAIRMAN CLARK: No. You have handed out a
6 document consisting of two pages, one of which is
7 entitled "Supplement of Direct Testimony," and it
8 provides that some language be inserted at Page 11,
9 Line 15, and then there are attached to that another
10 document entitled "Corrections to the Testimony."

11 If this supplement and these corrections are
12 made, will then your testimony be true and correct?

13 WITNESS BALLINGER: Yes, with -- I need to
14 point out, too, that some of the corrections I
15 referred to I need to also carry forward into Tampa
16 Electric's exhibits that were distributed at
17 Mr. Hernandez's redirect.

18 For example, the change on Page 13 where I
19 change the 155 to 141, that was a result of
20 Interrogatory Number 67 where Mr. Hernandez revised
21 the 1992 study. So I believe his Exhibit TLH-1 needs
22 to be revised on the summary of all the
23 cost-effectiveness savings. His Exhibit 9 and Exhibit
24 10 also need to be revised.

25 CHAIRMAN CLARK: This is part of his

1 rebuttal testimony?

2 **WITNESS BALLINGER:** No. This was his
3 redirect exhibits that came out.

4 **CHAIRMAN CLARK:** Well --

5 **WITNESS BALLINGER:** It's not rebuttal. This
6 is based on his direct.

7 **CHAIRMAN CLARK:** All right. Let's just take
8 care of the changes we need to make to your testimony
9 and then take a break and let the parties look at
10 that, and when we go back on the record I can be
11 advised if there needs to be some corrections.

12 **MR. ELIAS:** I ask that the prefiled direct
13 testimony of Mr. Tom Ballinger be inserted into the
14 record as --

15 **MR. HART:** We would object to the additional
16 supplemental testimony. These aren't corrections,
17 they're changes, and what they, in effect, do is add
18 another year.

19 He's testified in his prefiled testimony and
20 was cross-examined on his deposition with regard to
21 his conclusion that we should have changed the
22 construction in '93 and '94.

23 He's now added '92 issues, and he's not
24 correcting, he is filing supplemental direct
25 testimony, and we would object to it at this point.

1 **MR. ELIAS:** I believe that that change was
2 based on information that was received subsequent to
3 the filing of the direct testimony, and I believe the
4 subject was also discussed in your deposition, if I'm
5 not mistaken.

6 **WITNESS BALLINGER:** (Witness nodding
7 affirmatively)

8 **MR. HART:** Well, I just repeat our
9 objection, and to the extent you wanted to supplement
10 your testimony, certainly there was times between the
11 time you received it and two minutes before the -- or
12 actually about two seconds before the witness started
13 testifying about it.

14 **CHAIRMAN CLARK:** Mr. Elias, do you agree
15 that this changes substantively the testimony?

16 **MR. ELIAS:** Yes.

17 **CHAIRMAN CLARK:** I have concerns about that
18 being introduced --

19 **MR. ELIAS:** Then we will withdraw the
20 supplement.

21 **CHAIRMAN CLARK:** Well, it was my information
22 that the corrections, too, were corrections that have
23 the effect of supplementing.

24 **WITNESS BALLINGER:** Yes.

25 **CHAIRMAN CLARK:** So what are you

1 withdrawing? The supplement and the corrections so
2 that the testimony, as previously filed, stands?

3 MR. ELIAS: If I can have a moment to confer
4 with Mr. Ballinger.

5 CHAIRMAN CLARK: Yes, you may. (Pause)

6 MR. ELIAS: We believe that the verbiage on
7 the first page should be withdrawn. The first
8 correction shown on Page 8, Line 17 should stay,
9 adding "M" to "MBtu." The change on Page 11, Line 1
10 should be withdrawn. The change on Page 11 between
11 Lines 7 and 8 should be withdrawn. The change on Page
12 13 should remain. The change on Page 14 should be
13 deleted, and the last three changes on the page should
14 remain.

15 CHAIRMAN CLARK: With those changes, is
16 there any objection to the testimony being inserted in
17 the record as though read?

18 MR. HART: No, there's not.

19 CHAIRMAN CLARK: Then the testimony will be
20 inserted in the record as though read.

21 Q (By Mr. Elias) Did you also cause to be
22 filed at the same time three exhibits which are
23 attached to your direct testimony?

24 A Yes, I did.

25 MR. ELIAS: I would ask that those exhibits

1 be assigned the next three exhibit numbers.

2 **CHAIRMAN CLARK:** I'm going to treat them as
3 a composite exhibit and label them as -- identify them
4 as Exhibit 33.

5 (Exhibit No. 33 marked for identification.)
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DIRECT TESTIMONY OF TOM BALLINGER

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Q. Please state your name and business address.

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

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

A. I am employed by the Florida Public Service Commission (FPSC) as a Utility Systems/Communication Engineer Supervisor for the Bureau of System Planning/Conservation and Electric Safety.

Q. Please describe your educational and professional experience.

A. In April of 1985, I graduated from the Florida State University with a B.S. in Mechanical Engineering. Since June, 1985, I have been employed at the FPSC. From the beginning of my career, I have been involved with various utility regulatory issues such as power plant and transmission line need determinations, O&M expenditures, performance incentives, reliability issues, and other issues relating to conservation and system planning. I have also been involved with the non-utility side of regulation with such things as purchased power contract approval, need determinations, and competitive bidding. I have presented testimony before the Commission and given numerous speeches to groups outside of the Commission. In July, 1993 I was promoted to my current position.

Q. What is the purpose of your testimony?

A. My testimony highlights how TECO relied upon unrealistic, inconsistent, and inflexible planning assumptions to justify the continued construction of the Polk IGCC Unit. In light of this, I am recommending that the Commission explore alternative cost recovery mechanisms for the Polk IGCC Unit in order

1 | to protect TECO's ratepayers from the high capital cost and uncertain fuel
2 | savings associated with this unit.

3 | Q. Have you prepared any exhibits to your testimony?

4 | A. Yes I have. Exhibit No. 33 (TEB-1) is a summary of the assumptions
5 | used by TECO in performing annual cost effectiveness comparisons of the Polk
6 | IGCC unit to a natural gas fired combined-cycle unit. Exhibit No. 33 (TEB-
7 | 2) is a copy of a letter from TECO describing their intention of how Section
8 | 29 tax credits would be credited to TECO's ratepayers. Exhibit No. 33
9 | (TEB-3) is a copy of TECO's response to staff's Interrogatory Number 6 in
10 | Docket No. 960409-EI which attempts to justify how TECO has changed its mind
11 | about how Section 29 tax credits would be credited to TECO's ratepayers.

12 | Q. Why should the decision to build the Polk IGCC Unit be reviewed after
13 | the Commission has determined that the unit is needed?

14 | A. The determination of need for a unit is not the end of the planning
15 | process. It is simply an interim step, a snapshot in time, where the
16 | Commission reviews the initial need for and cost effectiveness of capacity
17 | additions. After certification, and throughout construction, a prudent
18 | utility should closely monitor the continuing need for, and cost of, a new
19 | generating unit. A prudent utility should also continue to explore possible
20 | alternatives that may be more cost-effective.

21 | A key factor in the decision to build the Polk IGCC Unit was the availability
22 | of an \$120 million grant from the Department of Energy (DOE) to demonstrate
23 | the technical feasibility of commercial coal gasification as part of its Clean
24 | Coal Program. This grant became available when the City of Tallahassee
25 | decided not to pursue the coal gasification technology. TECO secured the

1 | grant from its subsidiary, TECO Power Services, abandoned its original plan
2 | to construct a phased natural gas fired combined-cycle unit, and filed for a
3 | need determination within a very short time frame. The Polk IGCC unit was not
4 | the result of a competitive bidding process, nor did it appear in TECO's Ten-
5 | Year Site Plan prior to certification.

6 | In addition to the DOE grant, TECO relied upon a fuel forecast that
7 | assumed an ever widening cost differential between coal and natural gas to
8 | economically justify the construction of the Polk IGCC Unit. The Commission
9 | summarized its concern with this fuel forecast assumption in Order No. PSC-92-
10 | 0002-FOF-EI, which states, in part:

11 | The type of new generating unit chosen is not necessarily driven
12 | by fuel cost per se; rather, it is the difference in cost among
13 | competing fuels. TECO's fuel forecast projects a widening cost
14 | differential between coal and natural gas or oil, when in fact for
15 | many years the cost differential between the cost of coal and the
16 | cost of natural gas and oil has remained relatively constant. In
17 | the future, TECO should pay close attention to this differential,
18 | and must be ready to substantiate continued reliance upon fuel
19 | price forecasts that have not accurately predicted the
20 | relationship between the price of coal and the price of natural
21 | gas and oil. (Emphasis added)

22 | The above language put TECO on notice that the Commission would review
23 | TECO's actions relating to this issue. In addition, Order No. PSC-92-0002-
24 | FOF-EI repeatedly states that the Polk IGCC Unit would cost approximately \$389
25 | million, yet TECO now claims the final cost is approximately \$506 million.

1 Both cost figures include the DOE funding. TECO needs to justify this
2 difference.

3 Other factors raise questions as to the cost effectiveness of the Polk
4 IGCC Unit. For example, Florida Power and Light (FPL) recently received
5 Commission approval to write down its nuclear generation assets. These assets
6 have a current book value of approximately \$855/kW compared to the estimated
7 \$2,000/kW installed cost of the Polk IGCC Unit. Also, the Polk IGCC Unit is
8 projected to have an initial overall cost of approximately \$60/mWh compared
9 to approximately \$30/mWh power being produced at FPL's Martin plants and
10 estimated for Florida Power Corporation's (FPC) Polk unit. TECO needs to
11 justify why these differences are beneficial to its customers.

12 Q. Why was TECO put on notice to pay close attention to the actual price
13 differential between coal and natural gas?

14 A. As more fully discussed in Mr. Breman's testimony, these fuels have
15 typically maintained a constant cost differential with each other. From a
16 planning perspective, this constant price differential has been referred to
17 as the "acid test" for comparing a coal fired plant to a gas fired plant. The
18 results of an acid test will show how robust a generation expansion plan is
19 to changes in fuel prices. Other planning assumptions also need to be
20 analyzed to determine their impact on the overall plan. A robust plan is
21 essential to insure that the customers' needs are met in the most cost
22 effective manner.

23 Q. Why should a natural gas fired combined cycle plant be considered as an
24 alternative to the Polk IGCC Unit?

25 A. Assuming system reliability criteria are met, the selection of

1 | generating unit type is primarily based upon the difference in price between
2 | competing fuels. In the Polk IGCC Unit need determination proceeding this
3 | fact was very clear. In that proceeding, the technology of choice was
4 | basically the same, a combined-cycle unit. The decision to be made was:
5 | should the unit be fueled by synthetic gas made from coal or natural gas from
6 | a pipeline?

7 | Q. Who bears the economic risk of decisions made under the premise that the
8 | price difference between natural gas and coal will widen over time?

9 | A. TECO's ratepayers. Typically coal plants have higher up front capital
10 | costs than natural gas fired plants. The trade off is low operating costs.

11 | If TECO's relative fuel price forecasts turn out to be correct, then in time
12 | TECO's ratepayers will receive a net benefit because of these low operating
13 | costs. Conversely, if the historic pattern of natural gas and coal prices

14 | continues, TECO's ratepayers will be saddled with high fixed costs associated
15 | with the Polk IGCC Unit, with no offsetting net benefit from lower operating
16 | costs. From the ratepayers perspective, the preferred strategy would be to

17 | minimize the risk of the fuel forecast gamble by minimizing capital
18 | investments while preserving the widest range of fuel choice alternatives.

19 | One method for measuring this risk is to compare the annual difference of
20 | cumulative present value revenue requirements of two generating alternatives.

21 | This will demonstrate the relative time frame when up front capital costs will
22 | start to be off-set by lower operating costs. The longer the breakeven point,
23 | the more risk that is placed on the ratepayer. This is because the further

24 | out in time that fuel costs are projected, the greater the risk for error.
25 | Q. Is there a means to mitigate this risk?

1 A. Yes. To mitigate this risk, a utility can construct a natural gas fired
2 combined-cycle plant and add a coal gasification process if natural gas prices
3 escalate to a point that justifies the added capital expense. The Commission
4 embraced this concept, referred to as "fuel-capital cost flexibility", when
5 they denied the need for the Cypress Energy Partners power plant. In Order
6 No. PSC-92-1355-FOF-EQ, the Commission stated in part:

7 The initial capital cost of a combined cycle plant is
8 lower than the cost of a pulverized coal plant. The
9 physical plant itself is simply less expensive.
10 Although the combined cycle plant typically burns gas
11 or oil, which have historically been more expensive
12 than coal, the combined cycle plant has the advantage
13 of fuel flexibility. If gas or oil prices become
14 prohibitive, a coal gasification unit can be added
15 and the combined cycle plant can burn coal gas.

16 Thus a combined cycle plant, capable of adding coal
17 gasification at a future date, offers a strategic
18 cost-effective advantage over a capital-intensive
19 pulverized coal plant. The less expensive combined
20 cycle plant can burn gas unless gas prices escalate
21 enough to justify the capital expenditure required to
22 convert the unit to burn coal.

23 The above language summarizes the Commission's longstanding policy of
24 requiring multiple fuel type capability at new power plant sites with fuel
25 switching capital investments made as rising fuel prices warrant.

1 Q. Can you give some examples of why you believe TECO relied upon
2 unrealistic assumptions when evaluating the continued construction of the Polk
3 Unit?

