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August 28, 1985
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Office of Nuclear Reactor Regulation
ATTN: John F. Stolz, Chief
Operating Reactors Branch #4
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Stolz:

Three Mile Island Nuclear Station Unit 1 (TMI-1)
Operating License No. DPR-50
Docket No. 50-289
Small Break LOCA Model (NUREG 0737 II.K.3.30)

Your letter of July 12, 1985 requested a confirmatory response to several issues relating to NUREG-0737 Item II.K.3.30 and the use of the CRAFT2 code. Babcock and Wilcox (B&W) and the B&W Owners Group (B&WOG) endorse the conclusion in NUREG-0565 concerning the amount of noncondensible gases which could accumulate in the primary system. GPUN also concurs with the B&W position regarding the radiolytic decomposition of injected water, that the source of noncondensible gas does not alter the conclusion of NUREG-0565.

The Integrated Systems Test (IST) Program is designed to obtain data relative to the SBLOCA phenomenon on B&W designed PWRs. The IST Program is not intended to provide integral test data for verification of the CRAFT2 SBLOCA-EM computer program. This was first stated in the B&WOG Code Verification Plans letter (Reference d) and restated in the NRC Safety Evaluation Report (Reference a). It is the intention of the B&WOG to use the RELAP5/MOD2 code for best estimate long term transient predictions. The RELAP5 code is undergoing benchmarking to the IST test data, and use of this code will form the basis for future ATOG guidance. It is realized that present ATOG guidance in the area of SBLOCA is based on experience gained through CRAFT2 licensing analyses.

In order to affirm the validity of present guidance in light of new best estimate codes and availability of IST data, the B&WOG has examined the merits of three alternatives to confirm the CRAFT2 modeling capabilities. These alternatives were presented in Reference e as (1) benchmark of CRAFT2 to an OTIS test, (2) comparison between predictions of the same transient performed in a best estimate mode using CRAFT2 and a verified RELAP5/MOD2 or (3) comparison between predictions of the same transient performed in an Appendix K type calculation using CRAFT2 and a verified RELAP5/MOD2. The B&WOG plans to perform a comparison between CRAFT2 and RELAP5/MOD2 to affirm the validity of SBLOCA ATOG guidance. This comparison will be performed after the benchmarking of RELAP5/MOD2 data is completed. The intention of the B&WOG is

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to perform a comparison between predictions of the same plant transient (as opposed to a MIST test transient) performed in a "best estimate" mode using CRAFT2 and a verified RELAP5/MOD2. The purpose of the comparison is to demonstrate that CRAFT2 does provide a conservative representation of SBLOCA behavior in a B&W PWR. GPUN, as a member of the B&WOG, commits to participation in this program.

GPUN also commits to the use of the approved SBLOCA Evaluation Model currently utilizing CRAFT2, for SBLOCA analysis performed for TMI-1 to resolve NUREG 0737 Item II.K.3.31, which is planned to be submitted through a B&WOG program in July 1986. The intent of the analysis to be performed to resolve NUREG 0737 Item II.K.3.31 will be to affirm the validity of previously submitted SBLOCA analyses performed with the SBLOCA-EM.

Sincerely,

H. D. Hukill
Director, TMI-1

HDH/LWH/gpa
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cc: J. Thoma
R. Conte

Ref. a) NRC Letter dtd 7/12/85, J. F. Stolz to H. D. Hukill
b) Generic Letter 83-35 dtd 11/2/83
c) NUREG 0737 Item II.K.3.30 & 31 dtd 10/31/80
d) B&WOG Letter dated 7/6/84, R. H. Bryan to P. Kadambi "B&WOG IST Code Verification Plans"
e) B&WOG Letter dated 1/3/85, F. R. Miller to P. Kadambi "IST Code Verification Plans"