



March 16, 2012

L-2012-114
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) J. Paige (NRC) email to C. Wasik (FPL), "St. Lucie Unit1 1 & 2 LEFM Question," March 12, 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 dated March 12, 2012 [Reference 2], additional information 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 refers to docketing FPL's response to a previously unnumbered and unwritten question. FPL designated the question as SRXB-118. 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
NRC

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 *14-March-2012*

Very truly yours,

A handwritten signature in black ink, appearing to read "Richard L. Anderson". The signature is fluid and cursive, with a long horizontal stroke at the end.

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 from the NRC dated March 12, 2012, additional information 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. The March 12th NRC email requested that FPL docket a previously provided emailed response to a verbal and unnumbered NRC question. The wording of the RAI below represents FPL's phrasing of the question. FPL designated the question as SRXB-118; the response is provided below.

SRXB-118

Describe how Cameron documents ML205 and CIB119 were considered in the process that will be used for comparing the LEFM CheckPlus calculated mass flow rate to other plant parameters during long-term operation.

Response

Cameron document ML205 describes a methodology for identifying drift in baseline differences (biases) between independent parameters with a known relationship to feedwater mass flow rate. The ML205 method calculates a best estimate feedwater mass flow rate by summing weighted diverse measurements. The difference between each diverse measurement and the best estimate is then trended. Our intention, as documented in the FPL response to RAI SRXB-111 (FPL Letter L-2012-100 dated March 6, 2012) is to directly trend different measurements of plant power. This is considered to be equivalent to the ML205 method and allows direct comparison with additional diverse parameters (e.g. RCS delta-T and megawatt indicators). As previously indicated in the response to RAI SRXB-111, direct comparison trending between venturi DP flow measurements and LEFM flow measurements will also be performed. Trend monitoring is not required to validate the LEFM calorimetric uncertainty. However, it is a prudent step that will be taken to further reduce the unlikely possibility of an overpower event.

Cameron document CIB119 identifies those parameters that must be monitored over time to ensure that the LEFM is operating within the bounds of its uncertainty analysis. Recent versions of the LEFM system (including the St. Lucie LEFM model) are designed to continuously self-monitor most of the parameters and conditions that require field verification. For the St. Lucie version of the LEFM Check Plus system, Table 3 of CIB119 identifies two parameters that require manual trending/adjustment as follows:

- Periodic measurement of wall thickness using an ultrasonic thickness gauge, and
- Periodic calibration of the FW pressure transmitters.

As part of the LEFM modification, the following changes to the plant's preventative maintenance program have been initiated to address the above:

1. The wall thickness of the LEFM spools will be measured using an ultrasonic thickness gauge (or equivalent instrument) once every five years to validate any change in internal diameter remains within the budgeted allowance of 0.015 inches documented within Cameron Engineering Report ER-740 Rev 0; and
2. The LEFM feedwater pressure transmitters will be calibrated every two years to validate the pressure measurement total uncertainty remains within the budgeted allowance of 15 psi documented within Cameron Engineering Report ER-740 Rev 0.