4 A. Yes. During the 1991 through 1996 time frame, TECO performed studies
5 that compared the continued construction of the Polk Unit with a natural gas
6 combined cycle unit at the Polk Site. The results of these studies were
7 provided through the discovery process. Exhibit No 33 (TEB-1) contains
8 a summary of the key assumptions used for each study.
9 Beginning with the 1992 study, TECO assumed the use of as-available natural
10 gas for the Spring and Fall and distillate oil for Summer and Winter as fuel
11 for the alternative combined-cycle unit at the Polk Site. TECO contends that
12 since a combined-cycle unit would run at a low capacity factor, firm
13 transportation of natural gas is not cost effective. However, TECO has not
14 provided any analysis to support this assumption. In fact, TECO's assumption
15 places a significant bias against ever choosing a natural gas fired combined-
16 cycle alternative. Since the price of distillate oil is approximately double
17 that of natural gas, the blended fuel cost has a higher ~~\$~~MBTU cost. This
18 would result in an even lower capacity factor than a unit dispatched on firm
19 gas only. In addition, most utilities perform scheduled maintenance on
20 generating plants during the Spring and Fall. This would magnify the bias
21 because, for the majority of time, the combined-cycle unit would be burning
22 higher cost distillate oil.

23 TECO has not justified why firm natural gas transportation would not be
24 available or cost effective during this time frame. Florida Power Corporation
25 (FPC), who is building a natural gas fired combined-cycle plant near the Polk

1 | Site, acquired firm gas contracts during 1995 from various sources. Messrs.
2 | Niekum and Majors discussed FPC's fuel procurement process in more detail
3 | during their deposition.

4 | In the 1993 study, the year before actual construction of the Polk IGCC
5 | Unit began, TECO abandoned the Polk IGCC unit's design fuel and instead
6 | assumed the use of a pet coke/coal blend as the primary fuel for the Polk IGCC
7 | Unit. Mr. Breman's testimony addresses certain concerns he has about the
8 | technical and market viability of pet coke. Even using TECO's erroneous
9 | natural gas forecast, the natural gas fired combined-cycle alternative was
10 | approximately \$68 million less expensive than the Polk IGCC unit fueled by
11 | Illinois #6 coal. This means that the decision to continue with the
12 | construction of the Polk IGCC unit hinged upon a speculative and unproven
13 | assumption.

14 | In the 1994 study, TECO based the justification of the continued
15 | construction of the Polk IGCC Unit primarily on a \$98 million tax credit based
16 | on Section 29 of the Internal Revenue Code, but assumed standard Illinois #6
17 | coal as the primary fuel for the Polk IGCC Unit. The tax credit alone
18 | accounts for 97% of the project's overall savings when compared to a gas fired
19 | combined cycle plant. In 1994, TECO was not, and is still not, eligible for
20 | this tax credit. Again, the decision to continue with the construction of the
21 | Polk IGCC unit hinged upon a speculative and unproven assumption.

22 | In its 1995 study, TECO once again relied upon the use of pet coke in
23 | the later years of the study as well as an \$87 million tax credit to justify
24 | the construction of the Polk IGCC Unit. The tax credit accounted for
25 | approximately 60% of the Polk IGCC Unit's total savings in the 1995 study.

1 | Again, TECO was not eligible for this tax credit.

2 | Q. When was the staff of the Commission first made aware that TECO was
3 | planning to use a pet coke/coal fuel mix for the Polk IGCC Unit?

4 | A. TECO provided status reports of the Polk IGCC Unit when it filed its
5 | annual Ten Year Site Plans starting in 1992. However, TECO did not indicate
6 | that they were planning to use a pet coke/coal fuel mix until they filed their
7 | 1995 Ten Year Site Plan in April, 1995.

8 | Q. When was the staff of the Commission first made aware that TECO was
9 | pursuing the Section 29 tax credit?

10 | A. In January, 1994, TECO informed the staff that they were pursuing
11 | changes to Section 29 of the Internal Revenue Code. At that time, TECO also
12 | informed staff that they had committed to pass any tax credits to TECO's
13 | ratepayers through the fuel adjustment clause. I have attached this letter
14 | as Exhibit No. 33 (TEB-2).

15 | However, in response to Staff Interrogatory No. 6, TECO now claims that
16 | "Realization of any Section 29 tax benefits during or subsequent to the term
17 | of the stipulation will contribute to a deferral of base rate increases." The
18 | entire Interrogatory question and response is contained in Exhibit No.
19 | 33 (TEB-3).

20 | Q. Earlier you mentioned the risk of relying upon a widening price
21 | differential between natural gas and coal. Have you compared the relative
22 | risk to TECO's ratepayers of constructing the Polk Unit in lieu of a natural
23 | gas fired combined cycle plant?

24 | A. Yes. In response to Staff Interrogatory Number 4, TECO provided the
25 | difference in cumulative present value revenue requirements for the studies

1 performed in the years 199³ through 1996. The savings claimed by TECO are
 2 based on an ever widening difference between natural gas and coal prices and
 3 the questionable assumptions mentioned above. If TECO had utilized the type
 4 of gas forecast being recommended by Mr. Breman, I doubt TECO would have opted
 5 to build the Polk IGCC unit. Below is a summary of the breakeven points for
 6 each study using the in-service year of 1996 as a baseline.

STUDY YEAR	BREAKEVEN PERIOD	SUNK COSTS
7 1993	18	\$17,500,000
8 1994	10	\$35,000,000
9 1995	8	\$170,000,000
10 1996	5	\$245,000,000

11 These breakeven time periods are impacted by the amount of sunk costs
 12 assumed for the combined cycle alternative. The sunk costs did not become
 13 significant until the 1995 study.

14 In the 1993 study, using the speculative pet coke fuel savings, the
 15 breakeven analysis shows that TECO's ratepayers would have to wait 18 years
 16 after the unit came on line to realize a positive savings. This means that
 17 at the time the study was conducted, TECO was willing to wait until the year
 18 2013 for its ratepayers to realize a net benefit from the continued
 19 construction of the Polk IGCC Unit. In my opinion, this is too much risk for
 20 TECO's ratepayers to bear, especially during a period when the generation
 21 market is becoming more competitive.

22 In the 1994 study, based on its optimistic tax savings assumptions, TECO
 23 was able to shorten the breakeven time period to 10 years. However, without
 24 the speculative tax savings, TECO's ratepayers would have to wait until the
 25

1 | year 2023 to realize a net benefit from the continued construction of the Polk
2 | IGCC Unit. While standard Illinois No. 6 coal was assumed as the primary fuel
3 | for the Polk Unit, this is still too much risk to place on TECO's ratepayers.

4 | In the 1995 study, TECO's analysis shows a breakeven period of eight
5 | years. However, without the speculative tax savings, TECO's ratepayers would
6 | have to wait until the year 2016 to realize a net benefit from the continued
7 | construction of the Polk IGCC Unit. The breakeven period was shortened from
8 | the 1994 study by the inclusion of approximately \$170 million in sunk costs
9 | being added to the cost of the natural gas fired combined cycle alternative.

10 | In addition to the above, the resulting capacity factors for the
11 | combined-cycle plant were very low, especially in the early years of each
12 | study. This indicates to me that a combustion turbine may have been a more
13 | appropriate alternative to the Polk IGCC Unit. TECO explored this alternative
14 | only in the 1992 study.

15 | Q. Were the results of these studies ever presented to senior management
16 | or officers of TECO for their approval?

17 | A. The results of the 1992 through 1994 studies were shown to TECO's senior
18 | management and the savings were consistently overstated compared to what TECO
19 | is currently presenting to the Commission. In response to Interrogatory No.
20 | 3 in Docket No. 950379-EI, TECO provided a summary table of the savings of the
21 | Polk Unit compared to a combined-cycle plan. At his deposition, Mr. Hernandez
22 | stated that the results of these individual studies were presented to senior
23 | management of TECO soon after the completion of each study. Below is a
24 | summary of the two different responses.

25 |

1	STUDY YEAR	INTERROGATORY RESPONSE	VALUE PRESENTED TO SENIOR MANAGEMENT
2	1992	\$ ¹⁴¹ 100 .000.000	\$230,000,000
3	1993	\$108,000,000	\$140,000,000
4	1994	\$101,000,000	\$160,000,000
5	1995	\$148,000,000	\$260,000,000
6	1996	\$201,000,000	\$200,000,000

7 At his deposition, Mr. Hernandez explained these differences as follows:

8 In the course of preparing the summaries and
9 going back and looking at the five different
10 studies that we had done and the presentations
11 that were made, we wanted to be consistent in how
12 we were handling cost components in the DOE
13 funding, as well as how we modeled the dual fuel
14 capability for the IGCC unit as well as for the
15 combined cycle alternative. In the course of
16 going back and maintaining consistency from study
17 to study, we effectively came up with new savings
18 estimates, and those are what we reported in the
19 response to Interrogatory No. 3.

20 This raises serious concerns regarding the validity of TECO's claimed
21 savings of the Polk IGCC Unit at the time the studies were made.

22 Q. What conclusions do you draw from the results of the studies performed
23 by TECO?

24 A. TECO apparently adopted and pursued a "coal at any cost" construction
25 strategy. I believe that even with TECO's unrealistic and inflexible

1 | assumptions, TECO should have stopped construction of the Polk Unit in the
2 | 1993-1994 timeframe. To more cost effectively meet the needs of its
3 | ratepayers, TECO should have built a natural gas fired combined-cycle unit,
4 | or perhaps a combustion turbine unit, at the Polk Site.

5 | The addition of a power plant is a significant capital investment. As
6 | such, utilities perform sensitivity analyses to determine how robust a plan
7 | is to changes in load or fuel prices. Since TECO's studies are radically
8 | affected by one assumption, TECO's ratepayers are held captive to decisions
9 | that had little room for error. This essentially placed all of TECO's
10 | ratepayer's eggs in one basket. With impending competition in the generation
11 | market, utilities across the nation are looking for ways to mitigate potential
12 | stranded generation assets. A way to mitigate potential stranded generation
13 | assets is through "fuel-capital cost flexibility." TECO should have pursued
14 | this course of action. Instead, TECO chose a path that will increase its
15 | rate base by approximately 25% at a time when TECO's operating costs, in
16 | cents/kWh, are already higher than FPC or FPL.

17 | Q. Since construction of the Polk Unit is virtually completed, how can some
18 | of this risk be shifted away from TECO's ratepayers?

19 | A. If the Commission agrees that TECO should have built a natural gas fired
20 | combined-cycle plant in lieu of the Polk IGCC Unit, then there are a number
21 | of options the Commission should explore. Any action taken should recognize
22 | the relationship between fuel and capital costs. To ignore this
23 | interrelationship would unfairly penalize TECO. To be fair, TECO should
24 | assume the risk of their fuel forecast while at the same time, have the
25 | opportunity to reap the rewards if TECO's projected natural gas prices do

1 materialize. There may be several methods of achieving this result. TECO and
2 the other parties to this proceeding should be directed to negotiate the
3 details of an alternative ratemaking treatment. If these negotiations are not
4 fruitful, then I believe that the Commission should adopt a treatment such as
5 the method outlined in Witness Larkin's testimony. In response to
6 Interrogatory No. 11, TECO has committed to work out the details of this
7 proposal if ordered to make such an adjustment.

8 Q. Does this conclude your testimony?

9 A. Yes.

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1 Q (By Mr. Elias) Have you prepared a summary
2 of your direct testimony?

3 A Yes, I have. In my testimony I discuss how
4 TECO relied upon unrealistic, inflexible or
5 inconsistent assumptions when choosing to continue the
6 construction of the Polk IGCC unit.

7 Based upon the information available at the
8 time, TECO should have built a natural gas-fired
9 combined cycle or combustion turbine unit during the
10 1993 to 1994 time frame.

11 The Polk IGCC unit is projected to have an
12 initial overall cost of approximately \$60.00 per
13 megawatt hour, compared to Florida Power Corporation's
14 estimated \$30.00 per megawatt hour at its Polk natural
15 gas-fired combined cycle plant. TECO has not
16 justified how this is difference is beneficial to its
17 ratepayers.

18 It is also unclear which cost-effectiveness
19 studies TECO would like the Commission to review.
20 Should the Commission review the ones submitted in
21 response to Staff interrogatories, or the ones
22 presented to TECO's management that were overstated by
23 as much as 76 percent. This broad difference in
24 studies raises serious concerns about the validity of
25 the entire case TECO has presented.

1 With impending competition in the generation
2 market, utilities across the nation are seeking
3 methods for reducing stranded costs. A way to achieve
4 this is through fuel capital cost flexibility. TECO
5 should have pursued this course of action.

6 Instead, TECO chose a path that will
7 increase its rate base by approximately 25 percent at
8 a time when its operating costs and cents per kilowatt
9 hour are already higher than its neighbors of Florida
10 Power & Light.

11 In my deposition I offered several
12 alternatives that could smooth this path to the
13 parties, but since we're at the hearing today, I
14 assume that people ignored those suggestions.

15 That concludes my summary.

16 MR. ELIAS: Tender the witness.

17 CHAIRMAN CLARK: Mr. McWhirter. No
18 questions. Mr. Howe. Mr. Hart.

19 CROSS EXAMINATION

20 BY MR. HART:

21 Q Mr. Ballinger, in your prefiled testimony
22 and in your deposition, when you say you have some
23 concerns about the assumptions which you characterized
24 in your opening statement, the assumptions that you've
25 talked about and identified as the ones that concern

1 you are the natural gas forecast, the use of pet coke
2 and the Section 29 tax credits; is that correct?

3 A I believe, also, the assumption of using
4 as-available natural gas for the combined cycle
5 portion alternative.

6 Q Now, my question was, the assumptions that
7 you've identified before were the three that I
8 mentioned. Are you saying that that was one that you
9 identified, as well --

10 A Yes, at the deposition --

11 Q -- or now you're adding --

12 A No. At the deposition it was brought out,
13 as well.

14 Q Do you have your deposition with you?

15 A No, but we can get it.

16 Q I have a copy. (Handing deposition to
17 witness) I'd like you to look at Page 10.

18 A Okay.

19 Q Well, actually 9 and 10. Starting at Line 8
20 on Page 9, the question was asked, "Now, these
21 assumptions that you characterize as unrealistic or
22 inconsistent or inappropriate include the fuel
23 forecast for natural gas; is that correct?"

24 Answer: "Yes."

25 Question: "What about the fuel forecast for

1 coal?"

