

**BEFORE THE FLORIDA
PUBLIC SERVICE COMMISSION**

**DOCKET NO. 120015-EI
FLORIDA POWER & LIGHT COMPANY**

**IN RE: PETITION FOR RATE INCREASE BY
FLORIDA POWER & LIGHT COMPANY**

REBUTTAL TESTIMONY & EXHIBITS OF:

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DR. ROSEMARY MORLEY

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BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION
FLORIDA POWER & LIGHT COMPANY
REBUTTAL TESTIMONY OF DR. ROSEMARY MORLEY
DOCKET NO. 120015-EI
JULY 31, 2012

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1 I. INTRODUCTION

2

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

4 A. My name is Dr. Rosemary Morley. My business address is Florida Power &
5 Light Company, 700 Universe Boulevard, Juno Beach, Florida 33408-0420.

6 **Q. Did you previously submit direct testimony in this proceeding?**

7 A. Yes.

8 **Q. Are you sponsoring any rebuttal exhibits in this case?**

9 A. Yes. I am sponsoring the following rebuttal exhibits:

10 ● RM-3, Comparison of Rolling 10 and 20 Year Average Annual
11 Cooling Degree Hours (2000 – 2011)

12 ● RM-4, Annual Cooling Degree Hours (1992 – 2011)

13 **Q. What is the purpose of your rebuttal testimony?**

14 A. The purpose of my rebuttal testimony is to refute South Florida Hospital and
15 Healthcare Association (“SFHHA”) witness Baron’s proposed use of only 10
16 years as the basis for his calculation of normal weather conditions for the
17 purpose of forecasting electric sales. SFHHA witness Baron proposes to
18 inappropriately limit the data used in calculating normal weather conditions
19 rather than relying on a multi-decade horizon that has traditionally been
20 approved in Florida.

21 **Q. Please summarize your rebuttal testimony.**

22 A. I demonstrate that a 10 year time period, as proposed by SFHHA witness
23 Baron, is an unreasonably short time period to calculate normal weather

1 conditions. Using only 10 years of data would result in a volatile and
2 unreliable definition of normal weather conditions. Moreover, limiting the
3 calculation of the normal weather conditions to only 10 years of data is
4 inconsistent with FPL's long-term generation planning and with the load
5 forecasts approved for the other major electric utilities in Florida. Indeed, the
6 Florida Public Service Commission ("FPSC") has consistently relied on a
7 multi-decade horizon to calculate normal weather. Mr. Baron's proposal
8 would represent an abrupt and potentially far-reaching break with this
9 Commission's past practice.

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II. WEATHER NORMALIZATION

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13 **Q. How does FPL calculate normal weather conditions in developing its load**
14 **forecast?**

15 A. In developing its load forecast FPL calculates normal weather conditions
16 based on the average weather conditions experienced over the last 20 years.

17 **Q. Does SFHHA witness Baron take issue with using 20 years of data to**
18 **calculate normal weather conditions?**

19 A. Yes. SFHHA witness Baron proposes to use only 10 years of data on cooling
20 degree hours to calculate normal weather conditions.

1 **Q. What rationale does SFHHA witness Baron present for using only 10**
2 **years of history to calculate normal weather conditions?**

3 A. None. SFHHA witness Baron offers no rationale for using only 10 years of
4 history to calculate normal weather conditions. He merely observes that using
5 10 years of data to calculate the normal level of cooling degree hours would
6 result in a higher sales forecast and these “additional revenues would, all else
7 being equal, have helped offset some of the Company’s revenue deficiency in
8 this case.” Thus, one is left with the impression that SFHHA witness Baron is
9 not presenting a carefully developed alternative weather assumption, but an
10 arbitrary means of raising the load forecast with the objective of reducing
11 FPL’s rate request. This is not a sound basis for altering the load forecast.

12 **Q. Would the use of only 10 years of data to calculate normal weather**
13 **conditions have implications beyond the pending case?**

14 A. Yes. Use of a 10 year rather than a 20 year horizon to calculate normal
15 weather conditions would have lasting implications well beyond the pending
16 case. A decision to base normal weather conditions on only 10 years of data
17 would impact a variety of proceedings including those addressing the need
18 determination of new generation resources and Demand-Side Management
19 goals.

