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1 BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

2 DIRECT TESTIMONY OF

3 PATRICIA Q. WEST

4 ON BEHALF OF

5 PROGRESS ENERGY FLORIDA

6 DOCKET NO. 070007-EI

7 August 31, 2007

8

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

10 A. My name is Patricia Q. West. My business address is 299 1st Avenue North, St.
11 Petersburg, Florida, 33701.

12

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

14 A. I am employed by the Environmental Health and Safety Services Section of
15 Progress Energy Florida (“Progress Energy” or “Company”) as Manager of
16 Environmental Services / Energy Supply Florida. In that position I have
17 responsibility to ensure that environmental technical and regulatory support is
18 provided during the implementation of compliance strategies associated with the
19 environmental requirements for power generation facilities in Florida.

20

21 **Q. Have you previously filed testimony before this Commission in connection**
22 **with Progress Energy Florida’s Environmental Cost Recovery Clause?**

23 A. Yes, I have.

1 **Q. Have your duties and responsibilities remained the same since you last filed**
2 **testimony in this proceeding?**

3 A. Yes.

4
5 **Q. What is the purpose of your testimony?**

6 A. This testimony provides estimates of the costs that will be incurred in the year
7 2008 for environmental programs that fall within the scope of my
8 responsibilities to support Progress Energy's power generation group. These
9 programs include the Pipeline Integrity Management Program (Project 3),
10 Aboveground Storage Tanks Secondary Containment Program (Project 4),
11 Phase II Cooling Water Intake 316(b) Program (Project 6), the Integrated Air
12 Compliance Program for the new Clean Air Interstate Rule (CAIR) and the
13 Clean Air Mercury Rule (CAMR) (Project 7), Arsenic Groundwater Standard
14 Program (Project 8), Underground Storage Tank Program (Project 10), as well
15 as the Modular Cooling Tower Program (Project 11).

16
17 **Q. Have you prepared or caused to be prepared under your direction,**
18 **supervision or control any exhibits in this proceeding?**

19 A. Yes. I am sponsoring the following exhibit:

20 1. Exhibit No. __PW-1, which provides a summary of the CAIR/CAMR
21 project costs.

22
23 **Q. What costs do you expect to incur in 2008 in connection with the Pipeline**
24 **Integrity Management Program (Project 3)?**

1 A. For 2008, we project that Progress Energy will incur a total of \$337,000 in
2 O&M and \$657,500 in capital expenditures to comply with the Pipeline Integrity
3 Management (“PIM”) regulations (49 CFR Part 195). PEF is projecting to
4 spend \$237,000 in O&M on PIM Program Administration, which includes risk
5 modeling, program auditing, and procedure development. In addition, we are
6 projecting O&M costs of \$100,000 for pipeline mapping of the GIS database to
7 enhance the risk modeling and analysis and the continued start-up and
8 commissioning support, operator training, project close-out and documentation
9 of the implementation of the Pipeline Telemetry System. Capital expenditures
10 of \$657,500 are projected for the upgrade of the existing control systems and
11 decommissioning of an obsolete system in order to improve monitoring and
12 management capabilities of operations (e.g., flow, pressure, temperature) as well
13 as recording operational data. This work includes the detailed design and
14 implementation phases of the project.

15

16 **Q. What steps is the Company taking to ensure that the level of expenditures**
17 **for the Pipeline Integrity Management Program is reasonable and prudent?**

18 A. As additional work is identified to comply with the PIM regulations, Progress
19 Energy Florida will identify qualified suppliers of the necessary services through
20 a competitive bidding process.

21

22 **Q. What costs do you expect to incur in 2008 in connection with the**
23 **Aboveground Storage Tank Secondary Containment Program (Project 4)?**

1 A. Progress Energy is projecting to spend \$2.8 million in capital expenditures in
2 2008. These costs are for the tank upgrade work at DeBary which includes:
3 cleaning the tank, performing required inspections, installing and testing new
4 steel double bottom, preparing and coating new bottom and pipe modifications
5 as well as engineering of a double-walled piping project at the Crystal River
6 power plant that is now scheduled for installation in 2009.

