

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

**In re: Review of Florida Power
Corporation's Earnings, Including Effects
of Proposed Acquisition of Florida Power
Corporation by Carolina Power & Light**

DOCKET NO. 000824-EI

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**DIRECT TESTIMONY
OF
DALE D. WILLIAMS

ON BEHALF OF
FLORIDA POWER CORPORATION**

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**DIRECT TESTIMONY OF DALE D. WILLIAMS
ON BEHALF OF FLORIDA POWER CORPORATION**

1 **Q. Please state your name and business address.**

2 A. My name is Dale D. Williams. My business address is Post Office Box 1551,
3 Raleigh, North Carolina, 27602.

4

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

6 A. I am employed by Florida Power Corporation as an Oil Trader.

7

8 **Q. Please describe your education and business experience.**

9 A. I earned a Bachelors Degree in Engineering (Energy Conversion) from the
10 University of South Florida in 1973. In 1981, I received a Master of Business
11 Administration Degree from the Florida Institute of Technology. In 1973, I was
12 employed by Florida Power Corporation and began my career in the Plant
13 Performance Department. In that capacity, I assisted with efficiency testing of
14 power plants, and collected and analyzed monthly operating statistics for the
15 power plant monthly reports. In 1975, I was transferred to the Fuel and Special
16 Projects Department. In this department, I was responsible for or participated in
17 the procurement and contract administration for all the fuels utilized by Florida
18 Power for the generation of electricity. In addition, part of my responsibilities
19 included fuel inventory control and price forecasting.

1 I have also participated in various fuel-related special projects, including
2 participation on Florida Electric Power Coordinating Group (FCG) projects
3 regarding fuel forecasts and fuel emergency plans. In March 2001, I took the
4 position of Oil Trader. In this position my responsibilities are similar, but my
5 activities are primarily focused on #6 fuel oil.

6

7 **Q. Have you previously testified before the Florida Public Service Commission?**

8 A. Yes. I have previously testified in a number of proceedings involving fuel
9 forecasts and procurement in fuel adjustment dockets. I also testified for Florida
10 Power in the last rate case regarding fuel price forecasts and inventory target
11 levels.

12

13 **Q. What is the purpose of your testimony?**

14 A. The purpose of my testimony is to explain the Company's fuel price forecasts and
15 inventory target levels.

16

17 **Q. Have you prepared exhibits to your testimony?**

18 A. Yes. The exhibits are attached to my prefiled testimony and have been marked for
19 identification as Exhibits DDW-1 through DDW-4.

20

21 **Q. Are you sponsoring any Minimum Filing Requirements (MFRs)?**

22 A. Yes, they are listed in Exhibit DDW-1. I have reviewed them and they are true
23 and correct, subject to their being updated in the course of this proceeding.

1 **Q. Please describe the basic components of the Company's fuel price forecast.**

2 A. The Company's fuel price forecast consists of a series of discrete forecasts of fuel
3 prices by fuel type. Exhibit DDW-2 shows the projected prices through the year
4 2002 for the following fuels: coal, oil, natural gas and nuclear. Where different
5 grades of fuel are used (in the case of coal and oil), the Company forecasts for
6 each grade or type.

7

8 **Q. Exactly what type of fuels are examined in the forecast?**

9 A. The forecast contains prices for the following fuels:

- 10 • Coal - 0.7% sulfur (1.2 lbs. SO²/mmbtu) and 1.5% sulfur (2.1 lbs
11 SO²/mmbtu)
- 12 • Oil - 2.5%, 1.5% and 1.0% sulfur residual fuel oil and No. 2 fuel oil.
- 13 • Natural Gas (supply costs into the pipeline)
- 14 • Nuclear Fuel

15

16 **Q. Do these fuels represent the types most likely to be available to and utilized
17 by Florida Power over the forecast period?**

18 A. Yes, they do.

19

20 **Q. Turning now to the individual fuels included in the forecast, will you please
21 explain why Florida Power's forecast reflects two different sets of coal
22 prices?**

