Docket File

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Docket No. 50-289

JUN 18 1973

R. C. DeYoung, Assistant Director for PWR's, L
THRU: A. Schwencer, Chief, PWR Branch #4, L

MEETING WITH METROPOLITAN EDISON COMPANY AND GENERAL PUBLIC UTILITIES CORPORATION CONCERNING THE OPERATING LICENSE APPLICATION FOR THREE MILE ISLAND UNIT 1

Enclosed is a summary of the meeting held at Bethesda, Maryland, on May 9, 1973, with Metropolitan Edison Company and General Public Utilities Corporation. An attendance list is also enclosed.

H. J. Faulkner
Project Manager
Directorate of Licensing

Enclosures:
1. Meeting Summary of May 9, 1973
2. Attendance List

cc: V. Moore
D. J. Skovholt
R. Maccary
... Tedesco
H. Denton
PWR Branch Chiefs
R. W. Klecker
M. Rosen
RO (4)
H. Wilchins
R. Bernero
AEC Meeting Attendees

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4047-01-04 SURNAME ▶	HFaulkner/esm	ASchwencer				
6/8/73 DATE ▶	6/14/73	6/15/73				

Form AEC-318 (Rev. 9-53) AECM 0240 ☆ U.S. GOVERNMENT PRINTING OFFICE: 1973—495-254

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Enclosure 1

METROPOLITAN EDISON COMPANY - THREE MILE ISLAND UNIT 1
DOCKET NO. 50-289
SUMMARY OF MEETING - MAY 9, 1973

SUMMARY

A meeting was held in Bethesda, Maryland on May 9, 1973 to discuss Amendment 38, the General Public Utilities Service Corporation (GPU) reply to the AEC request of December 15, 1972 for information concerning the effects of piping system failures outside containment. Although GPU had presented material in summary form stating that the reactor could be safely shut down without the use of any feedwater, this claim was not supported by confirmatory analyses. We stated that the addition of cooling water to the primary system appeared attractive as a secondary means of mitigating the consequences of a high energy line failure. However, GPU should consider modifications which would insure the integrity of the intermediate building and the availability of emergency feedwater.

DISCUSSION

In Amendment 38 GPU replied to the AEC letter of December 15, 1972 concerning general information for considerations of effects of piping system breaks outside containment for Three Mile Island Unit 1. In their response GPU claims that the reactor can be safely brought to a cold shutdown condition without any energy removal through the steam generators; i.e., without feedwater. This cooldown would be accomplished by pumping water from the borated water storage tank by means of the makeup and purification system (high pressure injection system) into the primary reactor coolant system. As the water is heated from the decay heat of the reactor core, boiloff occurs through the pressurizer relief valves. The increased building pressure is accommodated by the reactor building coolers and sprays. This process continues until the temperature and pressure of the primary system are low enough to permit use of the normal decay heat removal system. We noted that this process is described in summary form only, and that confirmatory analyses to support this claim were not provided.

We stated that the possibility of localized overpressurization in the subcompartments immediately adjacent to the reactor containment building exists in the intermediate building. Such overpressurization potentially might lead to a sequential or propigating type of accident which could result in the failure of other high-energy lines or system components. The propigation and consequences of such an accident are extremely difficult to predict.

GPU stated that the exterior surfaces of the intermediate building are designed for aircraft impact; consequently, all exterior walls and the roof

are five feet in thickness. The interior subcompartment walls are three feet in thickness. The reactor containment building was designed for localized aircraft impact. Based on these design features, the applicant stated that the containment building and the external boundary of the intermediate building could withstand the failure of any high-energy line within the intermediate building without structural failure. Also, the applicant stated that at the present all of the structures have been built and all of the high-energy lines are in place.

We informed GPU that if properly confirmed and documented, the primary system feed and bleed concept could be used as a backup or secondary means of accident mitigation, but GPU should consider the modifications which would provide increased assurance against the uncertainties of sequential type accidents and the corresponding potential loss of all feedwater.

Modifications that might be considered to mitigate consequences of the high-energy line failure in the intermediate building were suggested. These included encapsulation of the high stress locations of the lines, increasing the vent areas of the subcompartments, or some combination of both. R. Bosnak of the Mechanical Engineering Branch reviewed the AEC tentative criteria for encapsulation of Class I piping systems.

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Enclosure 2

ATTENDANCE LIST
MAY 9, 1973

AEC

A. Schwencer
H. J. Faulkner
R. J. Bosnak
R. W. Klecker
A. L. Gluckman

Pickard, Lowe & Associates

F. Schwoerer

GPUSC

D. H. Reppert
J. P. Moore
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GAI

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