

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
PAMELA R. MURPHY**

March 1, 2005

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

2 A. My name is Pamela R. Murphy. 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 Director, Gas & Oil
7 Trading.

8
9 **Q. What are your duties and responsibilities in that position?**

10 A. As Director of Gas & Oil Trading, my responsibilities include managing the
11 purchase and delivery of natural gas and fuel oil for Progress Energy
12 Florida ("Progress Energy" or "Company"), as well as Progress Energy
13 Carolinas. I also am responsible for oversight in all negotiations regarding
14 natural gas and fuel oil contracts to meet the requirements of each of these
15 companies.

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 natural gas and fuel oil due to storm events
4 during the 2004 hurricane season. I also will describe the Company's
5 efforts to mitigate the effect of natural gas and oil supply interruptions
6 caused by those storms.

7

8 **Q. Please summarize your testimony.**

9 A. Progress Energy's natural gas and fuel oil supplies were affected to
10 different extents by the storm events of the 2004 hurricane season.
11 Tropical Storm Bonnie and Hurricane Ivan interrupted natural gas
12 production in the Gulf of Mexico, causing Progress Energy's contract
13 ("term") suppliers to invoke *force majeure* provisions in their contracts.
14 Progress Energy used various means to mitigate the resulting impact on its
15 natural gas supplies including replacement gas purchases on the spot
16 market. The Company also made spot purchases to provide additional gas
17 for coal and oil conservation measures. Because the spot purchase prices
18 were higher than term contract prices, the Company experienced higher
19 total gas costs as a result of the storms. The total incremental gas cost
20 attributable to the storms is \$6,772,574, as compared to our original
21 projection of \$6,740,224. The Company also made spot purchases of fuel
22 oil to mitigate the impact of the 2004 storms on fuel supplies. These
23 purchases resulted in additional incremental costs of \$25,888. In addition,

1 for safety reasons, Progress Energy incurred a demurrage charge of
2 \$146,052 to avoid having an oil barge docked at the Bartow Plant during
3 Hurricane Ivan. Thus, the total incremental costs of natural gas and fuel oil
4 that Progress Energy incurred as a result of the storms of the 2004
5 hurricane season were \$6,944,514.
6

7 **Q. Are you sponsoring any exhibits with your testimony?**

8 A. Yes. I am sponsoring Exhibit No. ___ (PRM-1), a table showing the
9 calculation of total incremental natural gas costs attributable to the storm
10 events of the 2004 hurricane season, Exhibit No. ___ (PRM-2), a table
11 showing natural gas volumes associated with spot purchases necessitated
12 by the 2004 storms, Exhibit No. ___ (PRM-3), a table showing the total
13 incremental fuel oil costs attributable to the 2004 storms, and Exhibit No. ___
14 (PRM-4), a report of the Mineral Management Service entitled the
15 "Hurricane Ivan Evacuation and Production Shut-in Statistics"
16

17 **Q. Which storm events during the 2004 hurricane season affected**
18 **Progress Energy's term natural gas supplies?**

19 A. During the 2004 hurricane season, two major storms affected term gas
20 supplies for Progress Energy. Tropical Storm Bonnie affected term gas
21 supplies from August 10th to the 13th. Hurricane Ivan also affected term gas
22 supplies from September 13th through October 5th. Hurricane Charley,

1 Frances and Jeanne affected the Florida area. However, Progress Energy
2 did not experience any gas supply interruptions during these storms.

3

4 **Q. How did Hurricane Ivan and Tropical Storm Bonnie affect natural gas**
5 **production in the Gulf of Mexico?**

6 A. To different degrees, both storms caused natural gas production in the Gulf
7 of Mexico to be "Shut-in." (Shut-in occurs when natural gas is no longer
8 flowing from the production platforms; in this case because the platforms
9 were evacuated and production was turned off at the well-head.) According
10 to the "Hurricane Ivan Evacuation and Production Shut-in Statistics"
11 provided by the Mineral Management Service, a bureau of the U.S.
12 Department of Interior, the total cumulative shut-in gas production because
13 of Hurricane Ivan was 172.259 Bcf. This equates to approximately 3.871%
14 of the yearly production of gas in the Gulf of Mexico. A copy of the Mineral
15 Management Service's Report is provided as Exhibit No. __ (PRM-4).