2 "I don't have an opinion on that one way or
3 the other."

4 Question: "Okay. And you have an opinion
5 on the use of pet coke as a fuel in the planning
6 process; is that correct?"

7 Answer: "Mr. Breman in his testimony raised
8 some concerns about the validity and viability of it.
9 My concerns basically take his and echo. Also, that
10 to rely on something like that as a base is not a
11 realistic assumption."

12 Question --

13 COMMISSIONER KIESLING: I'm sorry.
14 Mr. Hart, with your hand in front of your mouth and
15 reading fast, I can't understand you, and I don't have
16 the deposition to look at.

17 Q (By Mr. Hart) Okay. Starting on Line 21,
18 picking up on Line 21: Question: "Well, the question
19 I have for you is, do you have an opinion, a
20 professional opinion as to whether or not pet coke was
21 an appropriate planning tool to use in the
22 cost-effectiveness studies in '93 and '94?"

23 "Yes. My opinion is that it should not have
24 been the basis, the basis for your base case in
25 planning. It should have been sensitivity."

1 Question: "Now, you also have an opinion,
2 as I understand it, that it was inappropriate for
3 Tampa Electric to use what is referred to Section 29
4 credits in its planning process; is that correct?"

5 Answer: "Correct."

6 Question: "Are there any other planning
7 assumptions that you think were inappropriate for
8 Tampa Electric to use in its cost-effectiveness
9 study?"

10 Answer: "Let me review."

11 Question: "Okay. Take your time."

12 Line 15. Witness: "I think those are the
13 assumptions. The other concerns I have go to more
14 what I would call strategic concerns."

15 Do you recall me asking you those questions
16 and you giving me those answers?

17 A Yes, and I haven't found it yet in the
18 deposition, but I believe later on it was referred to
19 again as the use of as-available natural gas. It is
20 also demonstrated in my testimony on Page 8 that I
21 have a concern with the use of as-available natural
22 gas as an assumption.

23 Q Well, there's a difference between having a
24 concern and having a professional opinion that the
25 cost-effectiveness studies were flawed; isn't that

1 correct?

2 A If you'd give me a minute to look through my
3 deposition, I might be able to find where I referred
4 also to the use of as-available natural gas.

5 Q Well, the question I have for you is not
6 whether you referred to it. The question I had for
7 you was, are those the assumptions, and then I asked
8 you if those are the assumptions you told me about on
9 your deposition.

10 Now, is your testimony here today that you
11 have questions about other assumptions other than the
12 three I just identified?

13 A Yes; and I think they're outlined both in my
14 deposition and in my testimony.

15 Q With regard to the fuel forecast, are the
16 assumptions regarding the natural gas price
17 forecast -- your testimony is based entirely on
18 Mr. Breman testimony; is that correct?

19 A Of the inappropriateness of the fuel
20 forecast?

21 Q No, on appropriateness of -- the validity of
22 Tampa Electric's natural gas fuel forecast, whether
23 that was a valid forecast of natural gas prices.

24 The use -- or the determination that that
25 was an inappropriate assumption comes solely from

1 Mr. Breman, does it not?

2 A The base case forecast, yes. My concerns go
3 beyond that and say that TECO should have had done the
4 constant differential sensitivity, but yes.

5 Q And you do not have an opinion, do you, as
6 to the validity of Tampa Electric's coal forecast?

7 A I don't have an opinion. I did not render
8 one in my testimony.

9 Q And to be clear, you did not render an
10 opinion on your testimony as to the validity of Tampa
11 Electric's natural gas forecast?

12 A No.

13 Q But you do have an opinion that with regard
14 to, at least, sensitivity testing, that a constant
15 differential between gas and coal should be used?

16 A Yes.

17 Q But you do not have an opinion, do you, as
18 to the size of that differential?

19 A No.

20 Q In your testimony and in the documents
21 produced at your deposition, you have not done a
22 cost-effectiveness study for this plan, have you?

23 A I have reviewed what Tampa Electric has
24 provided as their cost-effectiveness studies. That's
25 what we do is regulation. We review what utilities

1 have done. We do not have the capabilities to do our
2 own cost-effectiveness runs.

3 Q So the answer to my question is no?

4 A No.

5 CHAIRMAN CLARK: Now, wait a minute. You
6 said the answer to his question is no, and you said
7 no. I think it was yes.

8 Mr. Hart, ask your question again.

9 And, Mr. Ballinger, answer that question yes
10 or no.

11 Q (By Mr. Hart) In your prefiled testimony
12 and the documents produced at your deposition, you
13 have not done a cost-effectiveness study, have you?

14 A If your question is, did I do a
15 cost-effectiveness study comparing an IGCC to a
16 combined cycle, the answer is no.

17 Q And you haven't done a cost-effectiveness
18 study of this particular plant either; isn't that
19 correct?

20 A No. The Commission does not have the
21 ability -- the capability to model to make those kind
22 of runs. We are limited to review what the utilities
23 provide and what we can glean from discovery.

24 Q And no other party has filed in this case a
25 cost-effectiveness study regarding this plan either;

1 is that correct?

2 A You can probably couch Mr. Falkenberg's
3 exhibit where he removed the sunk cost as one.

4 Q Okay, Mr. Falkenberg's. Would you
5 characterize that as a cost-effectiveness study?

6 A No.

7 Q So as we sit here today in this record, the
8 only cost-effectiveness studies that have been
9 presented for consideration by the other parties are
10 those that have been presented by Tampa Electric
11 Company; is that correct?

12 A Yes, sir. My opinion is they were flawed.

13 Q Now, you have not, nor the Staff in their
14 testimony, have presented a natural gas price forecast
15 either; is that correct?

16 A I think you have to ask Mr. Breman that
17 question.

18 Q You mean because you can't tell whether what
19 he's done or not is a gas forecast?

20 A That's not my area of expertise. I think
21 you need to ask Mr. Breman.

22 Q So you don't know of a natural gas forecast
23 filed by any of the parties?

24 A No.

25 Q So then there's no natural gas forecast in

1 this record that differs from the one filed by Tampa
2 Electric?

3 A Only that Mr. Breman has shown what has
4 actually been the trend between natural gas and coal
5 to maybe be used as a sensitivity.

6 Q Right. So we don't have any other natural
7 gas forecast to compare to Tampa Electric's to see if,
8 in fact, Tampa Electric's -- if there are different
9 forecasts, how different they are. We just don't have
10 another one; is that correct?

11 A Well, Tampa Electric provided some from
12 Florida Power Corporation and Florida Power & Light in
13 earlier exhibits as a comparison, so I would presume
14 you could say those are in the record.

15 Q Okay. Isn't it true that in 1993 and 1994
16 there was no utility in Florida that was projecting a
17 constant differential between gas and coal?

18 A Again, I think you asked me this at
19 deposition. I'd refer that to Mr. Breman. I believe
20 the answer is no.

21 Q Well, you don't know of any, though?

22 A Not personally, no.

23 Q And, in fact, you don't know of any fuel
24 forecaster in the country or any other person that in
25 1993 and 1994 were actually projecting constant

1 differentials between gas and coal; is that correct?

2 **A** Not personally. And my testimony is not
3 that it is a forecast; it is a sensitivity tool. It
4 should be used to test the validity of a significant
5 capital addition such as the IGCC.

6 **Q** But you have testified in your summary and
7 in your testimony that Tampa Electric should have
8 changed its technology in 1993 and conducted -- and
9 constructed a different type of power plant; is that
10 correct?

11 **A** Correct.

12 **Q** And you have done that without a
13 cost-effectiveness study and without a natural gas
14 price forecast that's different than Tampa Electric's?

15 **A** I've done that based on reviewing the
16 assumptions that Tampa Electric used, realizing the
17 impacts because Staff asked interrogatories to test
18 the sensitivity of those impacts. I also come to that
19 conclusion accepting Tampa Electric's
20 cost-effectiveness studies at face value.

21 **Q** Well, let's take that in two parts. You
22 haven't produced any studies or documents showing the
23 impact of what you think of as flawed assumptions,
24 have you?

25 **A** I don't think I understand your question.

1 Q I thought you just testified that you knew
2 what the impacts were of the various assumptions?

3 A Yes.

4 Q But in order to know the impact, you would
5 have to know the difference. For example, you would
6 have to know the difference between Tampa Electric's
7 natural gas price forecast and another natural gas
8 price forecast in order to do a cost-effectiveness
9 study, or in order to know what the magnitude of what
10 you claim is the flaw in the natural gas price
11 forecast?

12 A No, I don't need that. Let me give you an
13 example. In the '93 study -- excuse me.

14 In the '93 study, that was the first year
15 that TECO began using a pet coke/coal blend as an
16 assumption. In TECO's own analysis it showed that if
17 the IGCC unit had been fueled on its design fuel at
18 the time, in 1993, that a combined cycle, even under
19 TECO's natural gas forecast at the time, the combined
20 cycle would have been \$68 million less expensive. I
21 find that is a flawed assumption because TECO had no
22 documentation supporting the use of pet coke at that
23 time. And the impact of "if pet coke did not turn out
24 to be a viable fuel," would mean that the unit burning
25 its design fuel was not cost-effective to its

1 ratepayers.

2 Q Well, was that the basis for your conclusion
3 regarding 1993?

4 A That's one of them.

5 Q What were the others?

6 A The use of as-available natural gas in the
7 combined cycle alternative. TECO has not justified
8 that. They have assumed that a low capacity factor
9 would be obtained, have not provided any economic
10 analysis to show that.

11 Q Are those the only two?

12 A The risk associated even under the pet coke
13 assumption back on Page --

14 Q Well, I don't want to interrupt your
15 testimony, but I would like to separate --

16 A No, you're interrupting. On Page 11 --

17 Q Well, I do want to interrupt if --

18 CHAIRMAN CLARK: Just hang on a minute.

19 MR. HART: I just want to ask the witness if
20 we can separate in his testimony the strategic
21 concerns from the assumption concerns. I know he
22 wants to talk about both. And if he wants to talk
23 about the assumptions, that's fine. I don't mean to
24 interrupt that.

25 CHAIRMAN CLARK: With that understanding,

1 Mr. Hart.

2 Go ahead and answer the question as you
3 thought it was appropriate to answer the question.

4 **WITNESS BALLINGER:** I hesitate to answer it
5 in a piecemeal fashion because I look at this on a
6 total basis. You have to look at this on a total
7 basis. You can't consider an assumption separate and
8 then strategic concerns separate. I think it's
9 beneficial to talk about them at the same time because
10 we're talking about a snapshot in time where both
11 interplay. But I will just talk about the actual
12 assumptions that went into the cost-effectiveness
13 studies.

14 **CHAIRMAN CLARK:** Okay.

15 **WITNESS BALLINGER:** Could you restate your
16 question, please?

17 **Q** (By Mr. Hart) Well, the question was:
18 Was there anything other than the use of pet coke in
19 as-available natural gas?

20 **A** On just the assumption side, not that I can
21 think of right now.

22 **Q** So you are no longer concerned about the
23 natural gas forecast?

24 **A** No, I'm still concerned about it, but what
25 gives me greater concern is even with that assumption,

1 even with TECO's forecast, I had concerns about the
2 use of pet coke.

3 Q Okay. Now, your concerns about the use of
4 pet coke really are based, are they not, on lack of
5 knowledge of pet coke?

6 A I think my own lack of knowledge and TECO's
7 lack of knowledge at that time.

8 Q Right. But as we sit here today, you don't
9 know anything about pet coke that, in fact, makes it
10 an inappropriate fuel for this unit?

11 A But that's not what I'm looking at. I'm
12 looking at what happened in 1993 at the time the
13 decision was made. I think that's the appropriate
14 frame of reference.

15 Q Well, the basis for your concerns about pet
16 coke, though, are just lack of knowledge. What you
17 perceive as lack of knowledge -- well, let me break it
18 down this way.

19 You don't, yourself, know anything about pet
20 coke; is that correct?

21 A No, that's not true.

22 Q Well, you don't have a professional opinion
23 about its use as a fuel, do you?

24 A In an IGCC technology, no.

25 Q And your concern about TECO's use of the

1 assumption is what you perceive as a lack of knowledge
2 on TECO's part about pet coke?

3 **A** Partially, yes. Because when asked what did
4 TECO rely upon when selecting pet coke, TECO said they
5 talked with some people in Japan. That was it. They
6 have no documentation, no test burn studies.
7 Basically, nothing. So that the -- TECO did not
8 inform the Commission they were using pet coke until,
9 I think it was their '95 Ten Year Site Plan, so the
10 Commission was unaware that this was going on.

11 **Q** Well, are you at all concerned about
12 recommending that this Commission take some sort of
13 regulatory action and then find out that pet coke
14 turns out to be a wonderful fuel in this plant?

15 **A** I don't think that should have any bearing
16 on it, of what the actual future comes. I have to
17 look at the information that was at the time and did
18 you make a prudent decision.

19 **Q** So you are questioning the prudence of the
20 way the decision was made regardless of how the
21 decision turns out?

22 **A** I think what we can say is when you make a
23 decision at that time, you have to look at the risk of
24 going forward. Some will be right, some will be
25 wrong. I think we can say with certainty that the

1 fuel forecasts we have here today will all be wrong.
2 It's to what degree they will be wrong.

3 Just because something happens to turn out
4 right, I don't think should have an impact on whether
5 the decision you made at the time was prudent. I
6 think you have to look at how robust the plan was in
7 1993. In '93, it was not robust. It was relying on
8 pet coke, which was an unproven fuel. TECO had no
9 documentation supporting the use of it, yet it was the
10 key of making IGCC cost-effective even under TECO's
11 assumptions for natural gas and everything else.

12 Q Well, in your deposition you also testified,
13 did you not, that one of the reasons that you thought
14 they should have changed the decision in '93 was the
15 failure to run what you thought was an acid test
16 analysis?