20 **Q. Does the evidence support the use of a 20 year horizon to calculate**
21 **normal weather?**

22 A. Yes. A 20 year horizon incorporates the most recently available weather data
23 while also encompassing a sufficient period of time to capture long-term

1 weather trends. By contrast, a 10 year horizon is an unreasonably short period
2 of time to use in calculating normal weather conditions. A 10 year period
3 increases the likelihood that one or two non-representative years will skew the
4 definition of normal weather. The use of a 10 year period to calculate normal
5 weather would also create a much more volatile set of weather assumptions
6 incorporated into the load forecast.

7 **Q. Can the use of a multi-decade period to calculate normal weather be**
8 **compared with the need to have an adequately large sample size in**
9 **statistics?**

10 A. Yes. In statistics, one of the principal problems with a sample size that is too
11 small is that it may not be representative of the population as a whole.
12 Likewise, using only 10 years of data to define normal weather increases the
13 likelihood that one or two non-representative years may skew the results. As
14 we all know, weather is inherently variable. In fact, the National Oceanic and
15 Atmospheric Administration (“NOAA”) uses a 30 year period to define
16 normal weather, a longer time period than the one proposed by FPL.

17 **Q. Would the use of a 10 year average to calculate normal weather**
18 **consistently result in a higher sales forecast, and therefore a reduced**
19 **revenue deficiency?**

20 A. No. Exhibit RM-3 shows how the calculation of the rolling 20 year average
21 and 10 year average for cooling degree hours varies over time. The 20 year
22 average shown for the year 2011 is the same 20 year average used in FPL’s
23 load forecast in this pending case. The 10 year average shown for the year

1 2011 is the same 10 year average SFHHA witness Baron proposed in his
2 testimony. As the exhibit shows, the 10 year average for the year 2011 is
3 significantly higher than the 20 year average for the year 2011. However, this
4 is not always the case. In fact, as recently as 2010 the 10 year average was
5 lower than the 20 year average. The fact that the most recent 10 year average
6 has more cooling degree hours than the most recent 20 year average is due
7 largely to the hotter than normal weather in 2011. In many years, the 10 year
8 average actually has fewer cooling degree hours than the 20 year average. In
9 fact, in 7 out of the last 12 years, the 10 year average of cooling degree hours
10 is lower than the 20 year average and would have resulted in a lower sales
11 forecast.

12 **Q. Does Exhibit RM-3 suggest that the 10 year average is an appropriate**
13 **period to calculate normal weather conditions?**

14 A. No. Exhibit RM-3 shows that the use of a 10 year average creates excessive
15 volatility in how normal weather conditions would be defined. The annual
16 changes in the 10 year average, on an absolute basis, are twice as large as the
17 annual changes in the 20 year average.

18 **Q. Has the Commission accepted the use of a 20 year horizon to calculate**
19 **normal weather conditions in past rate proceedings?**

20 A. Yes. The load forecasts approved in recent cases for both Gulf Power and
21 TECO were based on 20 years of weather data to define normal weather
22 conditions.

1 **Q. Has the Commission ever approved a 10 year horizon to determine**
2 **normal weather conditions in any past proceeding involving an electric**
3 **utility?**

4 A. To my knowledge, no.

5 **Q. Is FPL's long-term generation plan designed to reliably serve future loads**
6 **based on a 10 year definition of normal weather?**

7 A. No. FPL's long-term generation plan is designed to reliably serve future loads
8 based on a 20 year definition of normal weather. This is the same definition
9 of normal weather used in the filing in this proceeding.

10 **Q. Is any electric utility in Peninsular Florida basing its load forecast on**
11 **only 10 years of weather data?**

12 A. No. Based on information from the Florida Reliability Coordinating Council
13 the electric utilities in Peninsular Florida are all using either a 20 year, 30 year
14 or longer period of time in defining normal weather. No one uses a 10 year
15 period.

16 **Q. How have cooling degree hours varied in recent years?**

17 A. The years 2009 through 2011 were hotter than normal, however, the
18 immediately preceding years were characterized by milder than normal
19 weather conditions. Exhibit RM-4 shows the annual cooling degree hours
20 since 1992. As the chart shows, the hottest year in the last 20 years was
21 actually 1998.

