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SUBJECT: Responds to 970123 & 27 telcon RAI re proposed TS changes supported by analyses to increase Unit 1 SG tube plugging limit & certain proposed changes for Unit 2 supported by related analyses.

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February 6, 1997

AEP:NRC:1207C

Docket Nos. 50-315
50-316

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

Gentlemen:

DONALD C. COOK NUCLEAR PLANT UNITS 1 AND 2
PROPOSED TECHNICAL SPECIFICATION CHANGES
SUPPORTED BY ANALYSES TO INCREASE UNIT 1
STEAM GENERATOR TUBE PLUGGING LIMIT AND
CERTAIN PROPOSED CHANGES FOR UNIT 2
SUPPORTED BY RELATED ANALYSES
REQUEST FOR ADDITIONAL INFORMATION

References:

1. Letter AEP:NRC:1207, Donald C. Cook Nuclear Plant units 1 and 2 license nos. DPR-58 and DPR-74, "Proposed Technical Specification Changes Supported by Analyses to Increase Unit 1 Steam Generator Tube Plugging Limit and Certain Proposed Changes for Unit 2 Supported by Related Analyses," E. E. Fitzpatrick to USNRC Document Control Desk, May 26, 1995.

2. Letter AEP:NRC:1207A, Donald C. Cook Nuclear Plant units 1 and 2 license nos. DPR-58 and DPR-74, "Clarification of Power Shape Used in LOCA Analysis," E. E. Fitzpatrick to USNRC Document Control Desk, September 26, 1995.

3. Westinghouse Letter NTD-NRC-95-4518, Withdrawal of WCAP-12909-P on Power Shape Sensitivity Model (PSSM), N. J. Liparulo to USNRC Document Control Desk, August 7, 1995.

4. Letter AEP:NRC:1118J, Donald C. Cook Nuclear Plant units 1 and 2 "Report of LOCA Evaluation Model Changes," E. E. Fitzpatrick to USNRC Document Control Desk, September 18, 1995.

5. Letter AEP:NRC:1223, Donald C. Cook Nuclear Plant units 1 and 2 license nos. DPR-58 and DPR-74, "Proposed License and Technical Specification Changes Supported by Analyses to Increase Unit 2 Rated Thermal Power and Certain Proposed Changes for Unit 1 Supported by Related Analyses," E. E. Fitzpatrick to USNRC Document Control Desk, July 11, 1996.

6. Westinghouse Letter NTD-NRC-95-4477, Transmittal of Topical Reports WCAP-14404-P and WCAP-14405-NP, "Methodology for Incorporating Hot Leg Nozzle Gaps into BASH", N. J. Liparulo to USNRC Document Control Desk, July 26, 1995.

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7. August 29, 1995, NRC minutes from a meeting between Westinghouse Electric Corp.,Tennessee Valley Authority, and the Nuclear Regulatory Commission on August 10, 1995.

This letter responds to staff concerns and a request for action that were expressed in telephone conferences on January 23 and 27, 1997. In those conversations, the staff voiced some concern that the unit 1 large break loss of cooling accident (LBLOCA) analysis of reference 1, as supplemented by reference 2, depends on an unapproved model to ensure that the chopped cosine power distribution case remains limiting. References 1 and 2 were submitted in support of our proposal to increase the allowable unit 1 steam generator tube plugging limit to 30%. The staff indicated the submittal did not specify a proposed schedule for providing reanalysis or taking other action as may be needed to show compliance with §50.46 requirements. In responding to these issues, the following information is offered.

In the summer of 1995, via reference 3, Westinghouse withdrew from staff review its proposed power shape sensitivity model (PSSM) for addressing the range of power distribution factors as required by 10 CFR 50, appendix K. The adoption of a methodology called ESHAPE resulted in a penalty for some analyses. In particular, the current analyses of record for both units of Cook Nuclear Plant were affected. Our 10 CFR 50.46 report on this matter was prepared and submitted as reference 4. In response to the requirement in the code to propose a schedule for reanalysis, we noted those new unit 1 LOCA analyses, contained in reference 1, were before the staff for review and that new analyses were planned for a submittal to support power uprate for unit 2. Reference 5 is the unit 2 submittal.

To ensure the chopped cosine remained limiting for the unit 1 submittal, reference 1, credit was taken for application of an unapproved model to skewed power distribution cases. The unapproved model was the hot leg nozzle gap model, reference 6. This approach was described in reference 2. At the time reference 2 was submitted, we believed the use of an unapproved model to ensure the chopped cosine case remained limiting was acceptable to the staff. Our belief rested on the understanding that the hot leg nozzle gap model would be reviewed in the fiscal year 1996 (reference 7). During our discussions on January 23 and 27, 1997, the staff revealed they now do not expect to be able to review or approve the hot leg nozzle gap model of reference 6 in the near future. The staff indicated they would accept the analyses submitted in references 1 and 2 as a temporary evaluation in support of an increase in unit 1 steam generator tube plugging to 30%, if we would commit to schedule a revision of the unit 1 LBLOCA analysis or plant configuration so that only approved models are relied upon.

We are currently discussing this issue with Westinghouse to identify feasible options to resolve it. Although we have not yet identified the best solution, we believe a revised submittal with an approved evaluation model can be made prior to the start up of cycle 18. Cycle 18 is currently scheduled to begin on April 20, 2000. If our discussions with Westinghouse should result in a need to change our proposed schedule, a submittal to the staff describing the change will be made.

For your information, we note that the LBLOCA analyses described in the unit 2 uprate submittal, reference 5, are based entirely on approved models.

Sincerely,

E. E. Fitzpatrick
Vice President

jmb

cc: A. A. Blind
A. B. Beach
MDEQ - DW & RPD
NRC Resident Inspector
J. R. Padgett