16

17 **Q. What effect did Hurricane Ivan and Tropical Storm Bonnie have on**
18 **Progress Energy's term gas supplies?**

19 A. Due to the Shut-ins caused by the storms, Progress Energy's term gas
20 suppliers invoked *force majeure* clauses in their contracts. Under *force*
21 *majeure*, these suppliers were not obligated to perform and Progress
22 Energy was not obligated to pay under the contracts. Total term gas
23 supply interruptions attributable to *force majeure* events caused by Tropical

1 Storm Bonnie amounted to approximately 131,000 decatherms (Dths). For
2 Hurricane Ivan, total term gas supply interruptions caused by *force majeure*
3 events amounted to approximately 2.35 million Dths. Exhibit No. __ (PRM-
4 2) shows the daily volumes of term natural gas supplies that were not
5 delivered due to the *force majeure* events associated with Tropical Storm
6 Bonnie and Hurricane Ivan.

7

8 **Q. Are Progress Energy's term gas suppliers obligated to make up the**
9 **deliveries by providing additional natural gas in the future.**

10 A. No. Under the force majeure clauses in our supply contracts, the suppliers
11 are relieved of any obligation to perform for the period of the force majeure
12 event, and they are not obligated to provide additional gas in the future.

13

14 **Q. How did Progress Energy mitigate term gas supply interruptions**
15 **caused by Hurricane Ivan and Tropical Storm Bonnie?**

16 A. During Hurricane Ivan and its aftermath, Progress Energy mitigated gas
17 supply interruptions by: (1) purchasing replacement gas supplies from the
18 spot market; (2) purchasing gas supplies from third party storage accounts;
19 (3) utilizing a parking agreement on the Gulfstream pipeline for 200,000
20 Dths of natural gas; (4) utilizing fuel oil to the extent necessary for reliability
21 purposes; and (5) working with Gulfstream and Florida Gas Transmission to
22 use a portion of the existing gas in the pipelines to the extent operationally
23 feasible to meet load. For the most part, Progress Energy used the same

1 measures to mitigate gas supply interruptions due to Tropical Storm
2 Bonnie; but the Company did not purchase gas from third party storage
3 accounts in connection with that storm.

4
5 **Q. How does Progress Energy's parking agreement with Gulfstream help**
6 **to mitigate gas supply interruptions?**

7 A. Progress Energy previously negotiated and acquired a short-term parking
8 agreement with Gulfstream to hold 200,000 Dths of natural gas for later
9 delivery on demand. Progress Energy acquired this parking agreement to
10 minimize the impact of unanticipated natural gas supply disruptions, such
11 as storm-related gas production curtailments in the Gulf of Mexico, and to
12 further ensure reliability in the event of unexpected increases in natural gas
13 consumption. This agreement, which was in effect from July 1, 2004
14 through October 31, 2004, gave Progress Energy access to additional
15 natural gas which helped mitigate the gas supply disruptions caused by
16 Tropical Storm Bonnie and Hurricane Ivan.

17
18 **Q. How does Progress Energy's Operational Balancing Account on**
19 **Gulfstream help mitigate gas supply interruptions?**

20 A. Progress Energy's Operational Balancing Account on Gulfstream provides
21 for a daily balancing mechanism to account for the difference in actual
22 burns versus actual gas deliveries. When Progress Energy has a positive
23 imbalance in this account, we work with Gulfstream to use this excess gas

1 to supplement gas burns to the extent operationally feasible on
2 Gulfstream's pipeline. Progress Energy utilized this account to help
3 mitigate the natural gas interruptions caused by Tropical Storm Bonnie and
4 Hurricane Ivan.