17 A That would have shown a combined cycle to be
18 even more cost-effective against regular coal.

19 Q But that was one of the bases of your
20 concerns?

21 A Yes.

22 MR. HART: We would like to identify for the
23 record an exhibit which consists of portions of
24 Mr. Ballinger's deposition and two of his deposition
25 exhibits.

1 **CHAIRMAN CLARK:** Excerpts from
2 Mr. Ballinger's deposition with the exhibits used
3 during that -- some of the exhibits used during that
4 deposition will be marked as Exhibit 34.

5 (Exhibit No. 34 marked for identification.)

6 **Q** **(By Mr. Hart)** Mr. Ballinger, if you would
7 turn please to Exhibit No. 1 to your deposition, to
8 Page 4.

9 **A** Is this the order denying reconsideration?

10 **Q** Yes.

11 **A** Okay. Page 4?

12 **Q** Yes.

13 **A** Okay.

14 **Q** And if you would start with the paragraph
15 that says, "In their oral arguments," and read those
16 two paragraphs for us, please?

17 **A** Sure. "In their oral arguments, both FPL
18 and Cypress placed undue emphasis on Staff's so-called
19 acid test (Exhibit 31). The acid test was not a
20 deciding factor in determining whether the Cypress
21 project was the most cost-effective alternative.
22 Rather, the acid test was simply an analytical tool
23 utilized to compare projects under a fictional
24 scenario wherein fuel prices maintain a constant
25 differential.

1 "Although we utilized a somewhat similar
2 acid test in determining the need for Tampa Electric
3 Company's Polk Unit (Docket No. 910833-EI), we
4 emphasize that the test is merely an analytical device
5 and not, in and of itself, a means to determine
6 cost-effectiveness. We do not view the test as a
7 forecast and certainly do not believe that gas prices
8 and coal prices will maintain the constant
9 differential reflected in the test. We may or may not
10 choose to compare projects under such a fictional
11 constant fuel differential in future need cases and,
12 therefore, we do not view the acid test as policy or
13 precedent to be followed in future need cases."

14 Q What was the date of this order?

15 A The front page says it was issued December
16 28, 1992.

17 Q Now your concern about Tampa Electric's not
18 using a constant differential in their 1993 test,
19 which was a few months or some months during the year
20 following this statement by the Commission; is that
21 correct?

22 A I'm sorry, could you repeat that? I was
23 trying to think ahead a little bit.

24 Q Well, part of the reason for your
25 disrecommending the change in technology by Tampa

1 Electric is they are not relying on such a test in the
2 months or the year following this statement by the
3 Commission about that analytical tool?

4 A I think it goes more to the statement that
5 was made in Tampa Electric's need determination that
6 they needed to justify an ever-widening fuel
7 differential.

8 Q But part of the question is, also in this
9 proceeding, is what did people: the Commission, the
10 Staff and other people involved in the business think
11 in '93 and '94? And this was part of the body of
12 knowledge that everyone had during that time period;
13 is it not?

14 A Yes. But as it says, it is an analytical
15 tool to test it. It is not a determining factor in
16 the case. That was this motion for reconsideration.

17 Q But it also says we don't believe the
18 differential would be constant. And if you went out
19 and made a generation construction decision based on
20 an assumption the Commission had just said they didn't
21 believe was true, you would consider that a problem if
22 you were a regulated utility, wouldn't you?

23 A No. I think you have misunderstood what I'm
24 saying, is the constant differential is, to me, a
25 worst-case scenario, if you will. That's why it's

1 called the acid test. I'm not saying it is a totally
2 realistic version of what will happen. It is
3 indicative of what actually has happened over the last
4 10 years, as Mr. Breman has outlined in his testimony.
5 It's a good indicator to give you a comfort level that
6 entering into a high capital plant, such as an IGCC,
7 will be a robust plan and be able to handle changes in
8 fuel costs throughout time.

9 **CHAIRMAN CLARK:** Mr. Ballinger, are you
10 saying that kind of test, if it showed it was still
11 cost beneficial, would give you a higher degree of
12 comfort that you were on the right track?

13 **WITNESS BALLINGER:** Yes, ma'am.

14 **CHAIRMAN CLARK:** And if it indicated it was
15 no longer -- or the cost-effectiveness was iffy, then
16 you'd better do some further looking?

17 **WITNESS BALLINGER:** Yes, ma'am. That was
18 the reason for my hesitancy to talk about one
19 assumption at a time, that this is one piece that you
20 look at. If it's close or it fails, you have to look
21 at everything else in total to see the robustness of a
22 plant.

23 **CHAIRMAN CLARK:** Okay. Go ahead, Mr. Hart.

24 **Q** **(By Mr. Hart)** Now, Exhibit 2 to your
25 deposition testimony is also an order of the

1 Commission issued in 1994; is that correct?

2 A Is this the order on the DSM goals?

3 Q Yes.

4 A Okay.

5 Q I'd like for you to turn to Page 18 and read

6 the last sentence of Section III.

7 A Where it starts, "We find that" --

8 Q Yes.

9 A "We find that TECO's planning process and
10 data utilized in evaluating the DSM measures was

11 reasonable for the purpose of this docket."

12 Q Now, part of what was reviewed in that
13 docket, was it not, was Tampa Electric's fuel
14 forecast?

15 A To a limited degree, yes.

16 Q Now, it's also true, is it not, that in the
17 Ten Year Site Plan, Tampa Electric has been presenting
18 to the Staff its generation plans and its fuel
19 forecast; is that correct?

20 A Yes.

21 Q And you've been reviewing those and
22 commenting on them since at least 1994?

23 A Yes. If I may, also, I wanted to clarify
24 something in this DSM order, if I may?

25 Q Sure.

1 **A** There was talk earlier about the IGCC unit
2 was determined not to be the avoided unit for the DSM,
3 and that's right, so it wasn't a specific issue. And
4 I would point you to really where that was decided is
5 it was in the need determination of the IGCC in Order
6 No. 920002, on Page 15 of that order. And, basically,
7 what it stated is that by the time you get to a need
8 determination proceeding, you can't get enough DSM to
9 avoid the plant so, therefore, it's not an avoidable
10 plant by DSM. So to say the IGCC was not the avoided
11 unit because of cost-effectiveness reasons is a little
12 bit misconstrued. It was basically because you
13 couldn't get enough DSM up and running in that short
14 time frame. And that was basically already decided
15 back in the need determination.

16 **Q** Yes, I appreciate that. But that may be an
17 issue in this proceeding; it didn't have anything to
18 do with the question I just asked you though, did it?

19 **A** No. That's why I asked if I could embellish
20 on that one while we were there. At the deposition
21 you asked me about the avoided unit, and I thought you
22 were going there with a second question.

23 **MR. HART:** Madam Chairman, I have two other
24 exhibits I would like to have marked for
25 identification, please. The first is entitled

1 "Excerpt from FPSC 1995 Annual Report."
2

3 CHAIRMAN CLARK: We'll mark that as Exhibit
4

5 35.

6 MR. HART: And the other is entitled
7 "Excerpt from Review of 1995 Ten Year Site Plans."
8

9 CHAIRMAN CLARK: That will be Exhibit 36.
10 (Exhibit Nos. 35 and 36 marked for
11 identification.)
12

13 Q (By Mr. Hart) Mr. Ballinger, if you would
14 look -- first, if you would explain to me a little bit
15 about what the Ten Year Site Plan process is.
16

17 A Perhaps it would be best if I reviewed to
18 the statutes of what the process is, but I will give
19 you a general one if you'd like.
20

21 Q Okay.

22 A Basically, the Ten Year Site Plan review
23 process has been around for several years. Up until
24 last year, it's been the primary function of the
25 Department of Community Affairs to determine the plans
suitable or unsuitable. The purpose of the whole Act
was to get a heads-up, if you will, to other
regulatory agencies about future power plant sites, so
that water management districts, local planning,
agencies of this nature, could be made aware of where
power plants were presumably going to be sited. It

1 had no binding effect on utilities.

2 Utilities argued vehemently against that, of
3 making it a binding plan. It could be amended at any
4 time. It was an information tool to regulatory
5 agencies that basically culminated in a filing for
6 need determination of a power plant. That's when the
7 final amendment to that plan would come about. So
8 it's never been a bless by the Commission under a
9 procedure such as this nature or anything like that.
10 It's an informational tool.

11 Q But it is a process by which you gather
12 information about fuel forecasts, you review them, you
13 comment on them and you reach conclusions about them,
14 do you not? Or you say you do?

15 A I don't know that we reach conclusions. We
16 point out areas that we have concerns. We don't take
17 formal discovery, so you can't really say that they
18 are a valid forecast. You don't have a hearing, such
19 as this. The Commission does not take a formal vote
20 on it. So to say that they have been approved is not
21 correct.

22 Q I don't believe I used that word. But you
23 get the information in the -- regarding the fuel
24 forecast, the generation plans. You do send
25 interrogatories and ask for supplemental data if you

1 would like, do you not?

2 A We have done that, I know, in the last two
3 years, yes.

4 Q Now, on Page 66 of the Exhibit 36. You,
5 particularly in this one on that page, discuss and
6 comment on TECO's fuel forecast, do you not?

7 A Yes.

8 Q And then on Page 67, if would you read the
9 last sentence on that page?

10 A "This summarizes the Commission's overall
11 comment, if you will, that based upon the foregoing
12 review of TECO's Ten Year Site Plan and the related
13 government and public comments, we classify TECO's
14 plan as suitable."

15 But I would also like to refer you to
16 Page 66, that last paragraph under the fuel forecast.
17 It says "Although TECO predicts natural gas prices to
18 track those of residual oil, natural gas prices are
19 expected to be substantially higher and may approach
20 distillate oil prices in the far future. Other
21 reporting utilities also make the same prediction, but
22 none estimate the difference as large as TECO."

23 Q And what that means, does it not, is knowing
24 that you classified the plan as suitable?

25 A You have to remember "suitable" means that

1 their next proposed unit looks like a reasonable plan.
2 In this one, TECO's next proposed unit is a natural
3 gas-fired unit. To lower a natural gas forecast would
4 make that unit even more cost-effective. So,
5 therefore, it's suitable.

6 Q Well, obviously, the Commission is not bound
7 in this proceeding by these earlier proceedings. But
8 the point is to see what your Staff -- these were done
9 under your supervision, weren't they?

10 A Yes, sir.

11 Q So we are talking about looking at
12 information that was available in the body of
13 knowledge at the Commission, at the Company, at other
14 companies, gas forecasters, to see what kind of
15 decisions people were making in '93 and '94 in this
16 time period. That's part of what you've been
17 testifying about; is that not correct?

18 A Yes.

19 Q And the fact is that you, yourself, and the
20 Commission Staff have had lots of this information
21 that we are discussing and have, in fact, reviewed it
22 on an annual basis?

23 A Yes.

24 Q And at the time that you were reviewing it,
25 in the year in which you were reviewing it, you didn't

1 find any of it inappropriate or unsuitable or
2 inaccurate?

3 A No, and I think my testimony talks to the
4 '93-94 time frame. This was information that was
5 presented in 1995.

6 Q Yes. This particular one was.

7 A Yes.

8 Q Okay. Now, if you would look, if you would,
9 at Exhibit 35. 1993, you didn't do a review of the
10 Ten Year Site Plan, did you?

11 A I don't know if it was under my -- I believe
12 it was under my review. It was substantially
13 different than what was done in 1994 and '95, but we
14 did do a review.

15 Q You didn't issue a report in '93?

16 A We sent a report to the Department of
17 Community Affairs, yes, sir. It was substantially
18 different than what was done in '94 and '95.

19 CHAIRMAN CLARK: Mr. Ballinger, is that
20 because our responsibilities changed? Is that when we
21 got the responsibility for doing it?

22 WITNESS BALLINGER: No, ma'am. I don't know
23 the exact reasons why we expanded the scope in '94. A
24 lot of it was there was talk about should we make it a
25 planning process, should we have a formal IRP process,

1 these types of things were issues of the day at the
2 time, so we were able to beef up the Ten Year Site
3 Plan review to try to accommodate that. It didn't
4 reach the stage of a full blown hearing.

5 In '95 is when we got the jurisdiction, if
6 you will, or the authority to make them suitable or
7 unsuitable.

8 **CHAIRMAN CLARK:** Would it be correct to say
9 that we didn't change our review, but how we reported
10 it, and how much we reported changed?

11 **WITNESS BALLINGER:** Yes, ma'am.

12 **Q** (By Mr. Hart) Well, that means that you
13 actually reviewed the fuel forecast of Tampa Electric
14 every year?

15 **A** Not me personally, but the Commission has.

16 **Q** And until this proceeding, this is the first
17 time that you've expressed a professional opinion that
18 this was the wrong plant to build?

19 **A** This is the first opportunity we've had. As
20 I said earlier, the Ten Year Site Plan does not look
21 back at an already certified unit. It looks at your
22 next unit that your building. It is a precursor to a
23 need determination. Once you've had a need
24 determination, it's not the form for it; it's not the
25 purpose of it.

1 Q The issue of the cost-effectiveness of the
2 plant, we could debate when you could have told
3 somebody if you had an opinion it was the plant. But
4 the fuel forecasts have been commented on a regular
5 basis over that period of time; have they not?

6 A They have been commented on, they have had
7 warnings about the ever widening, that they need to
8 pay careful attention. And then the overall plans
9 have been suitable because even with higher than we
10 would think projected fuel forecasts, the resulting
11 next generation unit was a gas-fired unit.

12 Q If would you look at Exhibit 35, Page 31.

13 A Sorry, did you say Page 31?

14 Q Yes. And look at the section "Electric
15 Utility Competition" and start with the sentence, the
16 third sentence, I believe, which starts "In Florida,"
17 and read that sentence.

