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SUBJECT: Forwards Rev 1 to Rept EMF-92-148, "St Lucie Unit 1 SBLOCA Analysis" & SBLOCA data relevant to review of util 930319 proposed license amend request to change RCS design flowrate.Requests that NRC issue subj amend by 941115.

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Florida Power & Light Company, P.O. Box 128, Fort Pierce, FL 34954-0128

FPL

August 18, 1994

L-94-147
10 CFR 50.90

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D. C. 20555

RE: St. Lucie Unit 1
Docket No. 50-335
Proposed License Amendment
St. Lucie Unit 1 Reduction of
Reactor Coolant System Design Flow

By letter L-93-035, dated March 19, 1993, Florida Power and Light Company (FPL) requested that Facility Operating License DPR-67 for St. Lucie Unit 1 (PSL1) be amended to change the Reactor Coolant System design flowrate. Justification for this request, in part, was contingent upon approval of the analytical methods employed by the fuel vendor to evaluate the PSL1 response to small break loss of coolant accidents (SBLOCA). The evaluation model was undergoing technical review by the NRC at the time of FPL's request.

Subsequent modifications were made to the evaluation model and its topical report, and reanalysis of the PSL1 SBLOCA response was performed in May, 1994. Consequently, information reported in L-93-035 (part 4-2.2 of Attachment 2, and Enclosure 3) relative to SBLOCAs is superseded, and should be disregarded during the staff's review of that FPL submittal.

The enclosed report, "Siemens Power Corporation-Nuclear Division, St. Lucie Unit 1 Small Break LOCA Analysis, EMF-92-148, Revision 1, May 1994," and Attachment 1 to this letter provide the SBLOCA data relevant to the review of FPL's proposed license amendment. The evaluation of no significant hazards consideration contained in L-93-035 is not affected by this supplement.

FPL requests that NRC issue the subject amendment by November 15, 1994, to support return of PSL1 to operation following the Fall-94 refueling outage. Please contact us if there are any questions about this submittal.

Very truly yours,

D. A. Sager
Vice President
St. Lucie Plant

240073

A001
1/1

DAS/RLD/kw
DAS/PSL #1186-94

Attachment
Enclosure

cc: Stewart D. Ebneter, Regional Administrator, Region II, USNRC

Senior Resident Inspector, USNRC, St. Lucie Plant.

Mr. W.A. Passetti, Florida Department of Health and Rehabilitative Services.

STATE OF FLORIDA)
) ss.
COUNTY OF ST. LUCIE)

D. A. Sager being first duly sworn, deposes and says:

That he is Vice President, St. Lucie Plant for the Nuclear Division of Florida Power & Light Company, the Licensee herein;

That he has executed the foregoing document; that the statements made in this document are true and correct to the best of his knowledge, information and belief, and that he is authorized to execute the document on behalf of said Licensee.

D.A. Sager
D.A. Sager

STATE OF FLORIDA

COUNTY OF ST. LUCIE

The foregoing instrument was acknowledged before me this 18th day of August, 1994 by D.A. Sager, who is personally known to me and who did take an oath.

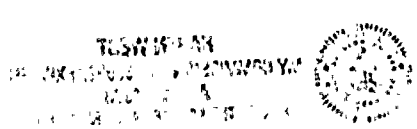
Karen West

KAREN WEST
Name of Notary Public

My Commission expires 4-18-98

Commission No. CC359926

KAREN WEST
MY COMMISSION # CC359926 EXPIRES
April 18, 1998
BONDED THRU TROY FAIN INSURANCE, INC.



NOTE

Section 4-4.2 of FPL Letter L-93-035 (3/19/93), Attachment 2, is superseded by the following data.

Small Break LOCA (SBLOCA)

The SBLOCA was reanalyzed for St. Lucie Unit 1 to evaluate the impact of up to 25% (average) SGTP. The break was assumed to occur in the cold leg piping at the RCP discharge. Conservative system parameters were assumed in conjunction with the proposed design RCS flowrate of 355,000 gpm. Break spectrum calculations and sensitivity calculations were performed as part of the analysis. Single failure criteria was satisfied by assuming that one emergency diesel generator would fail to operate and thereby cause one high pressure safety injection pump and one auxiliary feedwater pump to be inoperable.

The limiting break size was determined to be 0.1 ft^2. Sensitivity analyses performed for the limiting break included one to evaluate the impact of a delayed RCP tripping scheme that is consistent with plant Emergency Operating Procedures, and one to evaluate the impact of ±7% SGTP asymmetry, e.g., 18% of the tubes plugged in one SG and 32% plugged in the other SG. The results of both studies are bounded by the results of the limiting break calculations.

The maximum PCT achieved in the several SBLOCA cases that were analyzed is 1846 °F. The calculated maximum local cladding oxidation is 2.25% with core wide oxidation less than 1%. The reanalysis demonstrates that acceptance criteria of 10CFR50.46(b) are satisfied for the limiting SBLOCA when considering the effects of 25% (average) SG tube plugging, ±7% SGTP asymmetry, and the proposed value of RCS design flow.

The SBLOCA results are based on SPC's small break methodology, as revised by their responses to questions raised during NRC's review of the associated topical report. The maximum time-step utilized is defined in the methodology. The maximum PCT of 1846 °F represents the limiting case (three cases analyzed) of sensitivity calculations performed for the limiting break size to determine adjacent core volume cross-flow sensitivity.

Additional details of the SBLOCA reanalysis, including a summary description of the evaluation models that were employed, are contained in the report enclosed with this document: "Siemens Power Corporation-Nuclear Division, St. Lucie Unit 1, Small Break LOCA Analysis", EMF-92-148, Revision 1; May 1994.