

JUL - 1 1976

Docket No.: 50-320

R. C. DeYoung, Assistant Director for Light Water Reactors, DPM

REVISION 2 TO THE DRAFT SAFETY EVALUATION REPORT FOR THREE MILE ISLAND NUCLEAR STATION, UNIT 2

Plant Name: Three Mile Island Nuclear Station, Unit 2

Docket No.: 50-320

Milestone No.: 24-04

Licensing Stage: OL

NSSS Supplier: Babcock & Wilcox

Architect Engineer: Burns & Roe

Containment Type: Dry

Responsible Branch & Project Manager: LWR-2; H. Silver

Requested Completion Date: N/A

Review Status: Awaiting Information

Enclosed is Revision 2 to the draft Safety evaluation Report for the Three Mile Island Nuclear Station, Unit 2 (TMI 2). This report has been prepared by the Containment Systems Branch after having reviewed the applicable portions of the FSAR including Amendments 1 through 40. The applicant must submit previously requested information before we can conclude on the adequacy of the containment functional design, the containment heat removal system and the acceptability of the proposed use of the containment purge system during normal operation.

The Containment Systems Branch has reviewed the minimum containment pressure analysis for the ECCS evaluation of Three Mile Island Unit 2.

The applicant references Topical Report BAW-10103, "ECCS Evaluation of B&W's 177-FA Lowered LOOP NSSS" for the ECCS evaluation. The containment pressure calculation was done using the B&W ECCS evaluation model which has been approved on a generic basis under Appendix K to 10 CFR Part 50. We required that certain plant-dependent information be submitted for our review, and justification for the containment volume, passive heat sinks and operation of the containment heat removal systems was submitted by letter February 26, 1976. We have concluded that the minimum containment pressure calculated for Three Mile Island, Unit 2 is acceptable.

The outstanding items are briefly described as follows:

OFFICE ➤						
BURNING ➤						
DATE ➤						

19-032

790 504 0103

E

1. Containment Subcompartments Analysis

The applicant has not provided the resultant loading on the reactor cavity structures and compared it to design capability. We will report our finding after receiving the applicant's response to Question 042.17.

2. Main Steam Line Break Accident Analysis

The applicant has not identified all sources of mass and energy which could contribute to the release to the containment. In addition, the applicant has not adequately discussed the secondary system isolation signal(s) and total elapsed time including instrumentation delay time for automatically terminating mass and energy addition to the affected steam generator. We will report our finding after reviewing the applicant's response to 042.18.

3. Containment Purging During Normal Plant Operation

The applicant has indicated that containment purging during normal operation will be necessary. It is our position that containment purge systems which do not meet our design guidelines for an on-line purge system, as stated in Branch Technical Position CSB 6-4, should be limited to about 90 hours per year (about 1 percent of the time) during normal plant operation.

4. Heat Removal Systems

The NSSS vendor has reanalyzed the containment spray system performance. The analysis indicates that the sodium hydroxide tank (SHT), sodium thio-sulfate tank (STT), and borated water storage tank (BWST) would not draw down together as previously predicted. This would result in the emptying of the SHT and STT up to twenty-two minutes before the BWST level set-point is reached. We will require the applicant to evaluate the effect of uneven drawdown on system performance, including the potential for pump cavitation.

All of the above matters have been discussed with the applicant. We will complete our review of the remaining outstanding items after receipt of the requested information.

Signed by
Bob Lattas
Original signed by
Robert L. Tedesco

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

Enclosure:

As stated

OFFICE →					
cc: →	See next page				
SURNAME →					
DATE →					

19 083

R. C. DeYoung

-8-

cc: R. Heineman
S. Hanauer
R. Boyd
W. McDonald
K. Kniel
H. Silver
S. Varga
J. Kudrick
J. Shapaker
F. Eltawila
J. Glynn
FILE: TMI-2

DISTRIBUTION
CSB READING
NRR READING
PS READING
DOCKET FILE
CENTRAL FILE

OFFICE →	CSB:DSS	CSB:DSS	CSB:DSS	DSS:PS		
SURNAME →	F. Eltawila:mt	J. Shapaker	G. Lainas	R. L. Tedesco		
DATE →	6/22/76	6/2/76	6/9/76	6/2/76		

REVISIONS TO THE DRAFT SAFETY EVALUATION REPORT
(CONTAINMENT SYSTEMS)
THREE MILE ISLAND STATION, UNIT 2
DOCKET NO.: 50-320

1. Delete item 1 of Revision 1 to the draft Safety Evaluation Report, dated May 17, 1976, and replace it with the following:

"With regard to the containment purge system, the applicant proposes to intermittently purge the containment during normal plant operation. However, since the system supply and vent lines are larger than that recommended in Branch Technical Position, CSB 6-4, 'Containment Purging During Normal Plant Operations,' we will require the applicant to limit purge system operation to less than 90 hours per year (about 1 percent of the time) and will include this limitation on the use of the containment purge system in the plant Technical Specifications.

2. Delete the last paragraph of Section 6.2.6 in the draft Safety Evaluation Report and replace it with the following:

The applicant provided a comparison of the actual containment parameters for Three Mile Island, Unit 2 with those assumed by B&W in BAW-10103. The minimum containment pressure analysis presented in Topical Report BAW-10103 was demonstrated to be conservative for Three Mile Island, Unit 2.

We therefore conclude that the minimum containment pressure was calculated in accordance with Appendix K to 10 CFR 50, and is acceptable.

12 025