

Docket Nos. 50-438/439
50-452/453
and 50-460

MAR 7 1974

A. Schwencer, Chief, Light Water Reactors Branch No. 2-3, Licensing

FORTHCOMING GENERIC MEETING WITH B&W AND AFFECTED APPLICANTS CONCERNING
CONTAINMENT ANALYSIS FOR BELLEFONTE 1 & 2, GREENWOOD 2 & 3 AND WNP-1

Time and Date:

10:30 a.m., Thursday,
March 14, 1974

Location:

Room 100
Woodmont Building
Bethesda, Maryland

Purpose:

Discussions of Mass and Energy Release
for Containment Pressure Analysis

Participants:

B&W - J. Mecca, C. Parks, et al.

TVA - T. Spink, W. Lau, et al.

DE - A. Harris, et al.

WPPSS - A. Hosler, et al.

AEC - D. Davis, L. Engle, T. Cox,
G. Lainas, W. Jensen, C. Anderson
T. Greene, J. Shapaker, et al.

Original Signed by

Don K. Davis, Project Manager
Light Water Reactors Branch No. 2-3
Directorate of Licensing

Enclosure:
Agenda

ccs: See Next Page

cb

Meeting Notice

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 GLainas
 CAnderson
 WJensen
 TGreene
 JShapaker
 ACRS (16)

WGarrill				
OFFICE JKastner	LWR 2-3			
MSpangler	DKDavis			
SURNAME RBallard	3/ /74			
BGrimes				

AGENDA

TOPIC: Mass and Energy Release for Containment Pressure Analysis

1. Use of CRAFT Post End of Blowdown (see attached memo). Comparison of CRAFT vs. REFLOOD for post blowdown period.
2. Quenching of Steam by ECCS Fluid.
3. Carryover Rate Fraction (CRAFT vs. FLECHT data).
4. Rate of Energy Release into the Containment:
 - a. Treatment of Stored Heat
 - b. Treatment of Secondary System Heat

Enclosure:
Memo, dtd 2/15/74

APR 15 1974

R. C. DeYoung, Assistant Director for Light Water Reactors, Group 1, L
V. A. Moore, Assistant Director for Light Water Reactors, Group 2, L

BABCOCK & WILCOX CALCULATED MASS AND ENERGY RELEASE RATES DURING THE
REFLOOD PHASE OF THE LOCA FOR CONTAINMENT DESIGN

Current plants under review with Babcock & Wilcox designed nuclear steam supply systems (three plants) identify the rupture of the hot leg as the break location that results in the highest calculated containment pressure. Other PWR reactor vendors whose analysis we have accepted, have predicted that a rupture of the pump suction leg will result in the highest containment pressure because for this break location, additional energy will be released from the steam generators. The difference lies in the manner in which B&W analyzes the reflood phase of the LOCA for containment analysis. B&W is using the CRAFT computer program for the reflood phase of the LOCA to determine the mass and energy release rates for the containment pressure analysis. This is not consistent with ECCS analysis. B&W uses its REFLOOD computer program which more appropriately models reflood energy releases. We believe that for the current and future plants to be reviewed, B&W calculate mass and energy release rates during the reflooding phase of the LOCA using the REFLOOD computer code for the containment pressure analysis.

An analysis of the B&W plant was performed by CSB using its FLOOD-2 program to determine the mass and energy release rate to the containment for a pump suction leg rupture. The energy release to the containment using our method is about a factor of two higher than that calculated by B&W using the CRAFT code for the initial phase of the reflood period. A complete analysis of the reflooding period could not be performed because there is not sufficient information available concerning the secondary side of the steam generator.

We have concluded that the CRAFT program would be unacceptable for containment analysis for determining the mass and energy release rates during the reflood phase of the LOCA. The plants that are being reviewed and that are affected are Bellefonte 1 & 2, Greenwood, and WPPSS-1. The applicants and B&W should be informed of our conclusion and a meeting should be arranged as soon as possible to discuss this matter.

Robert J. Tedasco, Assistant Director
for Containment Safety
Directorate of Licensing