7
8 **Q. What steps is the Company taking to ensure that the level of expenditures**
9 **for the Aboveground Storage Tank Secondary Containment Program is**
10 **reasonable and prudent?**

11 A. As additional work is identified to comply with the Aboveground Storage Tank
12 regulations, Progress Energy Florida will identify qualified suppliers of the
13 necessary services through a competitive bidding process.

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15 **Q. What costs do you expect to incur in 2008 in connection with the Phase II**
16 **Cooling Water Intake Program (Project 6)?**

17 A. Progress Energy is projecting to spend \$147,500 in O&M expenditures in 2008.
18 These costs are for consultant fees that may be incurred in the event the EPA
19 and / or Florida DEP (FDEP) provides direction on proceeding with the
20 Comprehensive Demonstration Study work. This work was recently ceased due
21 to the suspension of the rule; however, even though the rule has been suspended,
22 the FDEP has preliminarily indicated that additional study work will be
23 required. This work would be associated with the cooling water intake
24 structures at the Anclote, Bartow, Crystal River, and Suwannee sites.

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Q. What steps is the Company taking to ensure that the level of expenditures for the Phase II Cooling Water Intake Program is reasonable and prudent?

A. As additional work is identified to comply with the Phase II Cooling Water Intake Program, Progress Energy Florida will identify qualified suppliers of the necessary services through a competitive bidding process.

Q. What costs do you expect to incur in 2008 in connection with the CAIR / CAMR Program (Project 7)?

A. PEF is projecting to spend approximately \$573 million in capital expenditures on the CAIR / CAMR compliance projects at the Crystal River and Anclote generating facilities in the year 2008 as referenced in Exhibit No. __ (PW-1). Of that amount, approximately \$570 million projected to be spent on Crystal River activities has no bearing on the ECRC recoverable balance because it will accrue AFUDC. A breakout of the costs includes:

- o Installation of permanent Continuous Mercury Monitoring Systems on Crystal River Units 1 and 2 and temporary Continuous Mercury Monitoring Systems on Crystal River Units 4 and 5. PEF is seeking a waiver from the EPA to delay the installation of permanent monitoring equipment at facilities that are currently undergoing plant modifications to install scrubber systems, as we are doing on Units 4 and 5. EPA has already granted a waiver to at least one Southeast utility and has encouraged other utilities with scrubbers under construction to

1 submit similar requests; therefore, Progress Energy expects to be
2 successful in obtaining approval of the waiver. Upon the
3 agency's authorization, temporary EPA-approved mercury
4 monitors will be installed on these units in late 2008. The current
5 cost estimate for the installation of permanent systems on Units 1
6 and 2 and temporary systems on Units 4 and 5 is approximately
7 \$2.7 million. Permanent mercury monitoring equipment will be
8 installed on Unit 5 in early 2009 and on Unit 4 in early 2010.

- 9 ○ Crystal River (CAIR) Controls: PEF estimates approximately
10 \$570 million to be spent in 2008. The scope of this work
11 includes finalization of engineering, procurement and installation
12 of the following components of the project: Unit 4 Low NOx
13 burners, Unit 5 SCRs, absorber towers for the FGD on Units 4
14 and 5, and a common chimney. Other equipment and systems
15 that will be worked on in 2008 include: limestone handling,
16 dewatering, gypsum removal, coal pond liners, settling ponds,
17 make-up water system, storage tanks, piping, and electrical and
18 control system.
- 19 ○ Anclote NOx Reduction: PEF is planning on spending
20 approximately \$300,000 in 2008 to investigate and conduct tests
21 or trials of alternative NOx reduction technologies that may be
22 capable of cost-effectively reducing NOx emissions without
23 significantly increasing particulate matter emissions.