23 A. Florida Power's forecast reflects two different sets of coal prices because it utilizes

1 different grades of coal at its Crystal River Plant. Specifically, Crystal River
2 Units 1 & 2 burn coal with a 1.5% sulfur content (2.1 lbs. SO²/mmbtu) and
3 Crystal River Units 4 & 5 burn coal with a 0.7% sulfur content (1.2 lbs.
4 SO²/mmbtu). Different grades of coal are sold at different prices in the market.
5 Thus, Florida Power must forecast prices for each of the two different grades of
6 coal it utilizes at its Crystal River Plant.

7
8 **Q. Other than the grade of coal utilized, what other considerations drive the**
9 **Company's coal forecast?**

10 A. Coal prices are impacted by a variety of factors, including the source, the type and
11 quality characteristics, price commitments under existing contracts, the market for
12 spot purchases and transportation costs to the point of use. Most of the coal
13 expected to be used at Florida Power's generating plants will be mined in the
14 Central and Southern Appalachian region. The prices in the Company's forecast
15 were derived from current contracts and projected market prices for supply &
16 transportation of such coal to Crystal River.

17
18 **Q. Focusing next on oil prices, please explain why several different prices have**
19 **been projected in the Company's study for oil.**

20 A. Oil prices were forecast for three different sulfur grades of residual fuel oil - 2.5%,
21 1.5% and 1.0% - and for distillate oil (No. 2 oil). The No. 2 oil is used at Florida
22 Power's combustion turbines and at steam plants for start-up and flame
23 stabilization. The 1.0% and 2.5% Sulfur fuel oil is currently used by the

1 Company at Suwannee River steam plants. The Anclote steam plant normally
2 uses 1.5% Sulfur fuel oil. The P. L. Bartow Steam Plant normally burns 2.5%
3 Sulfur fuel oil. Like coal, different types of oil are sold at different prices.
4 Accordingly, the Company forecasts each of them separately.
5

6 **Q. Other than the type of oil, what are the key assumptions that affect the price**
7 **forecast for oil?**

8 A. The projected oil prices are based on estimates of the contract price of oil which
9 includes the cost of delivery to Florida Power's terminals. The oil prices all
10 assume bulk, waterborne deliveries to West Coast Florida Terminals used by
11 Florida Power indexed to U. S Gulf Coast market prices. Transportation costs to
12 individual plants is treated as a separate adder.
13

14 **Q. Please describe the derivation of the nuclear fuel price forecast.**

15 A. The nuclear fuel forecast incorporates the expected fuel expenses for Crystal
16 River Unit 3. It is based on a combination of actual dollar expenditures, estimates
17 of future purchases, projected allowance for funds used during construction
18 (AFUDC) for each reload batch, and the amount of energy (BTUs) expected to be
19 extracted during each cycle.
20

21 **Q. What are the key assumptions that affect the price of natural gas?**

22 A. The natural gas forecast is based on the contract structures and spot market prices
23 expected to be in effect during the forecast period for supply into the pipelines

1 which deliver the fuel into Florida. Pipeline transportation charges are forecasted
2 separately.

3

4 **Q. Which of these fuels does the Company keep in inventory?**

5 A. As shown in Exhibit DDW-3, the only fuels Florida Power actually maintains in
6 inventory are coal and oil.

7

8 **Q. What is the objective of the Company's fuel inventory target levels for each
9 of these type fuels?**

10 A. The Company's objective in establishing fuel inventory target levels is to maintain
11 system fuel inventories at optimum levels consistent with operational and
12 financial considerations. In determining these inventory levels, attention is given
13 to several considerations, including:

- 14 1 . Projected operating requirements and costs based on the system
15 constraints and anticipated demand;
16 2. Fuel storage, transportation and handling capabilities;
17 3. Potential interruptions in fuel supply, their expected duration and
18 frequency; and,
19 4. Current and future fuel market conditions.

