



March 6, 2012

L-2012-100
10 CFR 50.90

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Re: St. Lucie Plant Unit 2
Docket No. 50-389
Renewed Facility Operating License No. NPF-16

Response to NRC Reactor Systems Branch Request for Additional Information
Regarding Extended Power Uprate License Amendment Request

References:

- (1) R. L. Anderson (FPL) to U.S. Nuclear Regulatory Commission (L-2011-021), "License Amendment Request (LAR) for Extended Power Uprate," February 25, 2011, Accession No. ML110730116.
- (2) T. Orf (NRC) email to C. Wasik (FPL), "RE: St. Lucie 2 EPU draft RAI -- Reactor Systems (SRXB)," March 1, 2012.

By letter L-2011-021 dated February 25, 2011 [Reference 1], Florida Power & Light Company (FPL) requested to amend Renewed Facility Operating License No. NPF-16 and revise the St. Lucie Unit 2 Technical Specifications (TS). The proposed amendment will increase the unit's licensed core thermal power level from 2700 megawatts thermal (MWt) to 3020 MWt and revise the Renewed Facility Operating License and TS to support operation at this increased core thermal power level. This represents an approximate increase of 11.85% and is therefore considered an Extended Power Uprate (EPU).

In an email from the NRC Project Manager dated March 1, 2012 [Reference 2], additional information related to reactor systems was requested by the NRC staff in the Reactor Systems Branch (SRXB) to support their review of the St. Lucie Unit 2 EPU License Amendment Request (LAR). Reference 2 contains one RAI numbered SRXB-111. FPL's response to this RAI is presented in the attachment to this letter.

In accordance with 10 CFR 50.91(b)(1), a copy of this letter is being forwarded to the designated State of Florida official.

This submittal does not alter the significant hazards consideration or environmental assessment previously submitted by FPL letter L-2011-021 [Reference 1].

A001
NRN

This submittal contains no new commitments and no revisions to existing commitments.

Should you have any questions regarding this submittal, please contact Mr. Christopher Wasik, St. Lucie Extended Power Uprate License Amendment Request (LAR) Project Manager, at 772-467-7138.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge.

Executed on *6-March-2012*

Very truly yours,

A handwritten signature in black ink, appearing to read "Richard L. Anderson", written over a horizontal line.

Richard L. Anderson
Site Vice President
St. Lucie Plant

Attachment

cc: Mr. William Passetti, Florida Department of Health

Response to NRC Reactor Systems Branch
Request for Additional Information

The following information is provided by Florida Power & Light (FPL) in response to the U. S. Nuclear Regulatory Commission's (NRC) Request for Additional Information (RAI). This information was requested to support the Extended Power Uprate (EPU) License Amendment Request (LAR) for St. Lucie Unit 1 submitted to the NRC by FPL via letter L-2011-021 dated February 25, 2011, Accession Number ML110730116.

In an email dated March 1, 2012 from T. Orf (NRC) to C. Wasik (FPL), "RE: St. Lucie 2 EPU draft RAI – Reactor Systems (SRXB)," the NRC staff requested additional information regarding FPL's request to implement the EPU. The RAI consisted of one question from the NRC Reactor Systems Branch. This RAI has been numbered SRXB-111. The response is provided below.

SRXB-111

Provide a description of the process for comparing CheckPlus to other plant parameters during long-term operation

Response

Feedwater mass flow rate and feedwater temperature signals are sent from the CheckPlus Leading Edge Flow Meter system (LEFM) to the Distributed Control System (DCS) for use in the calorimetric calculations. The top-level calorimetric graphic display screen has been configured to provide side-by-side comparison of mass flow rate from LEFM and from the three differential transmitters associated with the feedwater venturi. A side-by-side comparison is also provided of feedwater temperature from LEFM and from the three feedwater header resistance temperature detectors (RTDs). A total of four side-by-side comparisons are provided on the same integrated graphic (i.e., mass flow rate and temperature for the "A" and "B" feedwater headers).

On a daily basis, both venturi-based mass flow rate display values and both RTD-based feedwater temperature display values will, if necessary, be adjusted to match the corresponding LEFM-based display values. Each of the four software adjustment constants used for this purpose will have a nominal value of 1.00000. Each of the four software adjustment constants will be continuously displayed and will also be trended via the DCS historians. Trend data from these four adjustment constants will be evaluated on a periodic basis as the primary means of detecting unexpected drift between LEFM calculated mass flow and feedwater temperature in comparison with conventional instrumentation channels.

In addition, the thermal performance engineer regularly monitors various other independent, power indicative parameters (e.g., plant MWe output, high pressure and low pressure turbine inlet pressures, reactor coolant system Δ -temperature and steam flow) to identify unexpected thermal power gains or losses.