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MEMORANDUM FOR: Karl V. Seyfrit, Chief
Reactor Operations Analysis Branch
Office for Analysis and Evaluation
of Operational Data

AEOD/E326

FROM: Harold L. Ornstein, Lead Engineer
Reactor Systems 1
Reactor Operations Analysis Branch

SUBJECT: STEAM VOIDING IN OCONEE 3 ON JUNE 13, 1975 - A
PRECURSOR EVENT TO THE TMI-2 ACCIDENT

Enclosed is a copy of an engineering evaluation on an overcooling transient that occurred at Oconee 3 on June 13, 1975. The licensee reported the event in accordance with the technical specification requirements. Examination of the licensee's transient report and B&W's site problem report indicated that people were focusing on the effect that the rapid depressurization and cooldown had upon the fuel, the violation of technical specification cooldown limits, and the violation of reactor coolant pump NPSH requirements.

The licensee noted anomalous plant behavior during the transient (rising pressurizer level which led operators to secure HPI and to reopen the block valve 15 seconds after closing it). However, the reason for the rising pressurizer level did not appear to have been investigated by either the licensee, the NSSS supplier or the NRC. It appears that primary system voiding contributed to the increase in pressurizer level, but none of the post trip analyses recognized it at the time.

Had an extensive review of this event been made and the operators at other B&W plants been made aware of the details of this event - including primary system voiding and pressurizer level increases accompanying a stuck open PORV, it is possible that subsequent depressurization events at B&W plants (TMI-2 accident in particular) might have taken different courses.

This event clearly illustrates the need for rigorous post mortem analysis of anomalous events and the need for effective dissemination of operating data throughout the nuclear community.

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It should be noted that in recent months the NRC has taken action which will improve the analysis and dissemination of operational data. i.e. NRC generic letter 83-28 ("Required Actions Based on Generic Implications of SALEM ATWS Events", dated July 8, 1983), requires each licensee to implement a program to assure that the causes for unscheduled shutdowns, and the responses of safety-related equipment are fully understood prior to plant restart. Furthermore, the new LER rule (10 CFR 50.73, effective January 1, 1984) modifies the existing licensee event reporting system to require licensees to provide detailed information which will improve the capability of the NRC and industry to perform engineering studies of operational anomalies and to do trends and patterns analyses of operational occurrences.

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Enclosure:
 As stated

cc w/enclosure:
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