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RECIP. NAME RECIPIENT AFFILIATION
EISENHUT, D. G. Division of Licensing

SUBJECT: Discusses mods to Batch C1 & 16 selected Batch B1 fuel assemblies similar to mods at AR Power & Light Unit 2. Shines installed on guide tubes to increase shoulder gap & holddown & flow plates machined in thickness to maintain length.

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FLORIDA POWER & LIGHT COMPANY

March 24, 1983
L-83-172

Office of Nuclear Reactor Regulations
Attention: Mr. Darrell G. Eisenhut, Director
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Eisenhut:

Re: ST. LUCIE UNIT NO. 2
DOCKET NO.
FUEL ASSEMBLY MODIFICATION

Results of fuel assembly inspections at Arkansas Power & Light's ANO-2 plant (Docket 50-368) made it evident that an increased assembly shoulder gap might be needed in those ANO-2 assemblies experiencing three or more cycles of operation. (This is due to the higher than predicted rate of growth of the fuel rod relative to the growth of the assembly guide tubes). Modifications were made to selected ANO-2 assemblies to ensure adequate shoulder gap to accommodate this difference in rates of growth.

For the St. Lucie Unit No. 2 Batch C assemblies and sixteen (16) selected Batch B assemblies, a similar modification was performed. This involved installing shims on the guide tubes to increase the shoulder gap and machining the holddown and flow plates of the upper end fitting to a reduced thickness for compensation to maintain the overall assembly length (see attached sketch). The net result is the following:

1. The shoulder gap is increased by approximately 0.450". This was accomplished by reducing both the holddown plate and the flow plate thicknesses.

2. Assembly length, compression spring length, holddown force and the ability to reconstitute the assembly are maintained.

3. All design criteria continue to be satisfied except for the design lifting capability. The reduction in the thickness of the holddown plate necessitates a reduction in the allowable lifting load from 5,000 pounds to 3,000 pounds. This is more than adequate considering the weight of a fuel assembly with a CEA is less than 1,400 pounds. Moreover, load lifting limits on the refueling machine and the spent fuel handling machine ensure that specified loads will not be exceeded.

B001

The above fuel assembly modifications provided assurance that the observations at ANO-2 have been factored into the St. Lucie Unit No. 2 design.

Should you have any questions regarding this matter, please do not hesitate to call.

Very truly yours,

J a De Mastry
for

Robert E. Uhrig
Vice President
Advanced Systems and Technology

REU/RJS/PPC/rms

Attachment

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

COMPARISON OF ORIGINAL AND SHIMMED UPPER END FITTINGS

ORIGINAL CONFIGURATION

SHIMMED CONFIGURATION