1 PEF will also incur \$48,500 in O&M expenditures for the new emission
2 monitoring systems at the combustion turbine sites. During 2007 the affected 44
3 combustion turbine unit stacks were retrofitted with sampling ports, fuel flow
4 meters, analyzers and software systems to ensure compliance with the new rule.
5 Beginning in 2008 data from these new emissions monitoring systems must be
6 collected and submitted quarterly to the EPA. New data acquisition systems
7 (DAS) have been installed and will be used to retrieve the required operational
8 data from the plant DCS. This data will then be used by the DAS to estimate the
9 total NOX and SO2 emissions (per the 40 CFR 75 regulations) generated by
10 each individual unit. The amount, in tons, of each pollutant will be totaled and
11 reported to the EPA in accordance with the current rule. PEF estimates that
12 O&M costs for ongoing software vendor support of these new systems will be
13 \$48,500 in 2008.

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15 **Q. Are there any additional costs that you expect to incur in 2008 in**
16 **connection with the CAIR / CAMR Program (Project 7)?**

17 A. [REDACTED]
18 [REDACTED]
19 [REDACTED]
20 [REDACTED]
21 [REDACTED]
22 [REDACTED]
23 [REDACTED]
24 [REDACTED]

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[REDACTED]

Q. What steps is the Company taking to ensure that the level of expenditures for the CAIR / CAMR Program is reasonable and prudent?

A. An initial screening of technology and fuel choice options was performed by the Company's Technical Services Department and System Planning and Operations Department when the preliminary CAIR and CAMR rules were announced in 2004. Subsequent to this initial screening and the March 2005 issuance of the final CAIR and CAMR, a more detailed series of analyses were performed and a plan was developed (the "Progress Energy Florida Integrated Clean Air Compliance Plan", submitted on March 31, 2006) to demonstrate that the selected technologies and fuel choice options were the most cost effective ways for PEF to comply with the CAIR and CAMR at Crystal River and Anclote. As discussed in the direct testimony of Samuel Waters submitted on June 1, 2007, the plan was re-evaluated in 2007 and the revised plan was submitted to the Florida Public Service Commission on June 1, 2007.

As discussed in detail in the pre-filed testimony of Thomas Cornell submitted on June 1, 2007, the primary component of PEF's contracting strategy for the Crystal River SCR and FGD projects is the utilization of a "lump sum"

1 Engineering, Procurement, and Construction (“EPC”) structure with a joint
2 venture consisting of the prime engineering and construction companies. For
3 certain project components with long-lead times, PEF has contracted with other
4 qualified vendors to ensure that required in-service dates are met. As Mr.
5 Cornell explains, the goal of this overall strategy is to mitigate the risk of price
6 increases to PEF and its customers, to encourage safe construction, and assure
7 timely and cost-effective construction in order to ensure compliance with
8 regulatory requirements.

9
10 **Q. What costs do you expect to incur in 2008 in connection with the Arsenic**
11 **Groundwater Standard Program (Project 8)?**

12 **A.** Progress Energy is currently working with the Florida Department of
13 Environmental Protection to comply with the terms of the renewed industrial
14 wastewater permit for the Crystal River Energy Complex. Based upon
15 preliminary discussions, PEF is projecting O&M expenditures of approximately
16 \$78,000. These costs are being deferred from 2007 because of delays in
17 obtaining the renewed permit and will include groundwater study costs, results
18 assessment, and possible remediation to address potential exceedances of the
19 new standard.

20
21 **Q. What steps is the Company taking to ensure that the level of expenditures**
22 **for the Arsenic Groundwater Standard Program is reasonable and**
23 **prudent?**

1 **A.** As additional work is identified to comply with the new Arsenic standard,
2 Progress Energy Florida will identify qualified suppliers of the necessary
3 services through a competitive bidding process.

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5 **Q.** **What costs do you expect to incur in 2008 in connection with the**
6 **Underground Storage Tanks Program (Project 10)?**

7 **A.** Progress Energy is not anticipating any costs to be incurred in 2008.

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9 **Q.** **What costs do you expect to incur in 2008 in connection with the Modular**
10 **Cooling Tower Program (Project 11)?**

11 **A.** PEF is projecting to spend approximately \$3.4 million in O&M expenditures in
12 2008. These costs are for rental fees associated with the five-year lease
13 agreement that began in 2006.

14

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

16 **A.** Yes it does.