20

21 **Q. Would you describe generally the procedure followed in establishing the
22 Company's fuel inventory target levels?**

23 A. Because of continuing changes in unit availability, economics and logistics, target

1 inventory levels are evaluated for each fuel type on a total system basis, as well as
2 for each generating facility. Actual inventory levels are monitored daily and
3 inventory targets are reviewed and revised as necessary when changes in system
4 requirements and capabilities occur. The target levels for each fuel type are also
5 used as input to the Company's financial model for the projection of fuel expense
6 and inventory balances.

7
8 **Q. How were the inventory target levels identified in this case developed?**

9 A. The system inventory target level for each generating plant was established by the
10 process described above. In connection with oil inventory, the Company must
11 also consider the storage capacity at the oil terminals owned by Florida Power,
12 expected requirements and the specific delivery modes available at each terminal.
13 Based upon this analysis along with the one previously described, the Company
14 was able to establish the system inventory target levels for oil that are recorded in
15 the MFRs. These target levels are also shown by fuel type in Exhibit DDW-3.

16
17 **Q. Does the development of coal inventory levels occur in substantially the same
18 way?**

19 A. Yes. However, additional considerations include potential supply problems with
20 mining sources, barge and rail transportation. The storage capacity available near
21 New Orleans is also a consideration when evaluating coal inventories at Crystal
22 River.

23

1 **Q. How do the total fuel inventory target levels compare with the Commission's**
2 **guidelines established in Order No. 2645 Docket No. 830001-EU?**

3 A. As can be seen Exhibit DDW-4, on a total dollar basis, Florida Power's inventory
4 levels are significantly below the guidelines.

5

6 **Q. Does this complete your testimony?**

7 A. Yes, it does.

EXHIBIT INDEX

TITLE	EXHIBIT
Minimum Filing Requirement Schedules	DDW-1, Sheet 1
Coal - Assumptions & Projections	DDW-2, Sheet 1
Residual Oil & Light Oil - Assumptions & Projections.....	DDW-2, Sheet 2
Natural Gas- Assumptions & Projections	DDW-2, Sheet 3
Fuel Inventory Target Levels	DDW-3, Sheet 1
Comparison of Fully Adjusted Fuel Inventory Versus FPSC Guidelines and Resultant Impact on Revenue Requirement	DDW-4, Sheet 1

Coal – Assumptions

Coal Price Projections are provided by Electric Fuels Corporation and represent an estimate of Electric Fuels Corporation's price to Florida Power for coal delivered to the plant sites in accordance with the delivery schedules projected. It assumes environmental restrictions on coal quality remain in effect as per current plans: 2.1 lbs. per million BTU sulfur dioxide limit for C. R. 1 & 2 and 1.2 lbs. per million BTU sulfur dioxide limit for C. R. 4 & 5.

Coal-Price Projections

2002	C.R. 1 & 2			C.R. 4 & 5		
	A	B	C	D	E	F
	BTU/lb	\$/ton	\$/million BTU	BTU/lb	\$/ton	\$/million BTU
January	12,415	52.04	2.096	12,424	69.27	2.788
February	12,415	52.07	2.097	12,428	69.49	2.796
March	12,415	52.02	2.095	12,428	69.40	2.792
April	12,387	51.66	2.085	12,428	69.61	2.801
May	12,415	52.02	2.095	12,430	69.22	2.784
June	12,393	51.69	2.085	12,431	69.53	2.797
July	12,500	53.92	2.157	12,383	69.26	2.797
August	12,500	53.96	2.158	12,375	69.59	2.812
September	12,500	53.90	2.156	12,383	69.25	2.796
October	12,500	54.06	2.163	12,380	69.49	2.807
November	12,500	53.92	2.157	12,406	69.22	2.790
December	12,500	53.96	2.158	12,386	69.27	2.796

Residual Oil & Light Oil-Assumptions

World Crude Oil

Crude oil prices will remain relatively stable through the forecast period.