18 A Can I read the whole paragraph?

19 Q Yes.

20 A "The Commission recognizes that both
21 competition and the talk about competition in the
22 electric industry is increasing. Competition has
23 become a fact at the wholesale level and is expected
24 to spread to the retail level. Florida does not have
25 high electric rates compared to New England and

1 California where retail competition has been ordered
2 by the state utility regulatory commission. In
3 Florida, the primary impetus of competition at both
4 the wholesale and retail levels is the unexpectedly
5 low price of natural gas coupled with the new highly
6 efficient gas-fired combined cycle generating unit
7 technology. These events are again making the
8 electric utility industry a declining cost industry at
9 the generation level. Electricity can be generated
10 from new technology combined cycle generating units at
11 approximately \$30 to \$35 per 1,000 kilowatt hours.
12 The cost of electric from existing coal and nuclear
13 generating units is generally \$45 to \$50 per 1,000
14 kilowatt hours.

15 For comparison, a residential customer's
16 bill in Florida is between \$75 and \$85 per 1,000
17 kilowatt hours. The difference between generation
18 level cost and cost to customers is due to
19 transmission, distribution, administrative cost to
20 deliver electricity from the power plant to the
21 customer."

22 Q This report was also issued by the
23 Commission Staff, was it not?

24 A I believe it's an annual report we send to
25 the -- either to the legislature or to the DCA.

1 Q Now, this was, at least, a statement by the
2 Staff at some point in 1995 that the natural gas
3 prices were unexpectedly low; was it not?

4 A And I think that unexpectedly refers to what
5 the experts have been telling us it would be.

6 Q Well, the people have been predicting it
7 wouldn't be unexpectedly, would it?

8 A Exactly. If the experts had been predicting
9 flat natural gas cost, it wouldn't be unexpected. But
10 it is unexpected because what has been put before the
11 Commission has been ever increasing natural gas
12 prices.

13 Q Well, who are you talking about being
14 unexpected to? Who do you think that sentence is
15 referring to when it says it was unexpected?

16 A Unexpected based on what the experts have
17 been projecting.

18 Q That's right. And what we are talking about
19 in this case is what were the experts projecting in
20 '93 and '94; is it not?

21 A It's been an ever widening fuel forecast.

22 Q Right. And that was the consensus of
23 opinion in '93 and '94 about natural gas forecasts?

24 A It was the consensus of opinion of natural
25 gas price forecasters.

1 Q That's correct.

2 A Or utility forecasters, yes.

3 MR. HART: I have no further questions of
4 this witness.

5 CHAIRMAN CLARK: Commissioners? Redirect.

6 MR. ELIAS: Very briefly.

7 REDIRECT EXAMINATION

8 BY MR. ELIAS:

9 Q Mr. Ballinger, would you turn to Page 48 of
10 your deposition transcript. Do you still have that in
11 front of you?

12 A That Exhibit 34?

13 Q No. The deposition transcript that
14 Mr. Hart, I believe, handed you.

15 A I'm sorry. Page 48?

16 Q Page 48.

17 A Okay.

18 Q And if you would look starting on Line 23,
19 would you read that question?

20 A Okay, the question (reading) Okay. So you
21 have an opinion then as to whether or not firm or
22 as -- or available natural gas is appropriate for this
23 unit? My answer was (reading) My opinion is that TECO
24 has just made that contention, that firm natural gas
25 would not be appropriate, but has not shown any

1 cost-effectiveness analysis to prove that. And I
2 point out reasons why using firm gas or using
3 as-available would bias against the natural gas
4 alternative.

5 Q When you referred to cost-effectiveness
6 study, what do you think the elements of a good
7 cost-effectiveness study comparing generation
8 alternatives includes?

9 A It needs to be very robust, especially with
10 a capital intensive unit such as this. As we all
11 know, fuel forecasts are going to be wrong. It's all
12 a matter of what degree, and that's why sensitivities
13 are done.

14 One very good sensitivity is the constant
15 differential of natural gas and coal. If a plan shows
16 that changing one assumption significantly alters that
17 being the most cost-effective plan, I think you have
18 to look at it very closely.

19 Another means to look at a plan is the
20 payback period, I think. This to me is a matter of
21 risk, especially when we are will dealing with fuel
22 benefits materializing in the out years. In my
23 opinion, the difference between fuel and capital, as
24 far as riskiness, is fuel is a much more risky venture
25 than capital. Utilities have a pretty good handle on

1 what the capital costs of a plant will be. We have
2 really a guess as to what the fuel cost will be in the
3 out years.

4 So to me, I look at a plan that has a
5 relatively short net present value payback, can handle
6 changes to fuel forecasts relatively easily without
7 changing the type of plant. Those are the basic
8 components of what I consider a good plan.

9 Q What sort of expertise is uniquely within
10 the purview -- or what sort of information is uniquely
11 within the purview of a company verses somebody else
12 in preparing a cost-effectiveness study?

13 A Access to computer models, knowing their
14 logic, being able to tell the vendors of the computer
15 models what type of logic they want, how they want the
16 logic to work and custom designing it to their own
17 system, inputs from other utility systems to model
18 interchange which affects system revenue requirements.

19 Q Were any cost-effectiveness evaluations for
20 the Polk IGCC unit, to your knowledge, submitted to
21 the Commission before those that were submitted in
22 Docket No. 950379?

23 A No. And when we asked for them, we got one
24 for each year even though we asked for all studies.

25 MR. ELIAS: I have nothing further.

1 CHAIRMAN CLARK: Exhibits?

2 MR. ELIAS: Staff would move, I believe,

3 it's Exhibit 34.

4 CHAIRMAN CLARK: It's Exhibit 33. It will

5 be entered without objection. Mr. Hart.

6 MR. HART: We would move Exhibits 34, 35 and

7 36.

8 CHAIRMAN CLARK: Without objection, they'll

9 be admitted.

10 (Exhibit Nos. 33 through 36 received in

11 evidence.)

12 MR. ELIAS: Madam Chairman?

13 CHAIRMAN CLARK: Yes, sir.

14 MR. ELIAS: With respect to the deposition

15 transcript, I'd ask that the entire transcript be made

16 part of the record. I think that's only fair. He's

17 only offered certain exhibit excerpts.

18 CHAIRMAN CLARK: We'll mark the deposition

19 of Mr. Ballinger as Exhibit 37. And it will be

20 admitted in the record without objection.

21 Mr. Elias, you need to make sure that the

22 parties have copies and the court reporter does.

23 (Exhibit No. 37 marked for identification

24 and received in evidence.)

25 MR. ELIAS: I will make sure that

1 everybody's got a copy of the entire deposition
2 transcript.

3 CHAIRMAN CLARK: Thank you, Mr. Ballinger.
4 (Witness Ballinger excused.)

5 - - - - -

6 MR. ELIAS: Staff would call Jim Breman.

7 JIM BREMAN

8 was called as a witness on behalf of the Staff of the
9 Florida Public Service Commission and, having been
10 duly sworn, testified as follows:

11 DIRECT EXAMINATION

12 BY MR. ELIAS:

13 Q Would you state your name for the record,
14 please?

15 A My name is Jim Breman.

16 Q And, Mr. Breman, by whom are you employed?

17 A The Florida Public Service Commission as an
18 Engineer 4 in the Bureau of Electric Regulation,
19 Electric and Gas.

20 Q And are you the same Jim Breman that caused
21 to be filed prefiled direct testimony in this docket?

22 A Yes, I am.

23 Q Do you have any changes or corrections to
24 your prefiled direct testimony?

25 A I had two typographical errors.

1 Q Would you state them, please?

2 A On Page 5, Line 25. There should be three
3 zeros instead of two in the order number.

4 On Page 6, Line 2, the same correction.

5 Q And with those corrections, if I asked you
6 the questions contained in that prefiled direct
7 testimony today, would your answers be the same?

8 A Yes, sir.

9 MR. ELIAS: I'd ask that the prefiled direct
10 testimony of Jim Breman be inserted into the record as
11 though read.

12 CHAIRMAN CLARK: It will be inserted in the
13 record as though read.

14 Q (By Mr. Elias) Did you also cause to be
15 filed at that same time three separate exhibits which
16 are appended to your prefiled direct testimony?

17 A Yes, I did.

18 MR. ELIAS: Madam Chairman, I'd ask that
19 those exhibits be assigned the next composite exhibit
20 number.

21 CHAIRMAN CLARK: That will be Exhibit 38.

22 (Exhibit No. 38 marked for identification.)

23

24

25

DIRECT TESTIMONY OF JIM BREMAN

1 |
2 | Q. Please state your name and business address.

3 | A. My name is Jim Breman; 2540 Shumard Oak Boulevard, Tallahassee, Florida
4 | 32399-0850.

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

6 | A. I am employed by the Florida Public Service Commission as an Engineer
7 | IV in the Bureau of Electric Regulation, Division of Electric and Gas.

8 | Q. Please briefly describe your educational background and professional
9 | experience.

10 | A. From April 1980 through December 1981 I was an engineering technician
11 | with Peoples Gas System Inc., North Miami Division. I graduated from Florida
12 | State University in 1986 with a Bachelor of Science in Mechanical Engineering.
13 | I was also employed by the College of Engineering while pursuing my degree at
14 | Florida State University.

15 | I began employment with the Florida Public Service Commission in 1988
16 | and have held various positions since that time. In June of 1993 I was
17 | promoted to my current position.

18 | Q. What are your present responsibilities with the Commission?

19 | A. My responsibilities include reviewing utility fuel price forecasts and
20 | the data filed for purposes of the Fuel Cost Recovery Clause and the Ten-Year
21 | Site Plans. I also analyze filings concerning underground vs. overhead
22 | distribution differentials, the environmental cost recovery clause and storm
23 | damage issues.

24 | Q. Have you previously testified before this Commission?

25 | A. Yes. I testified in Docket No.910615-EU that resulted in Rule 25-6.115

1 | F.A.C., Facility Charges For Providing Underground Facilities of Public
2 | Distribution Facilities Excluding New Residential Subdivisions. I have also
3 | made oral and written recommendations to the Commission on various occasions.

4 | Q. What is the purpose of your testimony?

5 | A. The purpose of my testimony is to describe why TECO's natural gas
6 | planning assumptions have been and continue to be erroneous. I also discuss
7 | why the cost effectiveness of the POLK IGCC should not be based on the use of
8 | petroleum coke (pet coke).

9 | Q. Have you prepared any exhibits that contain information to which you
10 | will refer in your testimony?

11 | A. Yes. I prepared three exhibits. Exhibit No. 38 (JEB-1) is a
12 | presentation of historical natural gas prices and various base case natural
13 | gas price forecasts made by TECO. Exhibit No. 38 (JEB-2), depicts historical
14 | natural gas and coal prices and the trend in their price differentials from
15 | January 1986 through December 1995. Exhibit No. 38 (JEB-3) is a series of
16 | tables presenting TECO's coal and natural gas price forecasts and the year-to-
17 | year differences between TECO's forecasted natural gas and coal prices.

18 | Q. Have TECO's 1992, 1993, 1994, and 1995 natural gas price forecasts been
19 | reasonably accurate?

20 | A. No. TECO's 1992, 1993, and 1994 natural gas price forecasts have been
21 | inaccurate as Exhibit No. 38 (JEB-1) shows. For example, in 1995, the price
22 | of natural gas was \$2.24 per million Btu. However, TECO's 1992, 1993 and 1994
23 | forecasts predicted prices of \$3.02, \$3.19, and \$2.81 per million Btu,
24 | respectively. TECO's inaccurate price trend continues to be present in the
25 | current Fall 1995 natural gas price forecast. TECO has consistently

1 overstated natural gas prices in every year and this results in an incorrect
2 bias against natural gas.

3 Q. Explain the bias in TECO's natural gas price forecasts.

4 A. TECO ignores the fact that natural gas competes with coal. This is not
5 a surprising phenomenon given the competitive changes that have occurred in
6 the electric fuels market.

7 Two major factors have changed the market for natural gas making it
8 competitive with coal. First, natural gas prices were deregulated allowing
9 market forces to control natural gas pricing. Repeal of the Fuel Use Act
10 lifted restrictions on the use of natural gas as a boiler fuel. The Natural
11 Gas Policy Act of 1978 removed wellhead price controls on the majority of gas
12 supplies on January 1, 1985 and July 1, 1987. Deregulation of natural gas was
13 furthered with the Federal Energy Regulatory Commission's (FERC) Order 636,
14 which provided open natural gas transmission access directly from the producer
15 to the distributor or end user.

16 The second major factor that has changed the market for natural gas
17 markets is the development of highly efficient and cost effective gas turbine
18 based combined cycle technology. This generating technology provides
19 considerable advantages over conventional fossil steam generation, not the
20 least of which is fuel-capital flexibility. The installed cost of a combined
21 cycle unit is comparatively low. Also, combined cycle units may be
22 constructed as integrated units or in phases using modular block sizes. The
23 combustion turbine can be installed first, then as load growth occurs and as
24 economics dictate, a steam recovery generator can be added. This allows for
25 a better match between load growth and unit size. The current predominance

1 | of natural gas fired generation in the new power plant market demonstrates
2 | these strategic planning advantages. Florida's natural gas fired combined
3 | cycle generation is expected to increase from 5 percent of the state's
4 | generation mix in 1993 to approximately 15 percent by 2004.

5 | Q. When was it first apparent that natural gas was competing with coal in
6 | the electric fuels market in Florida?

7 | A. The competitive relationship between natural gas and coal appears to
8 | have become established in the mid-1980's. Over the last ten years, the
9 | average price difference between natural gas and coal has simply not
10 | increased, as TECO predicted. It has converged towards an approximate price
11 | difference of \$0.51 per million Btu as Exhibit No. 37 (JEB-2) shows.

12 | Q. Are TECO's forecasted natural gas price and coal price differentials
13 | similar to the historical differentials?

14 | A. No. In the first year of every forecast, TECO's differentials are twice
15 | the historical differentials. In Exhibit No. 37 (JEB-3), column (3). I show
16 | TECO's constantly increasing natural gas and coal price differences. By the
17 | year 2020, TECO's 1992, 1993, 1994 and 1995 forecasts indicate natural gas
18 | price differences relative to coal prices of \$10.08, \$10.66, \$11.02 and \$6.96
19 | per million Btu respectively. In effect, TECO has ignored the fact that
20 | natural gas is competing with coal.

