Enclosure

EVALUATION OF THE USE OF LYNX 1 & 2 WITH B&W-2 CORRELATION

INTRODUCTION

In Reference 1, B&W requested that the LYNX 1/2 computer codes be approved for use with the NRC approved B&W-2 CHF correlation to evaluate DNBR margins in licensing submittals.

EVALUATION

Reference 2 provides a comparative analysis which demonstrates that the use of B&W-2 is appropriate for DNBR evaluations using the LYNXT code. Reference 3 and 4 provide comparative analyses which demonstrate that LYNX2 and LYNXT are equivalent when used for DNBR calculators. In addition, in Reference 5 B&W provided justification for the use of the B&W-2 CHF correlation, with a 95/95 correlation limit of 1.30, in analyses performed with the LYNX2 code. The staff has reviewed these documents and has found that the B&W-2, LYNX 1/2 combination is acceptable for evaluating DNBR margins in licensing submittals. Should B&W in the future wish to use LYNX 1/2 with CHF correlations other than B&W-2 or BWC, justification similar to that provided for B&W-2 must be reviewed and approved by the staff. The approval of a CHF correlation alone is not sufficient to allow the use of that correlation with any approved T-H analysis code.

References:

1. Letter, J. H. Taylor (B&W) to C. O. Thomas (NRC) dated September 26, 1984.

2. Letter, J. H. Taylor (B&W) to C. O. Thomas (NRC) dated August 27, 1984.

3. R. L. Harne & J. H. Jones, "Thermal-Hydraulic Crossflow Applications," BAW-1892, Babcock & Wilcox, April 1984.

4. Letter, J. H. Taylor to C. O. Thomas, "Request Number One for Additional Information - BAW-10156, May 4, 1984," July 2, 1984.

5. Letter, J. H. Taylor to C. O. Thomas, "Use of B&W 2 Correlation in LYNX2," May 9, 1985.