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BOHLKE,W.H. Florida Power & Light Co.
RECIP.NAME RECIPIENT AFFILIATION
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SUBJECT: Provides info requested by NRC Bulletin 89-01,Suppl 2 re Failure of Westinghouse Steam Generator Mechanical Plugs,per 910628 submittal.

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P.O. Box 14000, Juno Beach, FL 33408-0420

JUL 30 1991

L-91-202

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

Gentlemen:

Re: Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
NRC Bulletin No. 89-01, Supplement 2
Failure of Westinghouse Steam Generator Mechanical Plugs

NRC Bulletin No. 89-01, Supplement 2, "Failure of Westinghouse Steam Generator Tube Mechanical Plugs," issued on June 28, 1991, requested licensees to perform actions similar to those requested in NRC Bulletin 89-01, on all Westinghouse mechanical plugs fabricated from thermally treated Inconel 600. The actions requested in the bulletin are to ensure that these plugs will continue to provide adequate assurance of reactor coolant pressure boundary integrity under normal operating, transient, and postulated accident conditions. These actions are required to ensure compliance with General Design Criteria 14 and 31 of 10 CFR Part 50, Appendix A, and the quality assurance requirements of 10 CFR Part 50, Appendix B.

FPL's response to each of the bulletin action requests are included as an attachment to this letter.

Should there be any questions, please contact us.

Very truly yours,

W. H. Bohlke
Vice President
Nuclear Engineering and Licensing

WHB/RJT/rjt

Attachments

cc: Stewart D. Ebneter, Regional Administrator, Region II, USNRC
Senior Resident Inspector, USNRC, Turkey Point Plant
Mr. Jacob Daniel Nash, Florida Department of Health and Rehabilitative Services

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1/1

STATE OF FLORIDA)
) ss.
COUNTY OF PALM BEACH)

W. H. Bohlke being first duly sworn, deposes and says:

That he is Vice President, Nuclear Engineering and Licensing, of Florida Power and 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.

W. H. Bohlke

Subscribed and sworn to before me this 30th day of July, 1991.

Susan M. Fey

NOTARY PUBLIC, in and for the County of Palm Beach, State of Florida

Notary Public, State of Florida
My Comm. Exp. Feb. 18, 1995
Bonded thru PICHARD Ins. Agency

My Commission expires

ATTACHMENT

TURKEY POINT UNITS 3 AND 4
DOCKET NO'S. 50-250 AND 50-251
RESPONSE TO NRC BULLETIN NO. 89-01 SUPPLEMENT 2
FAILURE OF WESTINGHOUSE STEAM GENERATOR TUBE MECHANICAL PLUGS

Actions Requested:

1. **Addressees are requested to verify that information contained in Table 2 of Reference 4 for their plants is correct for plugs fabricated from group 2 heats. (Addressees have previously verified similar information for group 1 plugs in response to the original bulletin.) The specific information to be verified is the number of Westinghouse mechanical plugs installed in the hot-leg and cold-leg side of each steam generator, categorized by heat number and date of installation. The plug operating temperatures for each plant given in this Table should also be verified. If information from this Table is incorrect, addressees should provide correct information. Addressees are requested to so state if their plants have not installed Westinghouse mechanical plugs from group 2 heats.**

FPL Response:

FPL has verified that the information contained in the above referenced document is correct, subject to the following clarifications:

Turkey Point Unit 3: Three hot-leg tube plugs manufactured from heat 3962, which were installed in the C steam generator in 1987, were replaced with welded tube plugs during the End of Cycle (EOC) 11 refueling outage in 1990. Four hot-leg tube plugs manufactured from heat 2387, which were installed in the B steam generator in 1985, were replaced with welded tube plugs during the EOC-11 refueling outage in 1990.

Turkey Point Unit 4: One hot-leg and one cold-leg tube plug manufactured from heat 4523, which were installed in the A steam generator in 1988, were replaced with Inconel 690TT mechanical plugs during the EOC-12 refueling outage in 1991. The hot-leg plug was replaced with a welded tube plug while the cold-leg tube plug was replaced with a mechanical tube plug.

Additionally, one hot-leg tube plug manufactured from heat 1989, which was installed in the B steam generator in 1982, was removed to determine the cause of boric acid deposits on the end of the plug. It was concluded that the boric acid leaked by the plug due to improper installation, since the laboratory examination did not find evidence of stress corrosion cracking. The tube was replugged with an Inconel 690 mechanical plug.

2. **Addressees are requested to take the following actions, to be implemented initially during any refueling outage or extended outage (greater than four weeks) which ends 60 days or more following receipt of this bulletin and during all future refueling outages. For the period of time between receipt of the bulletin and 60 days, the actions requested in the original version of this bulletin continue to be applicable for plugs fabricated from group 1 heats.**

   a. **Addressees should implement appropriate remedial actions (i.e., repair and/or replacement) for all plugs whose estimated lifetime in item 2.b below does not extend to the next refueling outage.**

   b. **Remaining lifetime estimates (in effective full power days [EFPD]), are given in Table 2 of Reference 4 in the column entitled "Remain EFPD to MIN." These remaining lifetime estimates are relative to reference dates given in the column entitled "Reference CALC Dates." These remaining lifetime estimates may be used directly. These estimates should be adjusted to reflect any corrections noted in Actions Requested, item 1.**

      FPL Response:

      FPL has implemented actions required in item 2 either per the recommended schedule or ahead of schedule. Additional details are provided in the response to item 1. FPL has routinely utilized the lifetime estimates to implement repairs and will continue to use these lifetime estimates for future replacements/repairs.

   c. **For refueling outages or extended outages ending prior to November 30, 1991, remedial actions for plugs fabricated from NX-5222 may be deferred until the next scheduled refueling outage.**

      FPL Response:

      No action is required, since Turkey Point does not have any plugs fabricated from heat NX-5222 installed in the steam generators.

   d. **Installation of Westinghouse mechanical plugs fabricated from Inconel 600 should be discontinued.**

      FPL Response:

      Turkey Point has discontinued the installation of Westinghouse mechanical plugs fabricated from Inconel 600 as of the 1988 Unit 3 refueling outage.

e. **If for any refueling outage, the addressee does not plan to satisfy items 2.a to 2.d above, an alternative plan for insuring plug integrity, with appropriate technical justification, should be submitted to the NRC at least 30 days before the end of the refueling outage.**

FPL Response:

In accordance with this request, FPL will inform the NRC of any alternative plans to insure plug integrity.

f. **Prior to any plug repairs or replacement, addressees are reminded that their responsibilities under ALARA require analysis of the various plug repair or replacement methods. In choosing a plug repair or replacement method, the licensee should consider the accessibility of the plugs and the dose reduction benefit of using robotic manipulators. Prior to plug repair or replacement, the licensee should consider steam generator decontamination and/or local shielding to reduce working area dose rates.**

FPL Response:

ALARA considerations have been used and will continue to be used in performing repairs and replacements to existing tube plugs.