

July 23, 1976

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Docket No.: 50-289

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D. G. Eisenhut, Assistant Director for Operational Technology, DOR

TECHNICAL ASSISTANCE REQUEST NO. ORB-4-73

Your assistance is requested for the following:

PLANT NAME: Three Mile Island Unit No. 1 (TMI-1)

DOCKET NO.: 50-289

RESPONSIBLE BRANCH: ORB#4

CONTACT: G. B. Zwetzig (x27435)

OPERATIONAL TECHNOLOGY REVIEW
BRANCHES:

Environmental Evaluation Branch
Reactor Safety Branch
Plant Systems Branch

TARGET DATE FOR COMPLETION: September 1, 1976

DESCRIPTION OF REQUEST:

By letter dated May 8, 1975, Babcock & Wilcox Company (B&W) identified a deficiency in the design performance of the Reactor Building Spray System (RBSS) of the TMI-1 and Arkansas Nuclear One-1 (ANO-1) nuclear facilities. This letter (and the related report) is an enclosure to attachment 2. The report attached to that letter stated that a new analysis of the RBSS had been performed which indicated the sodium hydroxide tank (SHT), sodium thiosulfate tank (STT) and borated water storage tank (BWST) do not all draw down together under calculated accident conditions. This resulted in the emptying of the SHT and the STT up to 22 minutes before the BWST was depleted.

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By letter dated September 8, 1975 (attachment 1), NRC requested Metropolitan Edison Company (MetEd) to analyze this problem with respect to the specific piping arrangement at TMI-1 and advise the staff of the results of the analysis and to address the matter of potential pump damage due to cavitation. By letters dated October 13 and November 12, 1975, MetEd responded to these requests (attachments 3 and 4).

We request your review of the problem concerning uneven draw-down of the RBSS tanks for the TMI-1 facility. Please supply a written evaluation suitable for input into a safety evaluation addressing, at a minimum, the following specific areas:

1. The effect on the RBSS and the ECCS of the uneven tank draw-down including the matter of potential pump cavitation (PSB, RSB).
2. The effect of uneven tank draw-down on the offsite iodine doses following a LOCA (EEB).
3. The effect of the high pH atmosphere resulting from uneven tank draw-down on Reactor Building paints and components (EEB).

A TAR was issued on this matter to the Division of Technical Review (Containment Systems Branch and Accident Analysis Branch) on November 6, 1975. CSB responded with a request for additional information (attachment 5), but AAB did not perform a review because of other workloads.

Because the problem appears to have safety significance, I am reissuing the TAR to avoid further delays in obtaining needed technical assistance.

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D. Eisenhut
TAR #73

- 3 -

By letter dated February 21, 1976,
MetEd responded to this request for
additional information (attachment 6).

~~Original~~ Signed By

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

Attachments:

1. NRC ltr to MetEd dtd 9/8/75
2. Transfer of Lead Responsibility
dtd 7/9/75
3. MetEd ltr GQL 1606 dtd 10/13/75
4. MetEd ltr GQL 1693 dtd 11/12/75
5. NRC ltr to MetEd dtd 1/20/76
6. MetEd ltr CQL 0249 dtd 2/21/76

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cc w/o attachments: V. Stello
K. Goller
T. Carter
R. Reid
G. Zwetzig
R. Ingram
B. Grimes
R. Baer
W. Butler

1453 092

OFFICE➔	ORB#4:DOR	ORB#4:DOR-C				
SURNAME➔	GZwetzig:rm	RR Reid				
DATE➔	7/1/76	7/23/76				