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R. TEDESCO
Docket No. 50-320

MEMORANDUM FOR: D. B. Vassallo, Assistant Director for Light Water Reactors, DPM

FROM: R. L. Tedesco, Assistant Director for Plant Systems, DSS

SUBJECT: THREE MILE ISLAND UNIT NO. 2 (TMI2) MAIN STEAM LINE BREAK ACCIDENT ANALYSIS

The purpose of this memorandum is to inform you of the Containment Systems Branch position regarding the capability of the secondary system to mitigate the consequences of a main steam line break accident. We have concluded that, as a minimum, the design of the feedwater control and power supply systems should be upgraded to assure that a single active failure will not jeopardize the capability to terminate feedwater flow to the affected steam generator following a main steam line break accident. Our evaluation only considered main steam line breaks inside containment. The basis for our position is discussed below.

The secondary system inside containment is designed to meet seismic Category I requirements. Non-mechanistic pipe failures are postulated for the containment analysis, which further assumes no concurrent seismic event (per Technical Issue No. 1). As a result, the components relied on to mitigate the accident need not be safety grade. With regard to the feedwater system, there need only be sufficient redundancy of components and quality of design in the control and power supply systems to assure that a single active failure can not prevent the termination of feedwater flow to the affected steam generator.

We have reviewed the situation where a MSIV fails to close and allows both steam generators to blowdown to the containment. Our confirmatory analysis shows that the containment design pressure will not be exceeded; however, the effects to the core have yet to be evaluated. Therefore, we have directed our concern to the design adequacy of the control and power supply systems to terminate feedwater flow.

Contact:
F. Eltawila
Ext. 27711

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DATE						

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We will require the applicant to analyze the consequences of a postulated MSLB accident in conjunction with various single active failures in the main feedwater system. We will also require the applicant to justify the manual termination of auxiliary feedwater flow to the affected steam generator.

Original signed by
Robert L. Tedesco

Robert L. Tedesco, Assistant Director
for Plant Systems
Division of Systems Safety

Enclosure:
Request for Additional
Information on Three
Mile Island Unit No. 2

- cc: S. Hanauer
- R. Heineman
- W. McDonald
- R. Boyd
- S. Varga
- H. Silver
- D. Ross
- T. Novak
- G. Lainas
- J. Kudrick
- J. Shapaker
- J. Glynn
- F. Eltawila
- FILE: Three Mile Island
Unit No. 2

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OFFICE	CSB:PS	CSB:PS	CSB:PS	PS:DSS		
SURNAME	F. Eltawila:mg	J. Shapaker	G. Lainas	RL Tedesco		
DATE	2/3/77	2/3/77	2/3/77	2/3/77		