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DUKE POWER

April 29, 1993

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

Subject: Catawba Nuclear Station, Unit 1
Docket No. 50-413
Additional Information Supporting Catawba Unit 1 Operation for the Remainder of Cycle 7

On April 1, 1993, Catawba Nuclear Station met with the NRC staff to discuss technical information which Catawba submitted to support the Interim Plugging Criteria (IPC) which was granted by the NRC on September 25, 1992 for Catawba Unit 1 Cycle 7. In this meeting and subsequent discussions, the NRC staff requested and Catawba committed to provide postulated steam line break (SLB) leakage rate calculations for Catawba Unit 1 based on the assumption of an average leak rate for the measured data independent of bobbin probe voltage and the inclusion of a probability of detection. SLB leakage rate calculations were submitted on April 8, 21, and 22, 1993 in response to these requests. The enclosed WCAP represents a compilation of all the SLB leakage calculations that have been completed to date.

The intent of these calculations is to provide a "reasonable estimate" of the total primary to secondary leakage rate that can be expected during a postulated steam line break event. The results indicate an upper 95% confidence bound leakage rate of 2.73 gallons per minute (gpm) in Steam Generator C when considering all of the test data. If only the data obtained from tubes with a bobbin voltage of less than approximately 9 volts are included, an upper 95% confidence bound leakage rate of 0.60 gpm is obtained. The calculated SLB leakage rate in Steam Generator C has been shown to bound the postulated leakage rate from the remaining Catawba Unit 1 steam generators.

This WCAP also shows by statistical assessments that the significance level of the correlation between SLB leakage and bobbin voltage is greater than 99.9%. Therefore, the use of an average value independent of bobbin probe voltage in determining the SLB leakage rate is unnecessarily conservative, and the leakage rate value calculated in WCAP-13494, Rev. 1 should be utilized in assessing the radiological consequences of a postulated SLB. Both deterministic and Monte Carlo analyses show that SLB leakage rates at the end of cycle (EOC) 7 are negligible, i.e., less than 0.1 gpm in contrast to the 1.0 gpm SLB accident analysis assumption included in the Catawba SAR.

A001 1/1

Change: NRC PDR 1 LTR - Encl. 1 INP.
NSIC 1 INP

Enclosed are:

1. 5 copies of WCAP-13715, "NRC Requested Catawba 1 S/G Leakage Evaluation" (Proprietary).

2. 5 copies of WCAP-13716, "NRC Requested Catawba 1 S/G Leakage Evaluation" (Non-Proprietary).

Also enclosed are a Westinghouse authorization letter, CAW-93-458, an accompanying affidavit, a Proprietary Information Notice, and a Copyright Notice.

As item 1 contains information proprietary to Westinghouse Electric Corporation, it is supported by an affidavit signed by Westinghouse, the owner of the information. The affidavit sets forth the basis on which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in paragraph (b)(4) of 10 CFR Section 2.790 of the Commission's regulations.

Accordingly, it is respectfully requested that the information which is proprietary to Westinghouse be withheld from public disclosure in accordance with 10 CFR Section 2.790 of the Commission's regulations.

Correspondence with respect to the copyright or proprietary aspects of the items listed above or the supporting Westinghouse Affidavit should reference CAW-93-458 and should be addressed to N. J. Liparulo, Manager of Nuclear Safety and Regulatory Activities, Westinghouse Electric Corporation, P.O. Box 355, Pittsburgh, Pennsylvania 15230-0355.

In addition, enclosed is the Catawba SLB dose analysis engineering calculation and results which utilize the values for SLB steam generator tube leakage given in the enclosed WCAP.

I declare under penalty of perjury that these statements are true and correct to the best of my knowledge.

Very truly yours,

M. S. Tuckman

M. S. Tuckman

Enclosures

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