

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

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In re: Petition for Rate Increase by  
Progress Energy Florida, Inc.

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Docket No. 050078-EI

Submitted for filing:  
April 29, 2005

**DIRECT TESTIMONY OF**

**DALE D. WILLIAMS**

**On behalf of PROGRESS ENERGY FLORIDA**

R. Alexander Glenn  
James A. McGee  
Progress Energy Service Company, LLC  
Post Office Box 14042 (33733)  
100 Central Avenue (33701)  
St. Petersburg, Florida  
Telephone: 727-820-5184  
Facsimile: 727-820-5519

And

Gary L. Sasso  
James Michael Walls  
John T. Burnett  
Carlton Fields  
Post Office Box 3239  
4221 West Boy Scout Boulevard  
Tampa, Florida 33607-5736

Attorneys for  
PROGRESS ENERGY FLORIDA

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**DIRECT TESTIMONY OF**

**DALE D. WILLIAMS**

1 **I. Introduction and Purpose.**

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

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

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

7 A. I am employed by Progress Energy Carolinas as a Senior Oil Trader.  
8

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

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

1 Electric Power Coordinating Group (FCG) projects regarding fuel forecasts and fuel  
2 emergency plans. In March, 2001, I took the position of Senior Oil Trader. In this  
3 position, my responsibilities are similar as those described above, but my activities are  
4 primarily focused on fuel oil.

5  
6 **Q. Have you previously testified before the Florida Public Service Commission?**

7 A. Yes. I have previously testified in a number of proceedings involving fuel forecasts  
8 and procurement in fuel adjustment dockets. I also testified for Progress Energy  
9 Florida (“PEF” or the “Company”) in its last rate case on the subjects of fuel price  
10 forecasts and inventory target levels.

11  
12 **Q. What is the purpose of your testimony?**

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

15  
16 **Q. Have you prepared any exhibits to your testimony?**

17 A. Yes, I have prepared the following exhibits, which are exhibits to my testimony:

- 18 • Exhibit No. \_\_\_\_ (DDW-1), a list of the Minimum Filing Requirements (MFRs)  
19 schedules I am sponsoring or co-sponsoring.
- 20 • Exhibit No. \_\_\_\_ (DDW-2), the Company’s fuel price forecast.
- 21 • Exhibit No. \_\_\_\_ (DDW-3), the Company’s fuel inventories.
- 22 • Exhibit No. \_\_\_\_ (DDW-4), a comparison of the Company’s fuel inventory  
23 levels against Florida Public Service Commission (the “Commission”),

1 guidelines.

2 These exhibits are true and accurate.

3

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

5 A. Yes, they are listed in Exhibit No. \_\_\_\_\_ (DDW-1). These MFR schedules are true  
6 and correct, subject to being updated during the course of this proceeding.

7

8 **II. The Fuel Price Forecast.**

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

10 A. The Company's fuel price forecast consists of a series of discrete forecasts of fuel  
11 prices by fuel type. Exhibit No. \_\_\_\_\_ (DDW-2) shows the projected prices through  
12 the year 2006 for the following fuels: coal, oil, natural gas, and nuclear. Different  
13 grades of coal and oil are used at different units, therefore the Company forecasts for  
14 each grade.

15

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

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

- 18 • Coal - .7% sulfur (1.2 lbs. SO<sup>2</sup>/mmbtu) and 1.5% sulfur (2.1 lbs SO<sup>2</sup>/mmbtu)
- 19 • Oil - 2.4%,1.5% and 1.0% sulfur residual fuel oil and No. 2 fuel oil
- 20 • Natural Gas (supply costs into the pipeline)
- 21 • Nuclear Fuel

22

23 **Q. Do these fuels represent the types most likely to be available to and utilized by**

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**Progress Energy Florida over the forecast period?**

A. Yes, they do.

**Q. Turning now to the individual fuels included in the forecast, will you please explain why Progress Energy Florida’s forecast reflects two different sets of coal prices?**

A. The Company’s forecast reflects two different sets of coal prices because it utilizes different grades of coal at its Crystal River Plant. Specifically, Crystal River Units 1 & 2 burn coal with a 1.5% sulfur content (2.1 lb. SO<sup>2</sup>/mmbtu) and Crystal River Units 4 & 5 burn coal with a 0.7% sulfur content (1.2 lbs. SO<sup>2</sup>/mmbtu). Different grades of coal are sold at different prices in the market. Thus, the Company must forecast prices for each of the two different grades of coal it utilizes at its Crystal River Plant.

**Q. Other than the grade of coal utilized, what other considerations drive the Company’s coal forecast?**

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

1 **Q. Focusing next on oil prices, please explain why several different prices have been**  
2 **projected in the Company's study.**

3 A. Oil prices were forecast for three different sulfur grades of residual fuel oil - 2.4%,  
4 1.5%, and 1.0% - and for distillate (No. 2) oil. The No. 2 oil is used at the Company's  
5 combustion turbines and at steam plants for start-up and flame stabilization. The 1%  
6 and 2.4% sulfur fuel oil is currently used by the Company at its Suwannee River steam  
7 plants. The Anclote steam plant normally uses 1.5% sulfur fuel oil. The P. L. Bartow  
8 Steam Plant normally burns 2.4% sulfur fuel oil. Like coal, different types of oil are  
9 sold at different prices. Accordingly, the Company forecasts each of them separately.

