



April 19, 2012

L-2012-167
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 Mechanical and Civil Engineering Branch (EMCB) 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 for Extended Power Uprate," February 25, 2011, Accession No. ML110730116.
- (2) Email from T. Orf (NRC) to C. Wasik (FPL), "St. Lucie 2 EPU draft RAIs – Mechanical & Civil Engineering Branch (EMCB)," April 5, 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).

By email from the NRC Project Manager dated April 5, 2012 [Reference 2], additional information was requested by the NRC staff in the Mechanical and Civil Engineering Branch (EMCB) to support their review of the EPU License Amendment Request (LAR). The request for additional information (RAI) identified one additional question.

The attachment to this letter contains FPL's response to RAI EMCB-48.

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

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

A001
NRC

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

Should you have any questions regarding this submittal, please contact Mr. Christopher Wasik, St. Lucie Extended Power Uprate 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 *19-April-2012*

Very truly yours,

A handwritten signature in black ink, appearing to read "Richard L. Anderson", with a long horizontal flourish extending to the left.

Richard L. Anderson
Site Vice President
St. Lucie Plant

Attachment (1)

cc: Mr. William Passetti, Florida Department of Health

**Response to NRC Mechanical and Civil Engineering
Branch (EMCB) 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 Extended Power Uprate (EPU) License Amendment Request (LAR) for St. Lucie Nuclear Plant Unit 2 that was submitted to the NRC by FPL via letter (L-2011-021) dated February 25, 2011, Accession Number ML110730116.

In an email dated April 5, 2012 from NRC (Tracy Orf) to FPL (Chris Wasik), Subject: St. Lucie 2 EPU draft RAIs - Mechanical & Civil Engineering Branch (EMCB), the NRC requested additional information regarding FPL's request to implement the EPU. The RAI consisted of one question from the NRC's Mechanical and Civil Engineering Branch (EMCB). This attachment provides FPL's response to RAI EMCB-48.

EMCB-48

According to UFSAR Section 3.6.1.2.2, moderate energy (ME) piping systems are considered for both inside and outside containment. Please clarify, as it is not clear in EPU LR Section 2.2.1.2, whether ME piping failures outside containment were considered or evaluated for EPU. In addition, results Section 2.2.1.2.4, states that "For the balance of plant piping systems, the evaluation for EPU conditions did not result in any new or revised pipe break locations". Please discuss whether evaluations at EPU conditions resulted in any pipe or crack postulated locations for balance of plant piping (BOP) and non-BOP piping, including reactor coolant loop branch piping.

Response:

Moderate energy (ME) piping failures (i.e., postulated cracks) were considered in the St. Lucie Unit 2 EPU evaluations. As described in UFSAR Sections 3.6.2.4 and 3.6F.1, design basis environmental conditions inside containment are established by high energy pipe breaks. Therefore, the effects of ME piping failures inside containment are bounded by the applicable high energy pipe breaks.

UFSAR Section 3.6F.2 indicates that the analysis performed for ME piping failures (i.e., cracks) outside containment was not based on specific stress criteria in determining potential crack locations. The ME piping failures outside containment were assumed to be located anywhere along the run of the subject piping system (i.e., crack everywhere approach).

In summary, all piping systems affected by EPU were evaluated for ME piping failures, as well as high energy piping failures, and these evaluations did not result in any new pipe break and/or pipe crack locations due to EPU.