GPU Nuclear

GPU Nuclear Corporation
Post Office Box 480
Route 441 South
Middletown, Pennsylvania 17057-0191
717 944-7621
TELEX 84-2386
Writer's Direct Dial Number:

May 16, 1984
5211-84-2109

Office of Nuclear Reactor Regulation
Attn: D. G. Eisenhut, Director
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Eisenhut:

Three Mile Island Nuclear Station, Unit I, (TMI-1)
Operating License No. DPR-50
Docket No. 50-289
Automatic Trip of Reactor Coolant Pump
(NUREG 0737 II.K.3.5)

In response to your letter of March 4, 1983 GPUN has determined that the tripping of all four RC pumps is recommended following indication of a Small Break Loss of Coolant Accident (SBLOCA) and that it can be achieved safely and reliably by the operator (Ref. 1-5). The attached report entitled "Analytical Justification for the Treatment of RC Pumps Following Accident Conditions" demonstrates that the concept of loss of subcooling margin is an appropriate signal to alert the operator of the need to trip RC pumps and meets the intent of the criteria identified in item II.2 of the March 4, 1983 letter. Further, the analysis combines certain best estimate values with some conservative assumptions to show that at least 10 minutes is available for the operator to trip the RC pumps following a loss of subcooling margin. In the event that the RC pumps are not tripped in the allotted time frame, the operators are instructed to keep the pumps running (thus ensuring adequate core cooling).

This generic analysis is conservative for TMI-1 for the following reasons:

1. The core power level for TMI-1 is 2535 MWT which is lower than the analysis value of 2772 MWT. The lower steady state power level results in lower decay heat power levels and less severe consequences following a LOCA.

2. The HPI capacity for TMI is greater than the flow assumed in the generic analysis. The additional injection flow provides faster recovery of the core following a delayed RCP trip.

3. The radial and axial power peaking assumed in the generic analysis is worse than normally experienced at TMI-1. The lower peaking

A046
1/1

3. (Con't). results in lower clad temperatures in the hottest core channel allowing longer times for manual reactor coolant pump trip.

With reference to section 5.4.1 of this analysis, please note that TMI-1 does not isolate RC pump seal services except when Reactor Building pressure exceeds 30 psi or line rupture (Restart Report 2.1.1.5). Also TMI-1 has implemented Abnormal Transient Procedures (ATP) which use slightly different criteria than that described in the generic B&W ATOG (see reference 5).

Sincerely,

H. D. Hukill,
Director, TMI-1

HDH/SMO/mle

Enclosure

cc: J. F. Stolz
J. Van Vliet
R. Conte

Ref:
1. GPUN ltr dated 3/31/83 (5211-83-017)
2. GPUN ltr dated 6/8/83 (5211-83-174)
3. GPUN ltr dated 8/15/83 (5211-83-219)
4. GPUN ltr dated 12/29/83 (5211-83-377)
5. GPUN ltr dated 1/26/84 (5211-84-2015)