5
6 **Q. How did the storms of the 2004 hurricane season affect Progress**
7 **Energy's fuel oil supplies and how did the Company respond?**

8 A. During August 9th to the 12th, Tropical Storm Bonnie caused slight delays to
9 waterborne fuel oil deliveries from the Gulf Coast to Florida due to high
10 seas in the Gulf of Mexico. Progress Energy adjusted delivery schedules
11 and utilized inventory to manage the delays.

12 Immediately following Tropical Storm Bonnie, Hurricane Charley
13 caused interruption of fuel oil deliveries to most of Progress Energy's oil-
14 fired plants. Hurricane Charley also caused delays in waterborne fuel oil
15 deliveries to distribution terminals in the Gulf Coast area. Evacuations in
16 Florida also caused an increase in gasoline demand which reduced the
17 amount of truck transportation equipment available to deliver No. 2 fuel oil
18 to Progress Energy's oil-fired plants. As a result, fuel oil inventories were
19 drawn down and the Company made spot purchases of fuel oil to
20 supplement contract supplies after this event.

21 In early September, Hurricane Frances caused impacts similar to those
22 described above from Hurricane Charley. The Company similarly

1 responded by making spot fuel oil purchases to supplement depleted
2 contract supplies.

3 Hurricane Ivan moved through the Gulf of Mexico from September 13th
4 to the 16th and again on September 21st to the 24th interrupting Gulf Coast
5 waterborne supply due to high seas in the Gulf of Mexico. No spot barge
6 deliveries to Bartow were made due to Hurricane Ivan. With Hurricane Ivan
7 following closely after Hurricane Frances and limited trucking availability
8 due to gasoline demand, Progress Energy was not fully able to keep up
9 with fuel oil deliveries. As a result, fuel oil was conservatively used for
10 reliability purposes and natural gas was burned in the dual fuel capable
11 units at Bartow, Anclote and Suwannee until inventories could be
12 replenished.

13 Hurricane Jeanne struck the east coast of Florida from September 25th
14 to the 28th causing impacts similar to those described above for Hurricane
15 Charley. Rail and truck deliveries to the Suwannee Plant were affected
16 during Hurricanes Ivan and Jeanne. Fuel inventories were drawn down and
17 natural gas was burned at Suwannee to conserve fuel oil until inventories
18 could be replenished.

19

20 **Q. How did the 2004 storms' impact on Progress Energy's coal supplies**
21 **affect natural gas supply needs?**

22 A. As discussed in Mr. Pitcher's direct testimony, due to coal inventory
23 constraints cause by the cumulative effects of the 2004 storms, Progress

1 Energy implemented coal conservation measures beginning on September
2 20, 2004. As part of the coal conservation effort, natural gas-fired
3 generation units were dispatched out of economic order ahead of coal units.
4 This necessitated additional spot gas purchases beyond those needed to
5 replace the term supplies lost as a result of the *force majeure* events.

6

7 **Q. How much natural gas did Progress Energy purchase on the spot**
8 **market due to the coal conservation measures necessitated by the**
9 **2004 storms?**

10 A. Exhibit No. __ (PRM-2) shows the daily volumes of spot gas purchases
11 associated with oil and coal conservation measures. These purchases,
12 which were above and beyond those necessitated by *force majeure* events,
13 were made from September 14 through October 6, 2004.