U. S. Government Policy

U. S. Government Policy is not expected to impact the residual or light oil market .

Residual & Light Oil Supply/Demand

- a) Weather assumed to be normal throughout the period.
- b) Fuel oil demand will remain relatively stable throughout the period.
- c) Residual "destruction" facilities will tend to balance residual fuel supply with demand.
- d) Mismatches between b) and c) combined with uncertain weather will cause periodic mismatches in supply/demand balances and wide short-term fluctuations in prices than presented in this forecast.
- e) Florida Power's primary supply sources will continues to be U.S. Gulf Coast refining centers.

OIL PRICE PROJECTIONS

2002	Residual Fuel Oil (6.5 million BTU/bbl)						Light Oil (5.8 million BTU/bbl)	
	2.5% Sulfur		1.5% Sulfur		1.0% Sulfur			
	A	B	C	D	E	F	G	H
Jan – Feb	19.50	3.00	24.05	3.70	26.00	4.00	37.70	6.50
March	18.85	2.90	21.45	3.30	22.75	3.50	37.70	6.50
Apr – Sep	18.85	29.90	21.45	3.30	22.75	3.509	31.90	5.50
Oct – Dec	19.50	3.00	22.75	3.50	24.70	3.80	34.80	6.00

Natural Gas -Assumptions

- a) Normal weather conditions are assumed.
- b) Governmental regulations affecting the natural gas markets will remain unchanged.
- c) Forecast is based on expected contract structures & spot market prices.

Natural Gas Price Projections

<u>2002</u>	<u>\$/million * BTU</u>
Jan –Feb	5.50
Mar- Sep	4.10
Oct-Dec	4.50

* Transport costs not included

MINIMUM FILING REQUIREMENT SCHEDULES

Sponsored, All or In Part, by Dale D. Williams

<u>Schedule</u>	<u>Schedule Title</u>
B-16	Nuclear Fuel Balances
B-17a	System Fuel Inventory
B-17b	Fuel Inventory by Plant
F-17	Assumptions
G-9a	Interim System Fuel Inventory
G-9b	Interim Fuel Inventory by Plant

Fuel Inventory Target Levels

	(A)	(B)
	<u>2002 (13 month average)</u>	
	<u>Quantity</u>	<u>Cost</u>
1) Coal CR1 &2 (Regular Coal)	200,000 tons	10,292,000
2) Coal CR4&5 (Low Sulfur Coal)	350,000 tons	23,888,000
3) Heavy Oil	1,124,000 bbls	24,315,000
4) Light Oil	759,100 bbls	27,711,000
5) Total		\$86,206,000

COMPARISON OF FULLY ADJUSTED
 FUEL INVENTORY VERSUS FPSC GUIDELINES
 AND RESULTANT IMPACT ON REVENUE REQUIREMENT
 (in Thousands)

	(A)	(B)
	<u>Source</u>	2002 <u>Projected Test Year</u>
1) Fuel Inventory Value	MFR B-17	\$86,206
2) Fuel Inventory Value at Commission Guideline Levels	Docket No. 830001 Order No. 12645	\$130,995
3) Inventory Value Less Commission Guideline Level	line 1) – line 2)	(\$44,789)
4) Calculation of Revenue Requirement -		
5) Net Change in Rate Base	line 3	(\$44,789)
6) Fully Adjusted Cost of Capital	MFRD-1	9.81%
7) Net Change in NOI Requirement	line 5 * line 6	(\$4,394)
8) Revenue Expansion Factor	MFRC-58	1.6313
9) Net Change in Revenue Requirement - System	line 7 * line 8	(\$7,168)
10) Composite Fuel Stock Jurisdictional Separation Factor	MFR B-7	92.11%
11) Net Change in Revenue Requirement - Jurisdictional	line 9 * line 10	(\$6,602)