

PROGRESS ENERGY FLORIDA

DOCKET No. 050001-EI

**Fuel and Capacity Cost Recovery
Final True-up for the Period
January through December, 2004**

**DIRECT TESTIMONY OF
ROBERT M. OLIVER**

March 1, 2005

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

2 A. My name is Robert M. Oliver. My business address is P.O. 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 Progress Energy Carolinas Inc. as Manager of
7 Portfolio Management for Regulated Commercial Operations.

8

9 **Q. What are your duties and responsibilities in that capacity?**

10 A. As Manager of Portfolio Management for Regulated Commercial
11 Operations, I oversee the management of energy portfolios for Progress
12 Energy Florida, Inc. ("Progress Energy" or "Company"), as well as
13 Progress Energy Carolinas, Inc. My responsibilities include oversight of
14 planning and coordination associated with economic and reliable system
15 operations, including unit commitment and dispatch, fuel procurement
16 and power marketing and trading functions.

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2. Please summarize your educational background and employment experience.

I have a Bachelor of Science degree in Mechanical Engineering from North Carolina State University (1992) and a Masters of Business Administration from University of North Carolina at Wilmington (1997). I joined Carolina Power & Light (CP&L) in 1992 as an Associate Engineer in the Nuclear Engineering Department. In 1998 I took a Senior Engineer position with System Planning and Operations Department (SPOD). In this capacity I provided support for various functions including maintenance scheduling, coordination with cogenerators, unit commitment and dispatch planning, and fuel costing for excess generation sales. With the merger of CP&L and Florida Power Corporation (FPC), I participated in the integration of the FPC Portfolio Management and related CP&L SPOD functions. In the newly formed Portfolio Management unit (2001), in addition to maintaining former duties, I worked in a number of capacities, including the near term Portfolio Management desk for Progress Energy Florida, which provides unit commitment and dispatch planning and fuel projections for the 7 day forecast period, maintenance coordination inside the prompt month, and fuel costing for economy purchases and sales. In 2002, I was promoted to manager of Portfolio Management.

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

2 A. The purpose of my testimony is to present the additional costs that
3 Progress Energy incurred for reliability power purchases and non-
4 economic dispatches due to Tropical Storm Bonnie and Hurricanes
5 Charley, Frances, Ivan, and Jeanne (the "2004 storms").

6
7 **Q. Please summarize your testimony.**

8 A. During the course of the 2004 hurricane season, Progress Energy made
9 reliability purchases based on the need to meet expected load in
10 consideration of potential generation losses and other risk factors
11 associated with each of the 2004 storms. Due to coal conservation
12 measures necessitated by the disruption of barge and rail deliveries
13 caused by the storms (as discussed in the testimony of Albert W. Pitcher),
14 Progress Energy also dispatched oil and gas-fired units out of economic
15 order until coal inventories could be replenished to acceptable levels
16 Using an industry standard unit commitment and dispatch model, we
17 calculated the total incremental costs of the reliability purchases and non-
18 economic dispatch to be \$2,218,320 and \$8,808,960, respectively. In
19 comparison, our original 2004 projections for incremental reliability
20 purchase and non-economic dispatch costs were \$1,528,898 and
21 \$9,174,530, respectively.

22
23 **Q. Have you prepared exhibits to your testimony?**

1 a. Yes. I have prepared Exhibit No. ____ (RMO-1), which summarizes our
2 calculation of the total incremental costs of reliability purchases and non-
3 economic dispatches attributable to the 2004 storms.

4
5 **2. Please briefly describe how Progress Energy manages its energy**
6 **portfolio to meet daily loads.**

7 a. Each morning (by 7am EPT), Portfolio Management provides a seven-
8 day forecast for optimal economic system operation. The forecast takes
9 into account known operating constraints and best available information
10 concerning expected weather and system load requirements, fuel cost
11 and availability, anticipated cogeneration, purchases and sales. With the
12 given constraints, the forecasting model provides a projection for hourly
13 generation, fuel use, and costs from the Company controlled resources
14 for the seven-day forecast period. The Company's Energy Control Center
15 (ECC) reviews the resulting economic unit commitment and dispatch
16 projection and may provide input (or further input) where appropriate
17 regarding adjustments to the economic plan to ensure system reliability,
18 (e.g., reliability purchases or sales, utilization of alternate fuel
19 adjustments to unit dispatch priority, etc.). The adjustments
20 recommended by the ECC are made to the planning information and the
21 (power/gas & oil) traders engage the market based on the fuel (cost/burn
22 projections from the adjusted operating plan. On business days, the
23 process of adjusting inputs, revising the forecast, reviewing the forecast

1 and making adjustments to the forecast is repeated in the afternoon (by
2 2pm EPT), or may be repeated iteratively throughout the day or night as
3 necessary to adjust for changing conditions or information.

