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BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

DIRECT TESTIMONY OF

BENJAMIN M. H. BORSCH

ON BEHALF OF

PROGRESS ENERGY FLORIDA

DOCKET NO. 130007-EI

April 1, 2013

Q. Please state your name and business address.

A. My name is Benjamin M. H. Borsch. My business address is 299 First Avenue North, St. Petersburg, FL 33701.

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

A. I am employed by the Integrated Resource Planning and Analytics Department of Progress Energy Florida (PEF) as Director of Integrated Resource Planning and Analytics for Florida.

Q. What are your responsibilities in that position?

A. Currently, my responsibilities include overseeing preparation of resource plans and economic evaluations of proposed major projects for PEF and ensuring that analytical support is provided to strategic decision-making particularly around asset evaluations.

Q. Please describe your educational background and professional experience.

COM 5
AFD 1
APA 1
ECO 1
ENG 4
GCL 1
IDM _____
TEL _____
CLK 1-Ct Rep

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1 A. I received a Bachelor of Science and Engineering degree in Chemical
2 Engineering from Princeton University in 1984. I am a professional engineer
3 licensed in Florida and North Carolina. I have been employed in a variety of
4 positions in machine manufacturing, chemical and petrochemical engineering,
5 environmental equipment design and environmental consulting for a range of
6 industries including citrus, phosphate, manufacturing, independent and utility
7 power plant development and generation. From 2000 – 2006, I was Director of
8 Environmental Health & Safety for the Southeastern Region of Calpine
9 Corporation. I joined PEF in 2008 and have worked in new project development
10 and resource planning, assuming my current position at the time of the merger
11 with Duke Energy.

12

13 **Q. Are you sponsoring any Exhibits?**

14 A. I am co-sponsoring Exhibit No. __ (PQW-1), along with Patricia Q. West,
15 specifically Section IV (parts B,1 and 2, C, and D) of the Integrated Clean Air
16 Compliance Plan. These sections of the exhibit are true and accurate.

17

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

19 A. The purpose of my testimony is to support the portions of the Clean Air
20 Compliance Plan related to the lifecycle analysis completed by the Company in
21 connection with the decision on cost effective Mercury and Air Toxic Standards
22 (MATS) compliance options for Crystal River Units 1 and 2.

23

1 **Q. What options did the Company consider for compliance with the MATS**
2 **regulations for Crystal River Units 1 and 2?**

3 A. PEF cannot continue to operate the Crystal River Units 1 and 2 without
4 implementation of additional measures to bring the units into compliance with
5 MATS. Accordingly, the two main options that PEF considered were: (1)
6 installing new emission control systems to reduce NO_x, SO₂ and mercury
7 emissions; and (2) retiring the units and replacing the generation.

8
9 **Q. How did PEF analyze these two options?**

10 A. To determine the most cost-effective compliance option for CR 1 and 2, PEF
11 conducted a lifecycle cost analysis of all costs associated with both options.
12 This analysis is presented in detail in Section IV.C.1 of Exhibit No. __ (PQW-
13 1). In the analyses, PEF focused on the comparative economics of a scenario in
14 which Crystal River Units 1 and 2 continue to operate through 2041, equipped
15 with significant life extension upgrades, state of the art emission control systems
16 and a long term supply of low cost coal, versus a scenario where the units are
17 retired in 2016. The Company compared operations and investment costs
18 between the two alternatives and characterized the results in terms of the present
19 value of annual and cumulative revenue requirements (PVRR and CPVRR).
20 The base (reference) case was evaluated using the corporate mid-range fuel price
21 forecasts, corporate forecasts for the cost of capital, projections for emission
22 allowances and a proxy forecast for potential CO₂ allowance costs that were all
23 used in the 2012 regulatory studies. Sensitivities reflecting higher gas prices
24 and/or no CO₂ allowance costs were also prepared for comparison.

1

2 **Q. What were the results of the CPVRR analysis?**

3 **A.** In the base case analysis (corporate mid-range fuel prices, proxy forecast for
4 potential CO2 allowance costs) the lifecycle projected system cost (CPVRR) for
5 the option of retiring Crystal River Units 1 and 2 was \$1.32B lower overall than
6 the system CPVRR for the option of installing the environmental controls, i.e. a
7 projected system savings, of \$1.32 billion in 2012 dollars. When considering
8 the sensitivity scenarios, the retirement alternative is favorable in all cases
9 except for the high gas price, no CO₂ price case.

10

11 **Q. Did the Company consider qualitative factors in the analysis?**

12 **A.** Yes, as explained in Section IV.C.3 of Exhibit No. __ (PQW-1), PEF considered
13 a number of qualitative factors with respect to the two options for MATS
14 compliance. Factors in favor of the retirement option included age of the
15 facility, construction risk, and long term operability. The main factor in favor of
16 installing emission controls at Crystal River Units 1 and 2 would be to maintain
17 additional fuel diversity.

18

19 **Q. What did the Company decide as a result of its quantitative and qualitative
20 analysis?**

21 **A.** As detailed in Section IV.C. of Exhibit No. __ (PQW-1), PEF has decided that
22 installing emission controls at Crystal River Units 1 and 2 is not the most cost-
23 effective option to achieve MATS compliance. As explained in the Integrated

1 Clean Air Compliance Plan, the Company is evaluating alternate options for
2 compliance that may impact the exact retirement date for the units.

3

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

5 **A. Yes.**