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UHRIG,R.E. Florida Power & Light Co.
RECIP.NAME RECIPIENT AFFILIATION
CLARK,R.A. Operating Reactors Branch 3

SUBJECT: Forwards response to NRC 810511 request for addl info re stretch power application.

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FLORIDA POWER & LIGHT COMPANY

June 11, 1981
L-81-246

Office of Nuclear Reactor Regulation
Attention: Mr. Robert A. Clark, Chief
Operating Reactors Branch #3
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Clark:

Re: St. Lucie Unit 1
Docket No. 50-335
Stretch Power Application

Enclosed is our response to the information request of your letter dated May 11, 1981.

Very truly yours,

Robert E. Uhrig
Vice President
Advanced Systems & Technology

REU/DME/ah

Attachment

cc: Mr. J. P. O'Reilly, Region II
Mr. Harold F. Reis, Esquire

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Question 1

What is the magnitude of the bias applied to increase the maximum calculated radial peaking factors in fuel pins adjacent to CEA water holes?

Response

For the St. Lucie 1 Cycle 4 Stretch Power Analysis, a bias value of 4.9% was applied to increase the maximum radial peaking factors around the water holes. The effects of water hole peaking are included in both the nominal and safety peaking data presented in the Stretch Power Application.

Question 2

For the CEA withdrawal event, it is stated that either the Variable High Power Level or Thermal Margin/Low Pressure trip are used in conjunction with the initial steady state LCOs to prevent DNBR limits from being exceeded. It was our understanding that the CEAW event was reclassified as per CEN-126(F) so that only the High Power Trip or the Variable High Power Trip were required to prevent violation of SAFDLs in lieu of including a pressure bias component in the TM/LP trip algorithm. Explain the continued reliance on the TM/LP trip for the CEAW event depending on the initial conditions and the reactivity insertion rate.

Response

The CEAW event for St. Lucie 1 Cycle 4 stretch power was analyzed without crediting the TM/LP trip. This event was analyzed with the methods reported in CEN-126(F)-P. Although no reliance is placed on the TM/LP trip, it is our best estimate that the TM/LP trip will still act as an additional preventative measure to prevent DNB limits from being exceeded.

Question 3

The key parameters assumed in the full length CEA drop analysis are shown in Table 7.2.4-1. The dropped CEA worth for the unrodded condition has decreased from 0.10% to 0.04% $\Delta\rho$. Please explain this decrease in CEA worth.

Response

The minimum dropped CEA worth presented in Table 7.2.4-1 of 0.04% $\Delta\rho$ is an "enveloping" value which is significantly below the actual reactivity change calculated for Cycle 4. This explanation may also be found in Table 5-5 (Footnote 3) of Section 5 where the

Response Continued

input physics data for the CEA drop analysis is presented. The lowest calculated dropped CEA worth for a configuration which also produces the maximum increase in the radial peaking factor is .10% $\Delta\rho$ and is the same as the value presented for the Cycle 3 reference analysis. The minimum reactivity change is conservative with respect to the CEA drop analysis because it produces the smallest decrease in core power during the event.