14

15 **Q. How did you determine the incremental natural gas costs attributable**
16 **to the 2004 Storms?**

17 A. The additional natural gas costs attributable to the 2004 storms include two
18 components: (1) incremental costs of spot gas purchases made to replace
19 cuts in term supplies resulting from *force majeure* events; and (2)
20 incremental costs of additional spot purchases made to provide additional
21 gas for oil and coal conservation measures. As shown on Exhibit No. __
22 (PRM-2), we added the daily gas volumes associated with these two
23 categories of purchases to determine the total daily volume of spot gas

1 deliveries attributable to the storms. As shown on Exhibit No. __ (PRM-1),
2 we then determined the difference in daily gas costs by subtracting the
3 average term gas costs from average spot gas cost for each day. We
4 derived the total incremental gas costs for each day by multiplying the daily
5 gas cost difference and the daily spot gas deliveries attributable to the
6 storms. The sum of the daily incremental gas costs reflects the total
7 incremental gas cost of \$6,772,574 shown on Exhibit No. __ (PRM-1). We
8 used the same methodology to calculate the incremental gas costs in our
9 original 2004 projections, but at that time we did not include spot purchases
10 made as a result of Tropical Storm Bonnie in August, 2004.

11

12 **Q. What effect did the fuel supply disruptions caused by the storms have**
13 **on Progress Energy's overall fuel oil costs?**

14 A. As a result of the storms, Progress Energy made replacement purchases of
15 fuel oil on the spot market to help mitigate the disruptions in contract fuel oil
16 supplies. Because the spot purchase prices were higher than contract
17 prices, the Company experienced higher total fuel oil costs as a result of the
18 storms. The resulting increase total fuel oil prices was \$25,888. In
19 addition, for safety reasons, we incurred a demurrage charge of \$146,052
20 to avoid having a fuel oil barge docked at Bartow during Hurricane Ivan.
21 Thus, as shown on Exhibit No. __ (PRM-3), the total incremental fuel oil
22 costs associated with the 2004 storms was \$171,940.

23

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

2 **A. Yes, it does.**

3

PEF 2004 STORM NATURAL GAS COSTS

Tropical Storm Bonnie Incremental Gas Cost - August 2004

Date	Average Term Gas Cost	Average Spot Gas Cost	Gas Cost Difference	Daily Spot Gas Deliveries	Total Incremental Gas Cost
8/10/2004	\$5.367	\$5.723	\$0.356	23,524	\$8,372
8/11/2004	\$5.367	\$5.978	\$0.611	110,387	\$67,435
8/12/2004	\$5.367	\$5.853	\$0.486	79,300	\$38,532
8/13/2004	\$5.367	\$5.639	\$0.272	97,235	\$26,438
Total					\$140,778

Hurricane Ivan Incremental Gas Cost - September 2004

Date	Average Term Gas Cost	Average Spot Gas Cost	Gas Cost Difference	Daily Spot Gas Deliveries	Total Incremental Gas Cost
9/13/2004	\$5.012	\$5.750	\$0.738	53,048	\$39,128
9/14/2004	\$5.012	\$5.853	\$0.841	203,503	\$171,065
9/15/2004	\$5.012	\$6.306	\$1.294	169,658	\$219,470
9/16/2004	\$5.012	\$6.659	\$1.647	173,621	\$285,884
9/17/2004	\$5.012	\$6.657	\$1.645	204,049	\$335,579
9/18/2004	\$5.012	\$7.165	\$2.153	177,116	\$381,260
9/19/2004	\$5.012	\$7.140	\$2.128	185,043	\$393,697
9/20/2004	\$5.012	\$7.140	\$2.128	171,805	\$365,532
9/21/2004	\$5.012	\$7.588	\$2.576	139,099	\$358,263
9/22/2004	\$5.012	\$7.607	\$2.595	138,484	\$359,311
9/23/2004	\$5.012	\$7.313	\$2.301	156,257	\$359,485
9/24/2004	\$5.012	\$7.040	\$2.028	215,813	\$437,582
9/25/2004	\$5.012	\$7.436	\$2.424	206,618	\$500,759
9/26/2004	\$5.012	\$7.362	\$2.350	123,568	\$290,335
9/27/2004	\$5.012	\$8.403	\$3.391	75,500	\$255,990
9/28/2004	\$5.012	\$7.586	\$2.574	125,000	\$321,700
9/29/2004	\$5.012	\$7.439	\$2.427	144,200	\$349,916
9/30/2004	\$5.012	\$7.573	\$2.561	136,220	\$348,805
Total					\$5,773,762