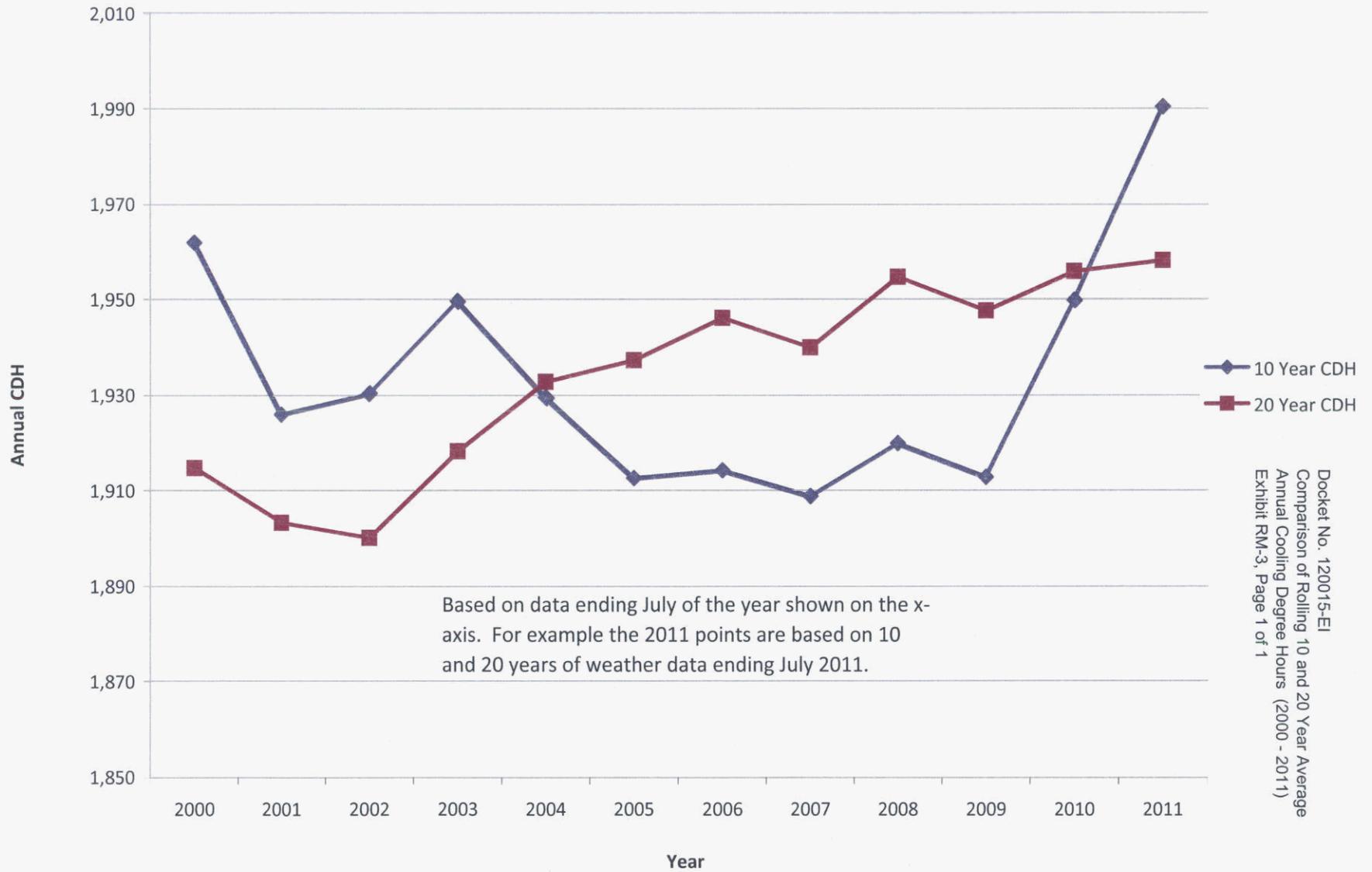
1 **Q. Overall, what have weather conditions been in 2012?**

2 A. Based on data through June, the weather in 2012 has been milder than in 2011
3 and close to the 20 year normals.

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

5 A. Yes.

Comparison of Rolling 10 and 20 Year Average Annual Cooling Degree Hours (2000 - 2011)



Annual Cooling Degree Hours (1992 - 2011)

