

GENERAL ELECTRIC

NUCLEAR POWER

SYSTEMS DIVISION

MFN-164-82

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U. S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Washington D.C. 20555

Attention: C. H. Berlinger, Chief
Core Performance Branch

Gentlemen:

SUBJECT: EFFECTS OF FAST REFLOOD ON PEAK CLAD TEMPERATURE (PCT) FOR
BWR/3's

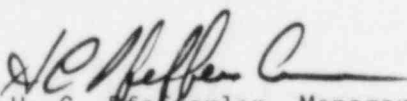
Studies conducted in 1979 concluded that there was a significant reduction in peak clad temperature (PCT) for BWR/3 plants when fast reflood resulting from counter current flow limiting (CCFL) breakdown was taken into account. This conclusion applied even assuming loss of core spray heat transfer (CSHT).

The analysis was performed by determining the limiting break size location and single failure assumption for various plant sizes. Licensing models (SAFE, REFLOOD, and CHASTE) were used in the analysis. Cases were run with no CCFL effect in REFLOOD and no CSHT credit in CHASTE.

The results are summarized in the attached table. These results are expected to bound all BWR/3 PCT's. It should be noted that these were engineering scoping studies and any required plant specific applications should be verified by plant specific analysis. It should also be noted that the use of GE's improved loss-of-coolant accident (LOCA) evaluation model (SAFER/GESTR) currently under review by the NRC would be expected to lower these PCT's further.

If you have any questions related to this information, please feel free to contact me directly.

Very truly yours,


H. C. Pfeifferlen, Manager
BWR Licensing Programs
Nuclear Safety & Licensing Operation

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JFQ:rm/A11017

cc: L. S. Gifford (GE-Bethesda)

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BWR/3 - EFFECT OF FAST REFLOOD

<u>Plant Size</u>	<u>Critical Break Size</u>	<u>Single Failure</u>	<u>Appendix K PCT °F</u>	<u>Fast Reflood w/o CSHT PCT °F</u>
205	40% DBA Suction	LPCI Injection Valve	2200	1896
224 (Slow Flooder)	100% DBA Suction	LPCI Injection Valve	2200	1748
224 (Fast Flooder)	100% DBA Suction	LPCI Injection Valve	2114	1937