21 | Q. Has the Commission expressed concerns about TECO's natural gas price
22 | forecasts?

23 | A. Yes. The Commission specifically stated its concerns in the Order
24 | granting the determination of need for the TECO POLK IGCC, Order No. PSC-92-
25 | 002-FOF-EI, and more recently in its review of TECO's Ten-Year Site Plan
0002

1 | filings for 1994 and 1995.

2 | In Order No. PSC-92-002-FOF-EI the Commission said:

3 | The type of new ⁰⁰⁰²generating unit chosen is not necessarily driven
4 | by fuel cost per se; rather, it is the difference in cost among
5 | competing fuels. TECO's fuel forecast projects a widening cost
6 | differential between coal and natural gas or oil, when in fact for
7 | many years the cost differential between the cost of coal and the
8 | cost of natural gas and oil has remained relatively constant. In
9 | the future, TECO should pay close attention to this differential,
10 | and must be ready to substantiate continued reliance upon fuel
11 | price forecasts that have not accurately predicted the
12 | relationship between the price of coal and the price of natural
13 | gas and oil. (Emphasis added)

14 | The Commission made similar statements again in 1994. On page 26 of the
15 | "REVIEW OF 1994 TEN-YEAR SITE PLANS" the Commission said:

16 | To further determine the sensitivity of a project's success to a
17 | change in fuel forecasts, a worst case scenario should be
18 | evaluated. This worst case scenario is a final sanity check that
19 | consists of holding current fuel price differentials constant
20 | throughout the projection period. This test will reveal whether
21 | a project will retain overall cost-effectiveness under severe and
22 | continuing price drops.

23 | On page 30 of the "REVIEW OF 1994 TEN-YEAR SITE PLANS" the Commission said:

24 | FPL's and TECO's forecasts indicate an ever widening gap between
25 | the price of coal and natural gas. These forecasts are not

1 | indicative of historical trends that reflect market stability and
2 | continued growth in production.

3 | Then again, in 1995, in the "REVIEW OF 1995 TEN-YEAR SITE PLANS" the
4 | Commission found it necessary to reiterate what it stated the prior year. On
5 | pages 32 and 36, the Commission said:

6 | To further determine this sensitivity, a worst case scenario
7 | should also be evaluated as a sanity check. This is done by
8 | holding the current fuel price differentials constant throughout
9 | the projection period. This test will reveal whether a project
10 | will retain overall cost-effectiveness under severe and continuing
11 | price decreases.

12 | ... Several utilities continue to forecast an ever-widening gap
13 | between the price of coal and natural gas, which is not indicative
14 | of historical trends that reflect market stability and continued
15 | growth in production. Despite the bias against natural gas that
16 | is inherent in these fuel price forecasts, natural gas still
17 | appears to be the fuel of choice for most of the planned
18 | generating units.

19 | Q. How has TECO responded to the Commission's concerns regarding natural
20 | gas price forecasting?

21 | A. I do not know if TECO heeded the Commission's concerns. During his
22 | deposition, Mr. Smith, TECO's Director of Fuels and Environmental, stated that
23 | he was not aware of the Commission's review and comments on TECO's Ten-Year
24 | Site Plans. He also did not know whether TECO's system planning section had
25 | performed any worst case sensitivity evaluations. TECO apparently has not

1 established a policy of doing a worst case analysis, such as holding the
2 natural gas price constant relative to the price of coal.

3 Q. Do you have other concerns with TECO's natural gas planning assumptions?

4 A. Yes. TECO has not adequately evaluated its natural gas procurement
5 options. From 1992 to the present, TECO has assumed that the only cost
6 effective transportation of natural gas is interruptible or "as-available"
7 transportation. In Staff's 1st Set of Interrogatories No.3, TECO was asked
8 to identify all documents considered by TECO in reaching this conclusion.
9 TECO did not identify any documents.

10 On page 17 and 18 of Mr. Smith's direct testimony, he addresses special
11 economic obstacles to adding natural gas-fired capacity to TECO's system. He
12 states in part:

13 ... Instead, for the foreseeable future any new gas-fired
14 generation would dispatch as a peaker or intermediate-load unit
15 on Tampa Electric's system. In addition, Tampa Electric does not
16 have an outlet to absorb excess firm natural gas when that gas
17 could not be used in its intended units. Accordingly, Tampa
18 Electric is not a prime candidate for new natural gas-fired
19 combined cycle capacity under current pipeline transportation
20 costs and [on] our system based on the uneconomic take or pay
21 nature of firm natural gas transportation.

22 This assumption is flawed for two reasons. First, TECO apparently did
23 not perform an economic analysis on its own to verify its own planning
24 assumptions. Secondly, TECO apparently failed to recognize that there is a
25 market for excess firm natural gas. For example, in 1995, Florida Power

1 Corporation obtained 1997 and 1998 natural gas transportation requirements for
2 its future POLK Station from the FGT secondary capacity market.

3 Q. Has TECO adequately evaluated the technical viability of burning pet
4 coke in the POLK IGCC?

5 A. No. It is not prudent to plan and justify the construction of the POLK
6 IGCC unit based on savings assumed using an untested fuel. In 1994,
7 preliminary analysis and engineering evaluations assessing the use of pet coke
8 in the POLK IGCC highlighted major problem areas. Mr. Black's composite
9 Exhibit CRB-1, contains a memorandum from TECO's design consultant that
10 states:

11 Given these unknowns, for pet coke blends, as well as for any
12 coals other than our design coal, a test burn must be completed
13 prior to any firm commitment on plant operating characteristics
14 or on long term fuel purchases. We are somewhat more comfortable
15 projecting performance with alternate coals since Texaco gasifiers
16 have operated with a range of coals. However, no Texaco gasifier
17 with syngas cooling has ever operated with a pet coke blend.
18 For these reasons, it is our recommendation that for any Pet Coke
19 blend to be considered as a long term operating fuel, a detailed
20 test program will have to be developed. This test program will
21 have to include a "test burn" phase in period where we can
22 gradually increase the percentage of pet coke over a period of
23 several months. Our ability to operate with these low pet coke
24 blends during the phase in period will have to be further
25 evaluated. (Emphasis not added)

1 I believe this is sound advice. The decision to continue construction
2 of the plant should have been based on the use of coal. Savings based on the
3 use of pet coke are highly speculative. Whether or not savings exist using
4 pet coke will not be known until it is tested in the POLK IGCC unit.

5 Q. Is the technical viability of pet coke the only concern you have?

6 A. No. Pet coke transportation and availability also need to be addressed.
7 TECO assumed that transportation would be either direct barge loading or that
8 there would be a cost effective means to transport pet coke from the pet coke
9 production plant(s) to a transfer facility and then barge it to the Big Bend
10 Station. Trucking, transloading, short haul rail, special barge requirements
11 from the pet coke production plant(s) to a transfer facility are all potential
12 hidden costs in TECO's use of pet coke. TECO has not demonstrated that they
13 have included these hidden costs in their evaluations of the use of pet coke
14 at the POLK IGCC unit.

15 Q. Does this conclude your testimony?

16 A. Yes.

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1 Q (By Mr. Elias) Mr. Breman, have you
2 prepared a summary of your testimony?

3 A Yes, I have. It is a well known saying that
4 the only thing we know for certain about the future is
5 the fuel price forecast is wrong. In every year,
6 TECO's natural gas price forecast includes predictions
7 of sustained upward price pressures for various
8 reasons like constrained supply, high demand and
9 higher cost for new discoveries. Contrary to these
10 assumptions, TECO's updated natural gas price
11 forecasts tend to show lower prices than the prior
12 forecast. This downward trend is evident in the first
13 years of TECO's forecast updates.

14 There's no evidence of general sustained
15 upward prices in natural gas paid by Florida electric
16 utilities over the respective periods addressed by
17 TECO's cost-effectiveness evaluations.

18 In December of 1991, during the need
19 determination for TECO's Polk IGCC, Staff did not have
20 a lot of confidence in TECO's fuel price forecasting.
21 An analysis tool called the acid test was developed to
22 provide insight to very hard questions. For example,
23 will any of TECO's current projects still be
24 cost-effective if each of TECO's new fuel price
25 forecasts continue to show lower prices than in prior

1 years. Or stated another way, how much of an error
2 can TECO have in its fuel price forecast and still
3 have cost-effective projects.

4 The uncertainties of each new fuel price
5 forecast needs to be explored. It is prudent to
6 search for answers to these questions on a continual
7 basis. This is the purpose of the worst-case
8 sensitivity. TECO should have tested its natural gas
9 assumptions and performed the worst-case analysis.
10 Instead, TECO continued to base the cost-effectiveness
11 of the Polk IGCC on natural gas price forecasts which
12 have been inaccurate over the years in which they did
13 their reviews.

14 Concerning pet coke. In 1993, TECO
15 determined that the Polk IGCC was cost-effective
16 assuming a pet coke/coal blend. There was no design
17 review, therefore, the costs for design changes were
18 not included in TECO's evaluations for 1993, 1994,
19 1995. TECO's responses to discovery indicates that
20 they based their 1993 conclusions regarding this
21 matter primarily on telephone conversations.

22 Documents started to become available in 1994. Some
23 costs for potential modifications were identified in
24 1995 and first appeared in TECO's analysis for 1996.

25 It is true that a potential for savings

23 costs for potential modifications were identified in
24 1995 and first appeared in TECO's analysis for 1996.
25 It is true that a potential for savings

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1 exists. It is also true that there are no guarantees
2 concerning the costs for any changes which may be
3 needed to use pet coke. Until it is tested in the
4 Polk IGCC, the costs to use pet coke remain uncertain.
5 That concludes my summary.

6 MR. ELIAS: Tender the witness for cross.

7 CHAIRMAN CLARK: Mr. McWhirter.

8 MR. McWHIRTER: No questions.

9 CHAIRMAN CLARK: Mr. Howe.

10 MR. HOWE: No questions.

11 CHAIRMAN CLARK: Mr. Hart.

12 CROSS EXAMINATION

13 BY MR. HART:

14 Q Mr. Breman, is it your opinion that Tampa
15 Electric's long-term forecast is flawed?

16 A Yes.

17 Q Because you think it is high?

18 A It has been inaccurate.

19 Q Well, we are talking about the long-term
20 forecast, not the last couple of years.

21 A There's no indication that the assumptions
22 that TECO has in natural fuel price forecast in the
23 years that they made their evaluations -- for example,
24 if you look at 1993, the information available to TECO
25 at the time they made the decision to continue with

1 the IGCC project, the information they had at the time
2 indicated that their forecast was lower than the prior
3 years which contradicted the assumption in the fuel
4 price forecast. It would be incumbent on the Company
5 to then question the validity of continuing with these
6 assumptions that weren't materializing.

7 Q Well, are you distinguishing between a
8 long-term forecast, 20 or 30 years, from a year or
9 two?

10 A No, sir.

11 Q Do you think they are the same?

12 A No, sir. I remember Mr. Smith in
13 deposition. We were trying to talk about the fuel
14 price forecast that TECO provided to the Commission in
15 the evaluations of the Polk unit and in the Ten Year
16 Site Plan. We asked for production of documents for
17 all the fuel price escalators reports and what not
18 that they relied on. What we got are reports called
19 supplemental. The fuel price forecasts that TECO is
20 reporting are defined as spot. And the definition of
21 supplemental coal by Mr. Smith was that that's indexed
22 to short term. So I'm not making my own definition,
23 I'm relying on the definitions that the Company has
24 provided Staff.

25 Q What was your definition of a long-term

1 natural gas forecast?

2 A Mr. Smith testifies that TECO's forecasts
3 are supplemental or incremental, if you will. And
4 these are the forecasts that they use and that those
5 forecasts are indexed to spot. So spot tends to
6 support a short term. So, again, I'm not defining
7 long term or short term, I'm just stating the facts
8 presented to Staff.

9 Q Okay. So you don't have a definition of
10 long-term forecast?

11 A Well, long term is many years.

12 Q Well, how many is it for you to be a
13 long-term forecast?

14 A It would have to address the life of the
15 facility.

16 Q So for you a long-term forecast is 30 years?

17 A Sure.

18 Q Okay. Now, have you formed a professional
19 opinion about Tampa Electric's long-term forecast?

20 A Yes.

21 Q Have you performed a long-term fuel forecast
22 for natural gas?

23 A I have looked at other people's forecasted
24 prices. I don't make my own.

25 Q Okay, you haven't done one. You've just

1 looked at Tampa Electric's and decided that it's
2 flawed? Is that the right term?

3 A I looked at the information that Tampa
4 Electric Company provided to me. And I made my
5 evaluation based on the information they provided and
6 the definitions they used.

7 Q The question I'm asking you, though, is
8 whether or not the forecast itself is whether you have
9 an opinion about the validity of the forecast itself,
10 the results?

11 A I don't have a whole lot of faith in their
12 forecasts.

13 Q Do you have a professional opinion about the
14 validity of the long-term forecast?

15 A That's correct, I do not believe them to be
16 correct.

17 Q Do you have another forecast that you
18 believe is correct?

19 A No, sir.

20 Q Okay. So you think Tampa Electric's natural
21 gas forecast is flawed, but you don't know of an
22 accurate one -- or you don't know of a valid one?

23 A I want to answer yes, and I want to answer
24 it with an explanation. I know that TECO's forecast
25 is probably not correct, and I think TECO has already

1 said that it's probably not correct. I don't know of
2 any forecast that is correct. I think TECO's
3 witnesses have already stipulated to that.

4 The problem with forecasts is there is no
5 addressing the error that might be in them which gives
6 rise to the reason for an acid test or worst case
7 analysis.

8 Q Well, to do a cost-effectiveness study of
9 what you think is likely to occur, you have to have
10 one, though, don't you?