Hurricane Ivan Incremental Gas Cost - October 2004

Date	Average Term Gas Cost	Average Spot Gas Cost	Gas Cost Difference	Daily Spot Gas Deliveries	Total Incremental Gas Cost
10/1/2004	\$5.063	\$7.446	\$2.383	137,194	\$326,906
10/2/2004	\$5.063	\$5.962	\$0.899	143,594	\$129,062
10/3/2004	\$5.063	\$5.962	\$0.899	133,794	\$120,254
10/4/2004	\$5.063	\$5.962	\$0.899	114,194	\$102,638
10/5/2004	\$5.063	\$6.455	\$1.392	70,900	\$98,679
10/6/2004	\$5.063	\$6.468	\$1.405	57,300	\$80,495
Total					\$858,033

Total **\$6,772,574**

Date	Contracted natural gas Volumes (MMBtu)	Supplier natural gas volumes not delivered due to Force Majeure events (MMBtu)	Spot natural gas volumes to replace Supplier volumes due to Force Majeure volumes (MMBtu)	Additional spot natural gas over and above Force Majeure natural gas volumes(MMBtu)	Total Spot natural gas volumes (MMBtu)
13-Sep-04	221,064	74,968	53,048	0	53,048
14-Sep-04	221,064	87,127	87,127	116,376	203,503
15-Sep-04	221,064	162,884	162,684	6,974	169,658
16-Sep-04	221,064	171,199	171,199	2,422	173,621
17-Sep-04	221,064	161,745	161,745	42,304	204,049
18-Sep-04	221,064	173,895	173,895	3,221	177,116
19-Sep-04	221,064	174,570	174,570	10,473	185,043
20-Sep-04	221,064	143,033	143,033	28,772	171,805
21-Sep-04	221,064	120,026	120,026	19,073	139,099
22-Sep-04	221,064	106,806	106,806	31,878	138,484
23-Sep-04	221,064	131,200	131,200	25,057	156,257
24-Sep-04	221,064	110,400	110,400	105,413	215,813
25-Sep-04	221,064	85,988	85,988	120,630	206,618
26-Sep-04	221,064	85,983	85,983	37,585	123,568
27-Sep-04	221,064	91,780	75,500	0	75,500
28-Sep-04	221,064	82,305	82,305	42,695	125,000
29-Sep-04	221,064	91,146	91,146	53,054	144,200
30-Sep-04	221,064	95,878	95,878	40,342	136,220
1-Oct-04	171,270	64,590	64,590	72,604	137,194
2-Oct-04	171,270	62,804	52,804	90,790	143,594
3-Oct-04	171,270	44,113	44,113	89,681	133,794
4-Oct-04	171,270	23,134	23,134	91,060	114,194
5-Oct-04	171,270	12,199	12,199	58,701	70,900
6-Oct-04	171,270	0	0	57,300	57,300
Total:	5,892,252	2,478,844	2,429,915	1,336,109	3,766,024

