




UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

FEB 29 1984


MEMORANDUM FOR: G. Lainas, Assistant Director for Operating Reactors, DL
FROM: R. W. Houston, Assistant Director for Reactor Safety, DSI
SUBJECT: REVISED INPUT FOR RESPONSE TO COMMISSION ORDER INVOLVING
THE ATOMIC SAFETY AND LICENSING APPEAL BOARD DECISION ON
TMI-1, DATED MAY 26, 1983

Enclosed is an update of the Containment Systems Branch February 17, 1984 transmittal of comments on the MSLRDS part (Issue #11) of the Atomic Safety and Licensing Appeal Board Decision, dated May 26, 1983.

This revised input reflects: 1) our review of the licensee's February 16, 1984 response to the Commission's Order; 2) our review of the Union of Concerned Scientists comments on the Commission's Order; and 3) a better description of the MSLRDS design relative to the environmental qualification of design pedigree of system components located inside and outside containment. With respect to Item No. 2, no new issues within the purview of the Containment Systems Branch were identified.


R. W. Houston, Assistant Director
for Reactor Safety
Division of Systems Integration

Enclosure:
As stated

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CSB COMMENTS ON THE MSLRDS PART OF THE
ATOMIC SAFETY AND LICENSING APPEAL BOARD DECISION,
DATED MAY 26, 1983 (ISSUE #11)

The postulated main steam line break event at TMI-1 was evaluated in conjunction with the staff's review of IE Bulletin 80-04, "Analysis of a PWR Main Steam Line Break with Continued Feedwater Addition." Although the Main Steam Line Rupture Detection System (MSLRDS) at TMI-1 is a non-safety grade system, it is redundant. Furthermore, the MSLRDS is primarily located outside containment where it would not be exposed to the harsh environment created by a main steam line break inside containment. The licensee informed the staff, by letter dated February 16, 1984, that the MSLRDS pressure switches located inside containment will be environmentally qualified through replacement with qualified equipment by June 1984; all components of the MSLRDS located inside containment will then be environmentally qualified. Therefore, in the event of a main steam line break inside containment, the MSLRDS can be expected to remain functional and isolate the main feedwater flow to the affected steam generator, even after a postulated single active failure. For a main steam line break occurring outside containment, the environmental qualification of the MSLRDS is not a concern since the containment would not be affected.

The purpose of the MSLRDS is to prevent containment pressure from exceeding its design pressure in the event of a main steam line break inside containment; the MSLRDS is not relied on in any direct manner for preventing exposure of the public to any undue risk to health and safety. The two barriers that prevent exposure of the public to the effects of a main steam line rupture are the reactor pressure boundary and the containment boundary. These two barriers would remain intact after the postulated main steam line rupture, with or without the MSLRDS isolating the main feedwater flow to the affected steam generator. Based on our experience with similar plants, if the MSLRDS failed to function, the reactor pressure boundary would be unaffected; and although the containment design pressure may be slightly exceeded, containment integrity would remain intact.

In conclusion, it is the staff's view that the MSLRDS, as designed, and as upgraded with qualified pressure switches inside containment, will isolate feedwater flow to the affected steam generator, even after sustaining a single active failure, and containment integrity would remain intact after a postulated main steam line rupture inside containment. Nevertheless, the licensee has committed to upgrade the MSLRDS to full safety grade status by the next refueling outage at TMI-1.