4
5 **2. How did the storms of the 2004 hurricane season affect Progress**
6 **Energy's portfolio management?**

7 a. The 2004 hurricane season presented extraordinary challenges from a
8 portfolio management perspective. Four major hurricanes sequentially
9 impacted Progress Energy's service territory over a two month period.
10 This required Progress Energy's ECC to make dispatch and purchasing
11 decisions based on day-to-day assessments of a number of risks factors
12 including:

- 13 • potential changes in storm path and intensity;
- 14 • potential personnel safety issues with continued operation of units;
- 15 • potential damage to generating units;
- 16 • potential derates due to environmental conditions (wet coal or
17 grass attacks on cooling water intake);
- 18 • current or anticipated fuel inventory;
- 19 • potential future fuel availability issues (due to load demands and
20 damage to gas, oil, or coal delivery infrastructure);
- 21 • potential loss of load (inability to reduce generation of online units
22 low enough to match the load creating grid stability problems);

- 1 • potential for significant damage to base load plants (due to local
2 flooding or tornadoes) without loss of load.

3 These factors had to be considered not only for Progress Energy's
4 individual control areas, but also from a reliability perspective for the
5 entire state.

6
7 **2. Did Progress Energy purchase power due to the 2004 storms?**

8 A. Yes. Prior to each storm, we expected generation losses due to plant
9 shutdowns and forced outages. In some cases, plants were intentionally
10 shutdown due to safety concerns or to protect plant equipment. We also
11 expected and experienced additional outages due to storm damage. For
12 these reasons, we purchased power to ensure reliability both before and
13 after the storms. Specifically, as shown on Exhibit No. __ (RMO-1), the
14 Company made reliability purchases for the following days:

- 15 • August 13 through 15 in anticipation of Hurricane Charley;
16 • August 20 and 21 due to outages resulting from Hurricane
17 Charley;
18 • September 6 in anticipation of Hurricane Frances;
19 • September 14 through 21 in anticipation of or as a result of
20 Hurricane Ivan; and
21 • September 25 and 26 in anticipation of Hurricane Jeanne.

22 Progress Energy also made reliability purchases for September 14
23 through 21 to offset generation losses associated with oil conservation

1 efforts. As discussed in the testimony of Pamela R. Murphy, these oil
2 conservation efforts were necessitated by the disruption of barge and
3 truck deliveries caused by Hurricane Ivan.

4
5 **1. Did Progress Energy dispatch generating units out of economic**
6 **order because of the 2004 storms?**

7 A. Yes. As discussed in the testimony of Albert W. Pitcher, the disruption of
8 barge and rail deliveries caused by the storms resulted in coal inventory
9 constraints that led Progress Energy to place Crystal River Units 1, 2, 4,
10 and 5 on coal conservation mode beginning September 20, 2004. As a
11 result, generation units were dispatched out of economic order until
12 October 31, 2004, when coal inventories reached levels sufficient to allow
13 the Company to take the Crystal River units off coal conservation mode.

14
15 **2. How did you determine the incremental costs of reliability**
16 **purchases and non-economic dispatches attributable to the 2004**
17 **hurricanes?**

18 A. Exhibit No. __ (RMO-1) summarizes the calculation of total incremental
19 costs of non-economic coal conservation dispatches and reliability
20 purchases attributable to the 2004 storms. The costs for coal
21 conservation and reliability purchases were calculated using an industry
22 standard unit commitment and dispatch model ("Couger"). This model
23 and many of the operational parameter inputs (heat rates, ramp rates

1 min/max ratings, etc.) are very similar to that used to develop Progress
2 Energy's Generation Fuel Forecast (GFF) in PROSYM, with the primary
3 difference being the use of as recorded actuals (unit derates and outages,
4 system loads, fuel prices, purchases, sales, etc.) in place of forecast
5 values.

6 Coal conservation costs were calculated by taking the difference
7 between the daily fuel costs from a model run where the coal units were
8 constrained to the as-dispatched loading profile and the respective daily
9 fuel cost from a model run with the coal units unconstrained. It should be
10 noted the out of economic cost effects of coal conservation were
11 mitigated by economy purchases to the extent that market opportunities
12 allowed. Actual purchases were included in both cases (constrained and
13 unconstrained coal units).