**Incremental No. 2 Fuel Oil Purchase Costs due to 2004 Storms
8/04-10/04**

Month	Purchase	Delivery Location	Spot Price/bbl	Contract Price/bbl	Difference Price/bbl	Barrels	\$ Cost
August	Royal Petroleum	Crystal River	\$ 56.45	\$ 54.04	\$ 2.41	1,233	\$ 2,972
	Sommers Oil	Crystal River	\$ 56.88	\$ 54.04	\$ 2.84	1,376	\$ 3,908
	BP Jacksonville	Debary	\$ 57.11	\$ 55.35	\$ 1.76	2,298	\$ 4,044
	BP-Tampa	Debary	\$ 55.63	\$ 55.35	\$ 0.28	4,739	\$ 1,327
				\$ -			
September	BP-Taft	Crystal River	\$ 59.43	\$ 58.19	\$ 1.24	6,448	\$ 7,996
	Sommers Oil	Crystal River	\$ 61.19	\$ 58.19	\$ 3.00	873	\$ 2,619
	BP-Tampa	Debary	\$ 64.90	\$ 61.82	\$ 3.08	509	\$ 1,568
	Rio Energy-Demurrage	Bartow					\$ 146,052
				\$ -			
October	BP-Taft	Crystal River	\$ 66.44	\$ 66.26	\$ 0.18	2,304	\$ 415
	BP-Jacksonville	Debary	\$ 71.33	\$ 68.39	\$ 2.94	354	\$ 1,041
Total						20,134	\$ 171,940

The NewsRoom
Release: #3236
Date: February 14, 2005

Hurricane Ivan Evacuation and Production Shut-in Statistics as of Monday, February 14, 2005

*****Final Report*****

This survey is reflective of 17 companies' reports as of 11:30 a.m. Central Time.

Districts	Lake Jackson	Lake Charles	Lafayette	Houma	New Orleans	Total
Platforms Evacuated	0	0	0	0	9	9
Rigs Evacuated	0	0	0	0	1	1
Oil, BOPD Shut-in	0	0	0	1,193	124,897	126,090**
Gas, MMCF/D Shut-in	0	0	0	10.7	135.8	146.50**

**Shut-in production rates do not include production lost because of destroyed platforms.

These evacuations are equivalent to 1.18% of 764 manned platforms and 0.85% of 117 rigs currently operating in the Gulf of Mexico (GOM).

This shut-in oil production is equivalent to 7.42% of daily production of oil in the GOM, which is approximately 1.7 million barrels of oil per day (BOPD). The 126,090 BOPD currently shut-in is approximately 0.64% of the 19.7 million barrels consumed in the U.S. each day. Of the remaining shut-in oil production, a few shut-in deepwater facilities account for approximately 60% of the 126,090 barrels. The operators of these facilities have "tentatively" scheduled to be back online by the end of the first quarter 2005. **Because there will be few weekly changes as a result of these plans, this is the last update on shut-in production that MMS will issue.**

This shut-in gas production is equivalent to 1.19% of the daily production of gas in the GOM, which is approximately 12.3 billion cubic feet per day (BCFPD). The 146.50 million cubic feet per day (MMCF) per day currently shut-in is approximately 0.24% of the 60.184 BCF consumed in the U.S. each day.

The cumulative shut-in oil production for the period 9/11/04-2/14/05 is 43,841,245 bbls, which is equivalent to 7.246% of the yearly production of oil in the GOM, which is approximately 605 million barrels.

The cumulative shut-in gas production 9/11/04-2/14/05 is 172.259 BCF, which is

equivalent to 3.871% of the yearly production of gas in the GOM, which is approximately 4.45 TCF.

These cumulative numbers reflect updated production numbers from all previous reports. The reports only represent input received by 11:30 a.m. Central Time. If a company does not report by 11:30 a.m. it is not included in the special information release, but it is included in the cumulative shut-in production. This may result in an apparent increase in the cumulative report amount.

MMS, part of the U.S. Department of the Interior, oversees 1.76 billion acres of the Outer Continental Shelf, managing offshore energy and minerals while protecting the human, marine, and coastal environments through advanced science and technology research. The OCS provides 30 percent of oil and 23 percent of natural gas produced domestically, and sand used for coastal restoration. MMS collects, accounts for, and disburses mineral revenues from Federal and American Indian lands, with fiscal year 2004 disbursements of around \$8 billion and more than \$143 billion since 1982. The Land and Water Conservation Fund, which pays for acquisition of state and federal park and recreation land, gets nearly \$1 billion a year.

Relevant Web Sites:

[MMS Main Website](#)
[Gulf of Mexico Website](#)

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