

Central File

JAN 25 1979

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MEMORANDUM FOR: Robert W. Reid, Chief, Operating Reactors Branch #4,
 Division of Operating Reactors

FROM: Paul S. Check, Chief, Reactor Safety Branch, Division
 of Operating Reactors

SUBJECT: PWR MODERATOR DILUTION

PLANT NAME: Three Mile Island
 TAGS NUMBER: 3403
 RESPONSIBLE BRANCH & PROJECT MANAGER: ORB-4, C. Nelson
 REVIEW BRANCH: Reactor Safety
 REVIEW STATUS: Additional Information Required
 DATE DUE: March 31, 1979

The Reactor Safety Branch has reviewed the information pertaining to the PWR Moderator Dilution analysis performed for the Three Mile Island facility and finds the analysis to be incomplete. The staff had requested licensees to review the potential for all types of boron dilution incidents and from the information submitted it is not clear that this was done. The licensee's submittal only addresses the potential for the boron dilution incident that could occur by inadvertent draining of spray additive tank to the reactor coolant system as happened at Crystal River.

In order to complete our review we need to know whether the licensee has evaluated the potential for other boron dilution accidents not analysed in the FSAR and the consequences of any boron dilution accidents so identified.

The licensee has stated that their Decay Removal System procedures provide redundant isolation of the Sodium Hydroxide Tank from the Decay Heat Removal by requiring opening the breakers on the NaOH motor operated isolation valves and closing and tagging manual isolation valves. Typically the motor operated isolation valves are surveillance tested

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during a refueling outage, if this is the case at TMI the licensee should analyze the consequences of draining the NaOH Tank into the Decay Heat Removal System. This presumes that the single failure would be that the manual isolation valve was inadvertently left open.

Paul S. Check, Chief
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