14 Reliability purchase costs were calculated as follows:

15 (1) We first derived the reduction in fuel expense resulting from
16 the reliability purchases ("purchase benefit") by taking the difference
17 between the daily fuel cost from a model run with reliability purchases and
18 the respective daily fuel cost from a model run without reliability
19 purchases. In both cases, the coal limited constraints were imposed to
20 avoid double counting the coal constraint effect.

21 (2) We then subtracted the daily purchase benefit from the daily
22 cost of the storm-related reliability purchases to determine the daily
23 reliability cost difference.

1 (3) Finally, we summed the daily reliability cost differences to
2 calculate the total incremental reliability costs attributable to the 2004
3 storms.

4
5 **2. What were the total incremental costs of non-economic dispatches
6 and reliability purchases that Progress Energy incurred as a result
7 of the 2004 storms?**

8 A. As shown on Exhibit No. ____ (RMO-1), the total incremental costs of non-
9 economic dispatches and reliability purchases were \$8,808,960 and
10 \$2,218,320, respectively. In comparison, our original 2004 projections for
11 incremental reliability purchase and non-economic dispatch costs were
12 \$9,174,530 and \$1,528,898 respectively.

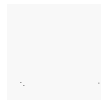
13
14 **2. Does your calculation of non-economic dispatch costs include the
15 incremental costs of spot purchases of natural gas and fuel oil
16 necessitated by the 2004 storms?**

17 A. No. In calculating the cost of non-economic dispatch of oil and gas
18 fired units associated with coal conservation, we used the average term
19 prices for fuel oil and natural gas. Thus, the incremental costs of spot
20 purchases of fuel oil and natural gas were not included in our
21 calculations. These additional incremental costs are discussed in the
22 testimony of Pamela R. Murphy.

23

1 l. **Does this conclude your testimony?**

2 u. Yes, it does.