10  
11 **Q. Other than the type of oil, what are the key considerations that affect the price**  
12 **forecast for oil?**

13 A. The projected oil prices are based on estimates of the contract price of oil which  
14 include the cost of delivery to PEF's terminals. The oil prices all assume bulk,  
15 waterborne deliveries to West Coast Florida Terminals used by the Company indexed  
16 to U. S. Gulf Coast market prices. Transportation costs to individual plants are treated  
17 as a separate adder.

18  
19 **Q. Please describe the derivation of the nuclear fuel price forecast.**

20 A. The nuclear fuel forecast incorporates the expected fuel expenses for Crystal River  
21 Unit 3.

22  
23 **Q. What are the key considerations that affect the price of natural gas?**

1 A. The natural gas forecast is based on the contract structures and spot market prices  
2 expected to be in effect during the forecast period for supply into the pipelines which  
3 deliver the fuel into Florida. Pipeline transportation charges are forecasted separately.  
4

5 **III. Fuel Inventories.**

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

7 A. As shown in Exhibit No. \_\_\_\_\_ (DDW-3), the only fuels PEF currently maintains in  
8 inventory are coal and oil.  
9

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

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

- 16 1. Projected operating requirements and costs based on the system constraints  
17 and anticipated demand;
- 18 2. Fuel storage, transportation and handling capabilities;
- 19 3. Potential interruptions in fuel supply, their expected duration and frequency;  
20 and
- 21 4. Current and future fuel market conditions.  
22

23 **Q. Would you describe generally the procedure followed in establishing the**

1           **Company's fuel inventory target levels?**

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

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

10   A.    The system inventory target level for each generating plant was established by the  
11           process described above. In connection with oil inventory, the Company must also  
12           consider the storage capacity at the oil terminals owned by PEF, expected  
13           requirements, and the specific delivery modes available at each terminal. Based upon  
14           this analysis, along with the one previously described, the Company was able to  
15           establish the system inventory target levels for oil that are recorded in the MFRs.  
16           These target levels are also shown by fuel type in Exhibit No. \_\_\_\_ (DDW-3).

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

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



1

2 **Q. How do the total fuel inventory target levels compare with the Commission's**  
3 **guidelines established in Order 12645 in Docket No. 830001-EU?**

4 A. As can be seen in Exhibit No. \_\_\_\_\_ (DDW-4), on a total dollar basis, PEF's  
5 inventory levels are comparable with the guidelines.

6

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

8 A. Yes, it does.

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 PRICE PROJECTIONS  
Coal-Assumptions

Coal Price Projections are provided by Progress Fuels Corporation and represent an estimate of Progress Fuels Corporation's price to Progress Energy Florida for coal delivered to the plant sites in accordance with the delivery schedules projected. The projections assume that environmental restrictions on coal quality will 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

	(A)	C.R. 1 & 2 (B)	(C)	(D)	C.R. 4 & 5 (E)	(F)
2006	BTU/lb	\$/ton	\$/ million BTU	BTU/lb	\$/ton	\$/million BTU
1) Jan-Dec	12,500	67.50	2.70	12,500	68.50	2.74

FUEL PRICE PROJECTIONS

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 but continue to decline in the long term.
- c) Oil refinery upgrades over time will generally result in the reduction of residual fuel oil supply.
- d) Timing differences between b) and c) combined with uncertain weather will cause periodic mismatches in supply/demand balances and wider short term fluctuations in prices than presented in this forecast.
- e) Progress Energy Florida's primary supply sources will continue to be U.S. Gulf Coast refining centers.

OIL PRICE PROJECTIONS\*

2006	Residual Fuel Oil (6.5 million BTU/bbl)				Light Oil (5.8 million BTU/bbl)			
	2.4% Sulfur (A) \$/bbl.	(B) \$/million BTU	1.5% Sulfur (C) \$/bbl.	(D) \$/million BTU	1.0% Sulfur (E) \$/bbl.	(F) \$/million BTU	0.5% Sulphur (G) \$/bbl.	(H) \$/million BTU
1) Jan-Dec	31.40	4.83	34.00	5.23	35.43	5.45	45.24	7.80

\* Transport Cost and price of hedges not included.

FUEL PRICE PROJECTIONS

Natural Gas

- 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

2006	\$/million* BTU
Jan -Feb	6.57

\* Transport costs and price of hedges not included

Fuel Inventory Target Levels

2006 (13 month average)

	(A)	(B)
	Quantity	\$
1) Coal CR1&2 (Regular Coal)	268,100 tons	18,097,000
2) Coal CR4&5 (Low Sulfur Coal)	508,700 tons	34,589,000
3) Coal in Transit	434,666	28,387,000
4) Heavy Oil	1,100,000 bbls	37,684,000
5) Light Oil	883,900 bbls	45,120,000
Total		163,877,000



PROGRESS ENERGY FLORIDA  
COMPARISON OF FULLY ADJUSTED  
FUEL INVENTORY VERSUS FPSC GUIDELINES  
AND RESULTANT IMPACTON REVENUE REQUIREMENT  
(in Thousands)

	Source	(A) 2006 Projected Test Year
1) Fuel Inventory Value	MFR B-17	\$163,877
2) Fuel Inventory Value at Commission Guideline Levels		\$157,225
3) Difference		6,652
4) Percent difference (line 3 divided by line 2 times 100)		4.2%