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 VARGA, S. A. Operating Reactors Branch 1

SUBJECT: Forwards two safety evaluation analyses which examining LOCA
 consequences & reported results of Westinghouse large
 break & small break LOCA ECCS evaluation model analyses.

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Director of Nuclear Reactor Regulation
Attention: Mr. Steven A. Varga, Chief
Operating Reactors Branch No. 1
Division of Licensing
United States Nuclear Regulatory Commission
Washington, DC 20555

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET NO. 50-261/LICENSE NO. DPR-23
WESTINGHOUSE K(Z) ANALYSIS

Dear Mr. Varga:

Enclosed are two safety evaluation analyses which examine the Loss of Coolant Accident (LOCA) consequences at Carolina Power & Light Company's (CP&L) H. B. Robinson Steam Electric Plant, Unit No. 2 (HBR2). The safety evaluations report the results of the Westinghouse large break and small break LOCA emergency core cooling system (ECCS) evaluation model analysis. The small break evaluation used the revised third line segment of the K(Z) curve which was provided in the July 1, 1985 request for a revision to the HBR2 Technical Specifications.

BACKGROUND

The large break LOCA evaluation model used the computer codes SATAN-VI, WREFLOOD, COCO, BART, and LOCTA-IV with the Exxon Fuel 15 x 15 fuel parameters. The analysis provided in Attachment A indicates that the calculated peak clad temperature for full power operation, based on a total peaking factor F_q^1 of 2.32, was 2199°F at the 6.0 foot elevation from the bottom of the core.

The small break LOCA evaluation model used the computer codes WFLASH and LOCTA-IV with Westinghouse 15 x 15 OFA fuel, and the raised third line segment of the operating envelope. The intercept of the third line segment of the operating envelope was raised from 0.835 to 1.5, allowing increased operating flexibility. The analysis provided in Attachment B indicates a calculated peak clad temperature of 1801°F at the 12.0 foot elevation from the bottom of the core.

CONCLUSION

Based on the results of these evaluations, HBR2 may be operated at full power with a 1.5 intercept for the third line of the K(Z) curve at the top of the core and with a K(Z) value of $0.94 (2.32) = 2.18$ at a core height of 10.8 feet.

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If you have any questions about this matter, please contact Mr. Jan Kozyra at (919) 836-7924.

Yours very truly,

A handwritten signature in black ink, appearing to read "S. R. Zimmerman". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

S. R. Zimmerman
Manager
Nuclear Licensing Section

BAT/ccc (2093BAT)

Enclosure

cc: Dr. J. Nelson Grace (NRC-RII)
Mr. G. Requa (NRC)
Mr. H. Krug (NRC Resident Inspector - RNP)