Date	Fuel Cost Without Reliability Purchases (k\$)	Fuel Cost With Reliability Purchases (k\$)	Fuel Cost without Coal Constraints (k\$)	Total Purchase Cost (k\$)	Purchase Benefit (k\$)	Reliability Purchase Cost Difference (k\$)	Non-Econ. Dispatch/ Coal Cons. Cost (k\$)
8/13/2004	\$3,201.37	\$2,634.56	\$0.00	\$749.87	\$566.81	\$183.06	n/a
8/14/2004	\$2,507.41	\$2,064.01	\$0.00	\$674.18	\$443.40	\$230.79	n/a
8/15/2004	\$2,641.71	\$2,549.71	\$0.00	\$178.69	\$92.00	\$86.69	n/a
8/20/2004	\$4,588.90	\$4,568.99	\$0.00	\$30.24	\$19.90	\$10.34	n/a
8/21/2004	\$3,824.48	\$3,663.00	\$0.00	\$254.82	\$161.48	\$93.34	n/a
9/6/2004	\$3,057.08	\$3,002.42	\$0.00	\$60.85	\$54.65	\$6.20	n/a
9/14/2004	\$4,180.63	\$3,843.47	\$3,843.47	\$452.22	\$337.16	\$115.06	n/a
9/15/2004	\$4,538.88	\$4,230.38	\$4,230.38	\$447.99	\$308.50	\$139.49	n/a
9/16/2004	\$4,900.82	\$4,546.40	\$4,546.40	\$515.08	\$354.42	\$160.66	n/a
9/17/2004	\$5,064.77	\$4,686.02	\$4,686.02	\$439.93	\$378.75	\$61.18	n/a
9/18/2004	\$4,464.51	\$4,079.02	\$4,079.02	\$597.85	\$385.49	\$212.36	n/a
9/19/2004	\$3,946.42	\$3,583.06	\$3,583.06	\$636.71	\$363.35	\$273.36	n/a
9/20/2004	\$3,643.77	\$3,382.12	\$3,321.39	\$559.72	\$261.65	\$298.08	\$60.74
9/21/2004	\$3,653.27	\$3,409.19	\$3,125.15	\$435.33	\$244.08	\$191.25	\$284.05
9/22/2004	\$4,194.52	\$4,194.52	\$3,779.46	-	\$0.00	\$0.00	\$415.06
9/23/2004	\$4,385.51	\$4,385.51	\$3,861.40	-	\$0.00	\$0.00	\$524.11
9/24/2004	\$3,872.31	\$3,872.31	\$3,560.01	-	\$0.00	\$0.00	\$312.29
9/25/2004	\$3,632.50	\$3,437.24	\$3,051.13	\$272.00	\$195.27	\$76.73	\$386.11
9/26/2004	\$2,284.44	\$2,083.34	\$1,865.21	\$280.84	\$201.11	\$79.74	\$218.13
9/27/2004	\$3,708.40	\$3,708.40	\$3,140.85	-	\$0.00	\$0.00	\$567.55
9/28/2004	\$4,370.07	\$4,370.07	\$3,912.51	-	\$0.00	\$0.00	\$457.56
9/29/2004	\$4,687.00	\$4,687.00	\$4,428.48	-	\$0.00	\$0.00	\$258.52
9/30/2004	\$4,507.61	\$4,507.61	\$4,022.28	-	\$0.00	\$0.00	\$485.33
10/1/2004	\$4,927.26	\$4,927.26	\$4,465.63	-	\$0.00	\$0.00	\$461.64
10/2/2004	\$5,093.49	\$5,093.49	\$4,722.13	-	\$0.00	\$0.00	\$371.36
10/3/2004	\$5,528.19	\$5,528.19	\$5,105.12	-	\$0.00	\$0.00	\$423.07
10/4/2004	\$5,189.17	\$5,189.17	\$4,953.82	-	\$0.00	\$0.00	\$235.35
10/5/2004	\$4,413.25	\$4,413.25	\$4,232.44	-	\$0.00	\$0.00	\$180.81
10/6/2004	\$3,824.44	\$3,824.44	\$3,696.99	-	\$0.00	\$0.00	\$127.46
10/7/2004	\$3,888.79	\$3,888.79	\$3,637.39	-	\$0.00	\$0.00	\$251.40
10/8/2004	\$3,748.13	\$3,748.13	\$3,554.77	-	\$0.00	\$0.00	\$193.37
10/9/2004	\$3,730.60	\$3,730.60	\$3,526.51	-	\$0.00	\$0.00	\$204.10
10/10/2004	\$3,714.77	\$3,714.77	\$3,499.37	-	\$0.00	\$0.00	\$215.40
10/11/2004	\$3,398.51	\$3,398.51	\$3,242.91	-	\$0.00	\$0.00	\$155.60
10/12/2004	\$3,758.21	\$3,758.21	\$3,599.37	-	\$0.00	\$0.00	\$158.84
10/13/2004	\$4,008.16	\$4,008.16	\$3,799.83	-	\$0.00	\$0.00	\$208.32
10/14/2004	\$3,596.45	\$3,596.45	\$3,461.34	-	\$0.00	\$0.00	\$135.10
10/15/2004	\$2,986.53	\$2,986.53	\$2,882.84	-	\$0.00	\$0.00	\$103.69
10/16/2004	\$2,477.20	\$2,477.20	\$2,437.68	-	\$0.00	\$0.00	\$39.53
10/17/2004	\$2,743.12	\$2,743.12	\$2,690.90	-	\$0.00	\$0.00	\$52.22
10/18/2004	\$3,460.50	\$3,460.50	\$3,403.47	-	\$0.00	\$0.00	\$57.03
10/19/2004	\$3,866.16	\$3,866.16	\$3,793.70	-	\$0.00	\$0.00	\$72.46
10/20/2004	\$4,085.44	\$4,085.44	\$3,906.55	-	\$0.00	\$0.00	\$178.89
10/21/2004	\$4,410.40	\$4,410.40	\$4,276.42	-	\$0.00	\$0.00	\$133.98
10/22/2004	\$3,560.51	\$3,560.51	\$3,496.54	-	\$0.00	\$0.00	\$63.97
10/23/2004	\$3,103.72	\$3,103.72	\$3,051.26	-	\$0.00	\$0.00	\$52.45
10/24/2004	\$2,945.57	\$2,945.57	\$2,910.29	-	\$0.00	\$0.00	\$35.28
10/25/2004	\$3,638.11	\$3,638.11	\$3,517.95	-	\$0.00	\$0.00	\$120.16
10/26/2004	\$3,467.13	\$3,467.13	\$3,358.36	-	\$0.00	\$0.00	\$108.78
10/27/2004	\$3,445.59	\$3,445.59	\$3,354.65	-	\$0.00	\$0.00	\$90.94
10/28/2004	\$3,383.07	\$3,383.07	\$3,312.90	-	\$0.00	\$0.00	\$70.17
10/29/2004	\$3,487.94	\$3,487.94	\$3,329.39	-	\$0.00	\$0.00	\$158.55
10/30/2004	\$3,416.68	\$3,416.68	\$3,352.80	-	\$0.00	\$0.00	\$63.88
10/31/2004	\$3,530.01	\$3,530.01	\$3,414.28	-	\$0.00	\$0.00	\$115.74
Totals:						\$2,218.32	\$8,808.96