GPU Nuclear

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November 12, 1982
5211-82-268

Office of Nuclear Reactor Regulations
Attn: John F. Stolz
Operating Reactors Branch No. 4
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Sir:

Three Mile Island Nuclear Station, Unit 1 (TMI-1)
Operating License No. DPR-50
Docket No. 50-289
Additional Water Storage Capacity

During the ASLB hearings on the restart of TMI-1, issues concerning the physical separation of the TMI units were discussed. Evidence was presented demonstrating that decontamination and/or restoration operations at TMI-2 would not affect the safe operation of TMI-1. As part of that discussion, GPUN agreed to isolate certain TMI-1/2 radioactive liquid transfer lines which were detailed in the TMI-1 Restart Report Section 7.2 and the TMI-1 Restart Safety Evaluation Report (SER) NUREG-0680 Section C4. Furthermore, GPUN evaluated unlikely pathways for transferring potentially radioactive liquids between units and concluded that sufficient controls and system configuration existed / Partial Initial Decision (PID) para. 1260 /. In paragraph 1281 of the PID, the ASLB stated that:

> "We find that the difference between expected waste flows and the operating capacity of the components, the provisions for interconnections between system components, and the redundancy of components are adequate to provide sufficient reserve capacity during normal operations, to process surge flows, and to meet demands during anticipated operational occurrences. As indicated above, the physical separation of the two units will increase the Unit 1 liquid radwaste capability over that available prior to the accident."

A001

GPUN, as part of a review of steam generator tube rupture events has concluded that additional water storage capability would be desirable, although not necessary, for holdup prior to treatment and release of contaminated water associated with an OTSG tube rupture event. In evaluating various options we have determined that one TMI-2 condensate storage tank (250,000 gallons) would provide sufficient capacity and operational flexibility in dealing with any OTSG tube rupture event. In its current condition, TMI-2 has no need for the condensate storage tanks because of additional tankage erected since the TMI-2 accident and because core cooling no longer relies on the feedwater system as a backup. The proposed modification includes installing pipe from the TMI-1 Turbine Building

sump to piping connected to a TMI-2 Condensate Storage Tank (CST), physically severing connections to TMI-2 systems and administratively controlling the existing condensate transfer lines, as specifically outlined in the enclosure. The original design criteria of the TMI-2 CST are discussed in Chapters 3 and 10 of the TMI-2 FSAR.

Since the August 9, 1979 Shutdown Order has not yet been lifted, we are keeping you informed of our activities as they relate to previous NRC staff reviews. We believe that the above modifications are consistent with previous NRC staff findings and request your timely concurrence prior to use of these modifications.

Sincerely,

H. D. Hukill
Director of TMI-1

HDH:CWS:MI:jrg
Enclosure

cc: R. C. Haynes
R. Jacobs
C. McCracken

ENCLOSURE

Technical Aspects of the Proposed Modification

The proposed modification requires the use of one of the Condensate Storage Tanks (CST) of TMI-Unit 2. The Tank will not be moved from the site of Unit 2. The piping required for the contaminated water transfer is already in existence. The only addition will be to provide connections from the Turbine Building Sump in TMI-1 to the existing interconnecting piping. It is also proposed that connections between the Unit 2 CST and Unit 2, which is via the condensate transfer lines, physically and administratively be severed. It has also been established that this tank is no longer required by Unit 2 operations. This will provide access to increased storage capacity for Turbine Building Water (powdex backwash water and Turbine Building Sump water) which may become contaminated and require treatment following a primary to secondary leak greater that the 1 gpm (The Technical Specification limit). The water intended for transfer to this tank would have greater than the maximum permissible concentration (mpcw) for discharge during normal operation per 10CFR20. The existing Tank (Unit II CST 250,000 gallons) and modification to existing cross connect piping would be used to allow for treatment of this water pior to release, utilizing portable demineralizers.

Evaluation

The proposal to use Unit 2 CST for surge/holdup will enhance the contaminated water management efficiency for TMI-1 after a SGTR event.

This proposal also satisfies the August 9, 1979 order items nos. 4 and 5 regarding unit separation because:

i. This tank is no longer required by Unit 2 for any purpose.

ii. This tank is not part of normal holdup (normal use). This tank is designed to be used only to supplement existing resources for holdup prior to treatment and release during postulated steam generator tube rupture accidents.

iii. The radwaste management capabilities of the two units are not shared.

iv. The proposed modification provides additional radwaste management capability for Unit 1 without impact on TMI-2 capability.