

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

SUPPLEMENTAL DIRECT TESTIMONY OF

THOMAS LAWERY

ON BEHALF OF

PROGRESS ENERGY FLORIDA

DOCKET NO. 060007-EI

OCTOBER 13, 2006

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

2 A. My name is Thomas Lawery. My business address is 8202 West Venable Street,
3 Crystal River, Florida 34429.

4

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

6 A. I am employed by Progress Energy Florida, Inc. (PEF) as Manager of Regional
7 Engineering.

8

9 **Q. Have you previously submitted direct testimony in this docket?**

10 A. Yes. On September 1, 2006, I submitted direct testimony in support of PEF's request
11 to recover costs of the installation and operation of the modular cooling towers
12 (MCTs) at PEF's Crystal River Plant. Such costs have been included in PEF's
13 proposed ECRC factors subject to refund depending upon the Commission's final
14 action on PEF's petition to recover the costs of the MCT Project in Docket No.
15 060162-EI.

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

2 A. In accordance with Staff's recommendation in Docket No. 060162-EI, the purpose of
3 my testimony is to provide analysis of the cost savings resulting from the MCT
4 Project in 2006. Such analysis was not available when I filed my direct testimony on
5 September 1, 2006.

6

7 **Q. Are you sponsoring an exhibit to your revised supplemental testimony?**

8 A. Yes. I am sponsoring Exhibit No. __ (TL-2), which provides a comparison of the
9 Crystal River inlet water temperatures for the summers of 2005 and 2006.

10

11 **Q. Can you quantify the fuel costs and net fuel cost savings attributable to the MCT
12 Project?**

13 A. Yes. Using the methodology explained in my direct testimony, the calculation of
14 gross benefits from avoided derates yields a total of \$4,033,020. The value of
15 additional auxiliary loads to power the modular cooling towers is \$289,057. The net
16 of the two numbers yields net savings of \$3,743,963.

17

18 **Q. Has PEF conducted any analyses of the factors affecting cost savings
19 attributable to the MCT Project?**

20 A. Because the calculated actual fuel savings for 2006 were below forecasts performed
21 prior to installation of the modular towers, PEF conducted additional analyses to

1 identify the key factors that influenced the variation between forecast and actual
2 results. These factors are discussed below.

3

4 ● **Economy Purchases:** Variances associated with actual economic purchase
5 performance relative to the forecast significantly affected benefits attributable to the
6 MCT Project in 2006. Notably, economic purchases were particularly significant for
7 the month of August, when the bulk of the avoided derate benefits also occurred.
8 PEF purchased 86 GWh more than was predicted in the forecast model. Multiplying
9 the increase in economy purchases by the average \$/MWh savings, PEF estimates that
10 the increase in actual economy purchases reduced costs by \$4.4 million relative to the
11 predicted cost basis that the avoided derates were forecasted against. While not every
12 hour of economy purchases coincided with a derate, and because derates were most
13 prominent in the highest cost generation hours, it is reasonable to conclude that a
14 large portion of the economy purchases had a direct reduction impact on the
15 calculated actual benefit of the MCTs. Such purchase savings are opportunistic
16 events which cannot reasonably be predicted and, while decreasing the perceived
17 benefit of MCTs, they do represent a significant benefit to PEF's customers. It is not
18 practical to assess the economy purchases' exact impact on the MCTs' avoided derate
19 benefit, but it is reasonable to project a variance of at least \$2 million.

20

21 ● **Fuel Prices:** The very mild winter of 2005/2006 led to a significant decline in the
22 price of natural gas between the time that the forecast was performed and the summer

1 months of 2006. Daily (actual) spot prices for natural gas ranged between \$2/mmbtu
2 and \$5/mmbtu lower than the forecast. Actual daily dispatch prices for No. 2 oil on
3 the other hand were slightly higher than the forecast. Taking these two factors and
4 applying a reasonable assumption of contribution from each (based on the calculated
5 average daily replacement power costs), it appears that the decrease in natural gas
6 prices reduced the calculated actual benefit of MCTs by approximately \$2.1 million.

7

8 ● **CR3 Unplanned Outage:** Actual CR3 generation for the month of August was
9 77GWh below that predicted in the forecast due to several atypical events. The most
10 significant event was a forced outage due to a feedwater piping leak inside the reactor
11 building. Absent this forced outage, avoided derates would have been approximately
12 16 GWh higher, which would have increased the calculated actual benefit of MCTs
13 by an additional \$1.4 million.

14

15 ● **Summary:**

<u>Millions</u>	<u>Savings Difference</u>
\$3.7	Estimated Avoided Derates
\$2.0	Economy Purchases
\$2.1	Fuel Cost
<u>\$1.4</u>	CR-3 Unplanned Outage
\$9.2	Total

16

17 As shown in the table above, the cumulative effect of these factors would bring the
18 avoided derate benefit into the \$9.2 million range. While it is probable that cooler
19 intake canal temperatures also played a role in the lower than projected savings, it is

1 not possible to directly quantify such impact since there are other factors that affect
2 the magnitude of thermal discharge-related derates. The comparison of historical data
3 from 2005 to that of 2006 in Exhibit No. __ (TL-2) shows that the 2006 inlet canal
4 water temperatures were lower than observed in 2005, but not dramatically so.

5

6 Irrespective of whether the 2006 results came in high or low, judging the MCT project
7 on a single year would be premature and inappropriate. The variability of results
8 indicated by this review supports PEF's decision to pursue this as a temporary project
9 while additional data is gathered. PEF continues to believe that over the planned five
10 year span of operation, the MCTs will provide significant benefits to ratepayers.

11

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

13 A. Yes, it does.

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