11 A It's a starting point.

12 Q Right. And so you are really not in a
13 position to evaluate Tampa Electric's
14 cost-effectiveness study if you don't know the
15 difference between their natural gas forecast and one
16 that you would consider valid or prudent to use?

17 A I think that's an inappropriate question in
18 a proceeding where you are reviewing the decisions
19 that a company made at the time -- and the material
20 that they had at the time they made those decisions.

21 My work product is confined to the material
22 that Tampa Electric used in arriving at its own
23 decisions.

24 Q But even in this case, if you decide that a
25 natural gas forecast, in your opinion, was somehow

1 flawed, that wouldn't mean that the results of the
2 cost-effectiveness study were inappropriate, unless
3 you knew the size of the flaw. I mean, you wouldn't
4 know whether or not it was cost-effective unless you
5 knew the answer to the question about the difference
6 between their forecast and one that you considered
7 prudent for planning purposes; isn't that correct?

8 A I'm just pointing out the fact that the
9 forecasts have been inaccurate. They will continue to
10 be inaccurate. They shouldn't be of the sole purpose
11 from determining cost-effectiveness. I don't have to
12 point out how big the error is.

13 Q Well, in this record there is no natural gas
14 forecast different than Tampa Electric's that you
15 consider valid for purposes of preparing a
16 cost-effectiveness study; is that correct?

17 A That is correct.

18 Q Okay. Now, in your exhibits to your
19 testimony, let's look first at Exhibit 2. What is it
20 that you think you've calculated with this exhibit?

21 A There's more than one thing on this exhibit.
22 The natural gas prices paid by Florida electric
23 utilities is indicated here. The coal prices paid by
24 Florida electric utilities is indicated here. And you
25 can just put your hand over everything else on that

1 schedule and inspect those, too, by yourself, come to
2 any conclusion that you wish.

3 What I offer with the second curb -- or the
4 third curb on the bottom is the trend, trying to
5 inspect or examine the trend of these two fuel prices
6 in a very simple ordinary manner.

7 Q Now, this chart does not measure the
8 difference between the price of gas and coal, does it?

9 A It just simply reports what the utilities
10 paid for coal. It reports what they paid for natural
11 gas.

12 Q This chart reflects not only price, but
13 purchasing in burn patterns of the various utilities?

14 A Oh, yes.

15 Q So to the extent that someone is doing a
16 forecast of gas prices, you can't tell from looking at
17 this chart what gas prices were in these periods;
18 isn't that correct?

19 A No. The weighted cents per kilowatt hour is
20 the price of a fuel that a company agreed to buy. So
21 if you are saying that a fuel price forecast isn't on
22 this graph, what you only see -- yeah, you are right.
23 The forecasted prices aren't on this graph.

24 Q The forecasted aren't on this graph for
25 anyone. These are purchased and purchased patterns

1 and burn patterns of Florida utilities and primarily
2 Florida Power & Light?

3 A Well, for natural gas, FPL buys a
4 substantial amount of natural gas.

5 Q The fact that Florida Power & Light buys 70%
6 to 80% of the natural gas of the Florida utilities?

7 A Subject to check, I'll agree with you.

8 Q And they have a number of different fuel
9 switching strategies and a number of different types
10 of plants that burn natural gas; isn't that correct?

11 A Yes. And there's something else that this
12 chart shows, too. Well, it's not explicit, it's
13 implied.

14 Q Was the answer to my question yes?

15 A Yes, sir. And you are interrupting. Please
16 let me finish.

17 One thing that is not obvious and is missing
18 is that utilities are not in isolation, they are
19 interconnected in a grid. So this chart also reflects
20 the dynamics of competition, the ability of utilities
21 to buy and sell energy on the grid. So this is
22 basically reflecting what the market did on all
23 generating resources.

24 Q But this does not tell you the gas prices
25 that a utility with a single gas plant would be likely

1 to achieve during this period?

2 A That's unit specific.

3 Q Right. And so is Polk One. Isn't that
4 correct?

5 A Polk One is a single entity.

6 CHAIRMAN CLARK: Mr. Breman, if would you
7 answer yes or no, and then give us the explanation.

8 WITNESS BREMAN: Yes, ma'am.

9 A Polk Unit One, yes, Polk Unit One is a
10 single power plant.

11 Q (By Mr. Hart) So Tampa Electric -- was it
12 your impression that Tampa -- you've compared the
13 results of this chart for gas prices to Tampa
14 Electric's forecast; isn't that correct?

15 A In JEB-1?

16 Q Yes.

17 A Yes, sir.

18 Q Now, was it ever your impression that Tampa
19 Electric was attempting in its natural gas price
20 forecast, to which you have compared it, to be trying
21 to forecast Florida Power & Light burn patterns?

22 A No. This is another source of information
23 that collaborates what Tampa Electric Company's fuel
24 price forecast trend is. And every year Tampa
25 Electric Company tends to put out a new price forecast

1 for natural gas. The trend in that is lower than the
2 prior year. This data set is publicly available data
3 available to everybody. It also supports the same
4 trend.

5 Q I understand that. But what we are trying
6 to look at right now is the criticisms that you are
7 making of Tampa Electric's forecast on your Exhibit 1
8 by comparing the forecast to the numbers that you've
9 put in the chart which you've labeled actual. And
10 these numbers in the actual column are primarily
11 Florida Power & Light's purchasing and burn patterns;
12 isn't that correct?

13 A It reflects all the state.

14 Q Right.

15 A Yes.

16 Q And so, it's -- the comparison between that
17 number and Tampa Electric's natural gas price forecast
18 is really meaningless, isn't it?

19 A Well, that would have to assume that Tampa
20 Electric Company has an extreme disadvantage in that
21 their prices for natural gas are extremely different
22 from FPL. I really don't know that to be the case.

23 Q Well, you don't know it's not the case
24 either, do you?

25 A I think Tampa Electric Company has provided

1 some exhibits to indicate a similarity between Tampa
2 Electric prices and Florida Power & Light's prices.

3 Q Isn't it true that what Tampa Electric has
4 provided is a comparison between their forecast and
5 Florida Power & Light's forecast of gas prices?

6 A Yes, sir.

7 Q They have never told you, have they, that
8 they were comparing their natural gas price forecasts
9 with Florida Power & Light's burn patterns?

10 A No, that's correct.

11 MR. HART: I'd like to have marked for an
12 exhibit, please, some excerpts from the deposition of
13 James Breman.

14 CHAIRMAN CLARK: We'll mark the excerpts
15 from Mr. Breman's deposition as Exhibit 39.

16 (Exhibit No. 39 marked for identification.)

17 Q (By Mr. Hart) Mr. Breman, I would like to
18 call your attention to Exhibit 3 to your deposition.
19 Isn't it true that you did an analysis of
20 Gainesville's natural gas price purchases verses what
21 you were able to determine from the average burn of
22 Florida utilities?

23 A Yes.

24 Q And you found that Gainesville's purchases
25 were \$1.09 above the average burn; is that correct?

1 A Yes.

2 Q And the reason for that is that Gainesville
3 was not able to purchase in the same patterns as
4 Florida Power & Light. Isn't that the primary reason
5 for the difference?

6 A I don't know that for a fact.

7 **CHAIRMAN CLARK:** Mr. Hart, how much more do
8 you have?

9 **MR. HART:** I would estimate about 20
10 minutes.

11 **CHAIRMAN CLARK:** 20?

12 **MR. HART:** That's what I would estimate.

13 **CHAIRMAN CLARK:** All right. We are going to
14 go ahead and take a break until quarter of 5:00, maybe
15 you can pair them down a bit.

16 (Brief recess.)

17

18 - - - - -
19 **CHAIRMAN CLARK:** We'll go back on the
20 record. Mr. Hart.

21 Q (By Mr. Hart) Mr. Breman, likewise with
22 the coal numbers on this Exhibit 2, those are coal
23 purchases of Florida; is that correct?

24 A Yes, sir.

25 Q They do not reflect the type of coal or pet
 coke projected to be burned at Polk One?

1 A They are not a forecast.

2 Q But, also --

3 A Yes, sir, it's not --

4 Q They don't even include in the numbers the
5 type of coal that will be burned at Polk One. Let me
6 ask the question a different way. They include lots
7 of types of coal with different prices than that that
8 will actually be burned in Polk Unit One?

9 A I can't answer that question with a yes or a
10 no. I don't know what TECO is going to be burning at
11 the Polk unit, other than the coals specified by the
12 DOE testing program.

13 Q Well, in your testimony you accepted and
14 made a price forecast based on Tampa Electric's coal
15 forecast for Polk One, did you not?

16 A I don't recall that. If you could point me
17 to it?

18 Q We will get to it in a minute. So you don't
19 know whether or not your coal numbers here have any
20 relationship to the price of coal that will be burned
21 in Polk One; is that correct?

22 A The relationship was already explained.
23 It's not a yes or no answer.

24 Q Well, it's yes or no whether you know.

25 A I've already answered the question.

1 Q Well, did you answer the question yes or no?

2 CHAIRMAN CLARK: Mr. Breman, for my
3 clarification.

4 WITNESS BREMAN: I can't answer it yes or
5 no. The only information I know for a fact is that
6 TECO is going to be burning specific coals pursuant to
7 a DOE testing program. So absent that, TECO has not
8 entered into or recorded precisely what they are going
9 to be burning in the Polk unit after the DOE testing
10 program is completed. So some of the prices that are
11 in this JEB-2 may be the types of coal that TECO will
12 be burning, I don't know.

13 Q But you do know that the plant is intended
14 to burn a high sulphur inexpensive coal, don't you?

15 A No, I don't know that. I don't know what
16 TECO is going to be doing after the test burn program.

17 Q Well, this differential on yours, between
18 gas prices and coal prices, is not intended to be the
19 difference between gas and coal for Polk One; is that
20 true?

21 A That's true.

22 Q Now, you spent -- (Pause)

23 MR. HART: I have another exhibit that I'd
24 like to have marked, which is late-filed deposition
25 exhibit of James Breman.

1 **CHAIRMAN CLARK:** The late-filed deposition
2 exhibit of Mr. James Breman will be marked as Exhibit
3 40.

4 (Exhibit No. 40 marked for identification.)

5 **Q** **(By Mr. Hart)** Mr. Breman, if we turn to
6 your Exhibit 1 to your testimony, is it correct that
7 the prices that you've calculated in this exhibit for
8 1996 exceed Tampa Electric's forecast for 1996 in all
9 of its forecasts?

10 **A** No.

11 **Q** Which one does not?

12 **A** The exhibit that is marked 40, which is my
13 Late-Filed Deposition Exhibit JEB-4. It's, in my
14 mind, unreasonable to take a period to date, the 1996
15 number --

16 **CHAIRMAN CLARK:** Mr. Breman, just a minute.
17 Mr. Hart, will you ask your question again, please?

18 **Q** **(By Mr. Hart)** I asked you if the number
19 that you calculated for 1996 so far exceeds the prices
20 that Tampa Electric forecasted for 1996 in all of its
21 forecasts?

22 **A** It appears to have. But, again, I would
23 point out that this is only part of the calendar year
24 1996 prices, and you are comparing apples to oranges.
25 You are not comparing the total price for the entire

1 year with the total price for the entire year.

2 Q But if the plant were starting operation
3 today, Tampa Electric customers would be receiving
4 more fuel savings than they were ever forecasted to
5 receive in any of Tampa Electric's forecasts, isn't
6 that correct?

7 A Not entirely. The current price of natural
8 gas is less than the April '96 period to date price.
9 Your question assumes that Polk would be in operation
10 beginning with January 1, 1996, then your answer would
11 be correct.

12 Q What is the natural gas price for --

13 CHAIRMAN CLARK: Mr. Hart, you need to stay
14 at that microphone.

15 MR. HART: I'll come right back. (Tenders
16 document to witness.)

17 Q (By Mr. Hart) What is the gas cash gas
18 price for natural gas on Monday of this week?

19 A If you would like to point to me which
20 number you want me to read into the record, I will.

21 Q Do you know how natural gas prices are
22 recorded in the Wall Street Journal?

23 A I have seen it from time to time. This is
24 not the schedule I study. Natural gas prices on the
25 Wall Street Journal are not something I review in any

1 detail. Tampa Electric Company did not file any Wall
2 Street Journal fuel price information in their
3 production of documents. I believe they did reference
4 documents like Gas Week Daily. Gas Week Daily
5 currently indicates the well head price of natural gas
6 to be around \$2.65.

7 Q Now at what hub?

8 A It would be either Zone 1, 2 or 3. I would
9 have to go back and look at it again.

10 MR. HART: I'd like this marked as an
11 exhibit, please?

12 CHAIRMAN CLARK: Yes, the Wall Street
13 Journal excerpt dated July 16, 1996, will be marked as
14 Exhibit 41.

15 (Exhibit No. 41 marked for identification.)

16 Q (By Mr. Hart) Now, you'll see down there
17 for Raw Products Natural Gas, the Henry Hub price for
18 Monday of \$2.63. Do you know what the Henry Hub price
19 represents?

20 A Generally, where some of the gas delivered
21 to Florida comes from.

22 Q Do you know why Henry Hub is the only price
23 reported in the Wall Street Journal?

24 A No, I do not.

25 MR. HART: I also request that this be

1 marked as an exhibit. This is an excerpt from Gas
2 Daily.

3 **CHAIRMAN CLARK:** The excerpt from the Gas
4 Daily dated July 8, 1996, will be Exhibit 42.

5 (Exhibit No. 42 marked for identification.)

6 **Q** (By Mr. Hart) Now, Mr. Breman, this is a
7 publication that you said you are familiar with. Is
8 that correct?

9 **A** Yes, sir.

10 **Q** Now, it has three prices in the Florida
11 zones; is that correct?

12 **A** Yes, sir.

13 **Q** And this was July 5th prices; is that
14 correct?

15 **A** The left-hand column is headed 7/5/96 Daily
16 Midpoint.

