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NUCLEAR REGULATORY COMMISSION
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Mr. Kenneth E. Suhrke
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Babcock & Wilcox Company
Nuclear Power Generation
P. O. Box 1260
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Dear Mr. Suhrke:

We have completed our review of the non-proprietary B&W topical reports BAW-10062, Rev. 1, "Multinode Analysis of Small Breaks for B&W's 145-Fuel Assembly Nuclear Plants with Internals Vent Valves," and BAW-10074, Rev. 1, "Multinode Analysis of Small Breaks for B&W's 205-Fuel Assembly Nuclear Plants with Internals Vent Valves," and BAW-10075, Rev. 1, "Multinode Analysis of Small Breaks for B&W's 177-Fuel Assembly Nuclear Plants with Raised Loop Arrangement and Internals Vent Valves." A copy of our evaluation is enclosed.

From our review, we conclude that the analytical methods and models used in these three topical reports meet the requirements of 10 CFR 50 Appendix K. The results presented are acceptable for reference in licensing actions, with one exception for BAW-10075 on the 177-FA plant. This report does not contain results for the core flood tank line break, as do the other reports, but indicates that these results are furnished in the plants' safety analysis reports.

We do not intend to repeat our review of BAW-10062, BAW-10074, or BAW-10075 when these are referenced in individual licensing actions.

We request that B&W issue a revised version of these reports within three months of receipt of this letter to include the NRC acceptance letter.

cc w/encl (cont'd):

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detail reduction is made by lumping the two primary loops simulated in the large break model into a single loop, and by lumping the reactor inner vessel regions of core, core bypass, upper plenum, and upper head into a single volume. In addition to the nodal reduction, some large break analysis assumptions imposed for conservatism can be relaxed because of the slower blowdown of the small break. These changes are:

1. Normal system low pressure reactor scram is included.
2. All injected ECCS water is assumed to enter the downcomer and is retained in the CRAFT calculations. No conservative removal of this water at the end of blowdown is used as in the large break analyses.
3. A heterogeneous inner vessel volume is modeled for the small break in CRAFT compared to the homogeneous volumes modeled for the large break analyses.

Results obtained from the topical reports for the small breaks considered for each plant are summarized in Table 1, and show that peak clad hot spot temperatures in any of the three plant types analyzed do not approach 2200°F.

TOPICAL REPORTS EVALUATION

The small break model programs used in the analyses in the three reports reviewed here were evaluated in previous assessments for large break studies in the cases of CRAFT and THETA1-B, and the FOAM program was evaluated in the review of BAW-10064[5]. Applications

TABLE 1

B&W PLANTS: SMALL BREAK SPECTRUM

PEAK CLAD HOT SPOT TEMPERATURE - ^{o}F

Break Size - ft^2 (Pump Discharge)	145 FA	177 FA RAISED LOOP	205 FA
0.5	1196	1533(3)	1178
0.3	1030	1090	710(2)
0.1	I.C.(1)	700(2)	710(2)
0.05	I.C.(1)	-	710(2)
0.04	-	700(2)	-
(Pump Suction)			
0.3	-	824	-
0.1	I.C.(1)	-	710(2)
(CFT Line)			
0.35	760	-	-
0.44	-	-	1636

NOTES:

(1) - Initial condition - not specified

(2) - Same as initial condition

(3) - From Reference 8

CFT - Core Flooding Tank