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FACIL:50-389 St. Lucie Plant, Unit 2, Florida Power & Light Co. 05000389
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UHRIG,R.E. Florida Power & Light Co.
RECIP.NAME RECIPIENT AFFILIATION
EISENHUT,D.G. Division of Licensing

SUBJECT: Application to amend License NPF-16 revising Tech Spec requirement for primary & secondary coolants in steam generator to be greater than 100 F when coolant pressure greater than 200 psig.SER encl.

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BOX 14000, JUNO BEACH, FL 33408

FPL

FLORIDA POWER & LIGHT COMPANY

June 17, 1983
L-83-349

Office of Nuclear Reactor Regulation
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. 50-389
Proposed License Amendment
Steam Generator Pressure/Temperature Limitation
and Administrative/Editorial changes

In accordance with 10 CFR 50.90, Florida Power & Light Company submits herewith three signed originals and forty copies of a request to amend Appendix A of Facility Operating License NPF-16.

This amendment is submitted to revise the requirement for both primary and secondary coolants in the steam generator to be greater than 100°F when the pressure in either coolant is greater than 200 psig. This change is necessary to allow heatup of the primary coolant with the Reactor Coolant Pumps. This change is a revision to the like change submitted as part of FPL letter L-83-248 dated April 20, 1983, and therefore, supercedes that part of the April 20th submittal.

This amendment is also submitted to make several administrative/editorial changes. These changes have been identified as a result of continuing review of the Technical Specifications by both NRC and FPL.

The proposed amendment is described below and shown on the accompanying Technical Specification pages.

Page 3/4 4-1

In the footnote, delete "and 3.10.6". There is no Special Test Exception 3.10.6.

Page 3/4 7-10

Change the "5.6" and the "5.35" in Specification 4.7.1.6 b. to "4.2".

Page 3/4 7-12

Revise Specification 3.7.2 to apply only to the secondary coolant in the steam generator. Also, change the "275" in Specifications 3.7.2, 3.7.2 a. and 4.7.2 to "200".

Page 3/4 7-30

Change the "3.7.11.4 and 3.7.11.5" in Specification 3.7.11.1 c. to "3.7.11.3 and 3.7.11.4".

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Page B 3/4 7-4

Change the "275" to "200" and the "30" to "20" in BASES 3/4.7.2.

Page 6-20

Delete the words "first half year" in the first line of the double - asterisk footnote.

In accordance with 10 CFR 50.91(b)(1), a copy of this proposed license amendment is being forwarded to the State Designee for the State of Florida.

In accordance with 10 CFR 50.91(a)(1), we have determined that this amendment does not involve any significant hazards considerations pursuant to 10 CFR 50.91(c) in that the amendment is administrative in nature and therefore does not:

1) involve a significant increase in the probability or consequences of an accident previously evaluated; or

2) create the possibility of a new or different kind of accident from any accident previously evaluated; or

3) involve a significant reduction in a margin or safety.

The proposed amendment has been reviewed by the St. Lucie Facility Review Group and the Florida Power & Light Company Nuclear Review Board.

In that this amendment is administrative in nature, it has been determined to be a Class II amendment, in accordance with 10 CFR 170.22. A check for $1,200.00 will follow shortly.

Very truly yours,

Robert E. Uhrig
Vice President
Advanced Systems & Technology

REU/RJS/cab

Attachments

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

Ulray Clark, Administrator
Radiological Health Services
Department of Health and Rehabilitative Services
1323 Winewood Boulevard
Tallahassee, Florida 32301

SAFETY EVALUATION

Page 3/4 4-1

This change is administrative/editorial, and therefore of no safety concern.

Page 3/4 7-10

This change is administrative/editorial (the actual valve closure time is 4.2 seconds, not 5.6 seconds or 5.35 seconds), and therefore of no safety conern.

Page 3/4 7-12 and B 3/4 7-4

Limiting Condition for Operation 3.7.2 for Technical Specification 3/4.7.2 requires that the temperatures of both primary and secondary coolants in the steam generators shall be greater than 100°F when the pressure of either coolant in the steam generator is greater than 275 psig. Our NSSS vendor has indicated that the 275 psig limit is incorrect and should be 200 psig. Furthermore, our startup procedures call for initial heating of the primary coolant to be performed utilizing pump heat from the reactor coolant pumps (RCP). However, the pump curve received from the vendor indicates that operation of the RCPs within these primary coolant system pressure limits will cause reduction in life of the RCP seals. Since the temperature of the secondary coolant in the steam generator is at ambient, about 80 to 90°F, this Technical Specification would preclude the use of RCPs to heat up the primary coolant without reducing seal life.

The bases for this Technical Specification is that by placing limits on the pressure and temperature of both the primary and secondary coolants, the pressure induced stresses in the steam generators do not exceed the maximum allowable fracture toughness stress limits. The current limits are based on a steam generator RT_{NDT} of 20°F.

However, Technical Specification 3/4.4.9 also contains pressure and temperature limitations for the reactor coolant system (RCS). The bases for these limits is the same as that for Technical Specification 3/4.7.2, i.e., to ensure that the maximum pressure induced stresses do not exceed the maximum allowable fracture toughness stress limits for the RCS pressure retaining components. Bases 3/4.4.9 states that these curves were developed assuming the maximum RT_{NDT} for all RCS pressure-retaining materials, with the exception of the reactor pressure vessel, of 50°F.

Therefore, the pressure/temperature curves for Technical Specification 3/4.4.9 are appropriate for use for the primary coolant in the steam generator as well, since they are based on a more conservative basis (higher RT_{NDT}) than those in Technical Specification 3/4.7.2.

The pressure temperature limits in Technical Specification 3/4.7.2 are clearly more conservative and restrictive than required. Due to the potential problems of the RCP seals being operated at the low pressure currently required, the existing limits of 3/4.7.2 may cause the system to be operated in a condition less safe than desired.

Based on the above, it is our determination that removal of the pressure temperature limits for the primary coolant from Technical Specification 3/4.7.2 does not pose a risk to health and safety of the public. This is due to the fact that the secondary pressure boundary remains protected by this Technical Specification and that the primary pressure boundary is protected by Technical Specification 3/4.4.9. Our NSSS vendor concurs with this conclusion.

SAFETY EVALUATION (continued)

Page 3/4 7-30

Ths change is administrative/editorial, and therefore of no safety concern.

Page 6-20

This change is administrative/editorial, and therefore of no safety concern.