17 **Q** Okay. Now, that shows the price to be
18 somewhere in the Florida zones of 2.57 to 2.61; is
19 that correct? Or do you know if those are the Florida
20 zones?

21 **A** I believe the ones I would look at would be
22 the ones labelled FGT Z1, Z2, Z3.

23 **Q** Now, these are well head gas prices without
24 transportation; is that correct?

25 **A** Yes, sir.

1 Q And transportation from these points to
2 Florida could be as much as 90 cents to \$1; could they
3 not?

4 A Could be?

5 Q Yes.

6 A The possibility exists.

7 Q Do you know what the transportation price is
8 to bring this gas from this point to Florida?

9 Let me ask this question. If you went to
10 Florida Gas Transmission today and asked them for firm
11 transportation to Florida, the price would be in
12 excess of 90 cents, would it not?

13 A I don't know that for a fact. It could be.

14 Q Well, if that's correct, then the gas prices
15 comparable to the ones on your chart would be \$3.50?

16 A If that's what the master says.

17 Q So it's not only the prices through April,
18 but it's the prices today, as we are sitting here, are
19 in excess of any of the prices forecast by Tampa
20 Electric for 1996; is that correct?

21 A Yes, sir.

22 Q And if the plant was going in operation
23 today, the customers would be receiving more fuel
24 savings than Tampa Electric ever forecasted they would
25 receive; isn't that correct?

1 A Yes, that is correct. But this material of
2 looking at "well, today justifies our prior decisions"
3 is kind of like saying "the end justifies the means,"
4 or whatever decision we made at the time.

5 So when TECO's forecasts were made, they
6 didn't have this data. There was no assurance that
7 the fuel price forecasts were going to be accurate.
8 All they knew was that the prior year wasn't accurate,
9 that the assumptions of demand and energy and that the
10 upward prices in fuels weren't materializing. That's
11 what Tampa Electric Company knew. And in spite of
12 that, Tampa Electric Company continues to forecast
13 higher prices. That is what Tampa Electric Company
14 knew at the time they made their decisions.

15 Q But in your testimony you spent a
16 substantial amount of time comparing Tampa Electric's
17 forecast with Florida Power & Light's actual burn
18 practices and criticizing the forecasts for being
19 below that; isn't that correct?

20 A No, sir.

21 Q That you don't criticize them or you don't
22 spend -- what about that is not correct?

23 A Well, if you could break that whole set of
24 assumptions into separate questions, I can answer each
25 one of them separately.

1 Q In your testimony, the comparison of Tampa
2 Electric's forecast to what you thought of as actual
3 prices was important until the price got above the
4 forecast; isn't that correct?

5 A No, sir. That analysis is important on a
6 going-forward basis. It's prudent to be aware of what
7 the competition is doing. That chart shows what the
8 competition was, Tampa Electric inclusive.

9 Q Well, is it your testimony then that actual
10 prices aren't a good basis for judging the validity of
11 forecasts?

12 A It's just one thing to look at among others.

13 Q Can you answer that question yes or no?

14 A Say it again, please?

15 Q Is it your testimony that comparing
16 forecasts to actual prices is not a good basis for
17 measuring the validity of the forecast?

18 A I don't think -- I'm sure I don't agree with
19 your conclusion.

20 MR. HART: I have no further questions of
21 this witness.

22 CHAIRMAN CLARK: Questions, Commissioners?
23 Redirect.

24 MR. ELIAS: Just one.

25

REDIRECT EXAMINATION

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BY MR. ELIAS:

Q Mr. Breman, would you characterize the prices listed in Exhibit 41 and 42 as spot prices?

A You are referring to the Wall Street Journal and the Gas Daily exhibits?

Q Yes, sir.

A They are spot.

Q Do you believe it's appropriate to compare an annual fuel price forecast with one daily spot price?

A Not in isolation.

MR. ELIAS: No further questions.

CHAIRMAN CLARK: Exhibits.

MR. ELIAS: Staff would move Exhibit 39 -- I'm sorry, Exhibit 38.

CHAIRMAN CLARK: Correct. Exhibit 38 is entered in the record without objection.

MR. ELIAS: By agreement we will substitute the entire transcript of Mr. Breman's deposition for the excerpts in Exhibit 39.

CHAIRMAN CLARK: All right. Then Exhibit 39 will be the entire deposition transcript for the deposition of Mr. Breman. And it will be admitted in the record without objection.

1 Mr. Hart the next ones are yours, I think.

2 MR. HART: We move Exhibits 41 and 42 then.

3 CHAIRMAN CLARK: It would be 40.

4 MR. HART: Okay.

5 CHAIRMAN CLARK: 41.

6 MR. HART: All right.

7 CHAIRMAN CLARK: And 42. They will be

8 admitted in the record without objection.

9 (Exhibit Nos. 38 through 42 received in
10 evidence.)

11 MR. ELIAS: Madam Chairman, at this point

12 Staff would offer the deposition transcript and
13 associated exhibits for Mr. Samuel Waters.

14 CHAIRMAN CLARK: Mr. Long.

15 MR. LONG: Yes. Madam Chairman, I would
16 like to renew our objection to this deposition. A
17 Macintosh apple and a fire engine are both red.

18 CHAIRMAN CLARK: You need to speak into the
19 microphone and speak loudly.

20 MR. LONG: I will. A Macintosh apple and a
21 fire engine are both red. You can make that

22 comparison. But I think the point is that that's a

23 meaningless comparison. I think that everything that

24 we've heard in the last two days confirms the points

25 that I made yesterday when I raised my objection.

1 We've heard that the units put in service by
2 the various utilities are physically different. As a
3 result, their costs are different. The timing of
4 construction, the timing of ordering these units is
5 different. The generation mix for each of the
6 utilities is different. The system economics for each
7 utility is different. The DOE funding is different.
8 In particular, the other utilities didn't have DOE
9 funding, and that was a major factor in this
10 Commission's need determination order with regard to
11 Tampa Electric's Polk IGCC unit. The sites are
12 different with different development requirements.

13 In short, after listening to the testimony
14 that's been offered, I would respectfully submit that
15 no party has made a relevant comparison or one that is
16 of probative value with regard to the prudence of
17 Tampa Electric's investment in its Polk IGCC unit.

18 **CHAIRMAN CLARK:** Mr. Long, do I understand
19 your objection to be that the probative value of this
20 is so small that it is irrelevant?

21 **MR. LONG:** Yes, that's correct, Chairman
22 Clark.

23 **CHAIRMAN CLARK:** All right. Mr. Howe, you
24 indicated at some point you wanted to respond to this
25 objection?

1 MR. HOWE: Yes, ma'am. If I might, I would
2 bring to the Commission's attention Mr. Anderson when
3 he took the stand said -- he compared the complaint
4 index with other utilities. He said that Tampa
5 Electric has 40% less outages than the other utilities
6 in Florida.

7 Mr. Rowe, in his prefiled testimony refers
8 to the treatment of the Florida Power & Light Martin
9 units, the Florida Power & Light share on that units
10 which are on admittedly different systems. Mr. Smith
11 in his rebuttal testimony, I believe, refers to the
12 fuel forecasts of the other utilities in Florida.
13 Mr. Hart in his cross examination, I believe of
14 Mr. Breman, referred to FPL's system use of gas. That
15 is addressed in some detail in Mr. Waters' testimony.

16 Beyond that though, I would like to bring us
17 back to the purpose of this proceeding, and it is a
18 prudent review to determine regulatory treatment.
19 You, Commissioners, regulate four major electric
20 utilities in the state. What you have found in the
21 recent past is that in 1994 Florida Power & Light
22 brought on-line natural gas-fired combined cycle
23 units. Florida Power & Light at one point even
24 proposed to DOE that they construct an IGCC if they
25 had sufficient funding. That is addressed in

1 Mr. Waters' deposition. And the reason that they
2 didn't build the unit and how that utility in
3 evaluating the IGCC technology found that it was not
4 economical on their system compared to a natural
5 gas-fired combined cycle. Mr. Waters testimony will
6 also tell you that although they built the Martin
7 units to be coal gasification capable, Florida Power &
8 Light has no plans to ever build or convert a unit to
9 coal gas. And, in fact, Florida Power & Light under
10 their current analyses is finding that because of
11 falling prices a pulverized coal unit might be more
12 economical on their system. However, their future
13 units are currently planned to be natural gas-fired
14 combined cycles.

15 In the case of Florida Power Corporation
16 with the depositions of Mr. Niekum and Mr. Major, they
17 address how in a need determination that was also
18 filed in 1991 before this Commission, Florida Power
19 Corporation specifically considered as one of its
20 alternatives an IGCC unit. It did not even make the
21 top five list. You'll find in the documents that were
22 filed in support of those depositions, that the IGCC
23 is in a second list of five alternatives where a scale
24 of the cumulative present worth revenue requirement
25 deficiency is much larger than those five that were

1 given serious considerations.

2 You will also find that Florida Power
3 Corporation is today building in Polk County a few
4 miles down from Tampa Electric, a natural gas-fired
5 combined cycle. The depositions will also reflect
6 that Florida Power Corporation in the time since their
7 need determination has revisited the question of
8 whether they even need to build that unit. And they
9 have compared the construction of that unit against
10 the possibility of repowering their Higgins and Turner
11 generation plants and have decided that a natural
12 gas-fired combined cycle remains the best alternative.
13 And their deposition shows that they have no plans to
14 build a coal/gas facility in the future, even though
15 their Polk unit was cited and certificated to be
16 coal/gas cable.

17 **CHAIRMAN CLARK:** Mr. Howe, you are making an
18 argument as to why all three depositions should be in?

19 **MR. HOWE:** Yes, ma'am. And I think you have
20 to look at it within the scope of the utilities you
21 regulate. What you have is this is a very unusual
22 scenario, I believe, in Florida. You have three
23 utilities within a very short time frame have
24 considered the exact same technology. Two have
25 reached contrary decisions to Tampa Electric. And

1 their units -- one came on line in '94, the other will
2 come on line in '98. And in the middle you have Tampa
3 Electric saying that there's something about their
4 system that makes such a unit economical on their
5 system.

6 **CHAIRMAN CLARK:** And the probative value of
7 Mr. Waters', Majors' and Niekum's testimony?

8 **MR. HOWE:** Will be that it shows what
9 similar utilities -- and I believe the standard in
10 this proceeding is going to be what would a reasonable
11 utility do under the circumstances. And Tampa
12 Electric is fully aware of what the other utilities
13 have done. And with their burden of proof in this
14 proceeding, I think it is incumbent upon them to show
15 you that there's something different about their
16 system that justifies them reaching a different
17 conclusion.

18 I make no qualms about the fact that there
19 are obvious differences on the various systems, but
20 that's something for you to consider, whether in the
21 records of this proceeding you can glean a difference
22 that justifies Tampa Electric from reaching a
23 different decision.

24 And so in terms of relevance, I think it is
25 incredibly relevant to a trier of fact and a

1 regulatory agency with oversight over all the electric
2 utilities in the state to some degree to try to
3 understand why different results have been reached by
4 one of them. And if you find that the record supports
5 that the Tampa Electric has some systemic difference
6 from the other utilities, well, you will have had a
7 full record to make that decision.

8 What Tampa Electric is really arguing
9 against is you fully informing yourself. I don't
10 think there's any problem in this proceeding with the
11 Commission being prejudiced by hearing what the other
12 utilities have done in sufficient detail. Thank you.

13 **CHAIRMAN CLARK:** Mr. Elias.

14 **MR. ELIAS:** Staff does not believe that the
15 Commission has to evaluate --

16 **CHAIRMAN CLARK:** Let me just ask a question.
17 Are you arguing on all --

18 **MR. ELIAS:** I can. But I was just going
19 to --

20 **CHAIRMAN CLARK:** Well, I don't want to
21 repeat this if the argument is the same.

22 **MR. ELIAS:** Okay. I'll be happy to argue.

23 **CHAIRMAN CLARK:** Is the argument going to be
24 the same for all three depositions?

25 **MR. ELIAS:** Essentially, yes.

1 CHAIRMAN CLARK: All right.

2 MR. ELIAS: Staff does not believe that the
3 Commission is constrained in evaluating the
4 reasonableness of TECO's actions in looking at
5 evidence that is simply TECO specific. Both the
6 deposition of Mr. Waters and the deposition of
7 Messrs. Niekum and Majors, contain the fuel price
8 forecasts of these two utilities over the last six
9 years. We think that is a good basis to compare the
10 reasonableness of TECO's forecasts.

11 Both these depositions contain extensive
12 information concerning the bricks-and-mortar costs to
13 construct their units, which were both natural
14 gas-fired combined cycles using 7F combustion
15 turbines. Both these depositions contain information
16 on the actions that Florida Power & Light and Florida
17 Power Corporation took subsequent to the determination
18 of the need, of need by this Commission, in the
19 continued construction of their units. We think that
20 that is probative in evaluating the reasonableness of
21 the actions that Tampa Electric Company took in
22 continuing to construct the Polk IGCC.

23 As Mr. Howe mentioned, but just to
24 reiterate, Mr. Waters -- or Mr. Rowe in his direct
25 testimony made some extensive references to the FPL

1 Scherer purchase and the FPL Martin County costs. We
2 think that the information contained in the
3 depositions with respect to those two issues may
4 assist the Commission in rendering its deposition.

5 I would also echo the comment that Florida
6 Power Corporation is building a unit within 10 miles
7 of the Polk IGCC plant with significantly different
8 cost characteristics. I think it's reasonable to
9 investigate those cost characteristics to assess
10 whether or not TECO's continued decision to construct
11 the Polk IGCC was reasonable and prudent.

12 And the last comment that I have to make is
13 there is information in these depositions that I
14 believe cuts both ways. There are some issues that
15 are outstanding in this case that I believe -- there's
16 substantial information in these depositions that
17 resolves the issues consistent with the position of
18 Tampa Electric Company. And for those reasons we
19 think it is probative and, therefore, admissible.

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21 (Transcript continues in sequence in
22 Volume 7.)

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