GPU Nuclear

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April 14, 1983
5211-83-116

Office of Nuclear Reactor Regulation
Attn: D. G. Eisenhut, Director
Division of Licensing
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
Inadequate Core Cooling

GPU Nuclear Corporation submitted on March 10, 1983, our response to the "Order for Modification of License," dated December 10, 1982, including our proposed approach to monitoring reactor coolant system inventory. The proposed system for level measurement with pumps turned off utilizes differential pressure measurement from the high points in the system to a location representative of the low point of the hot legs. In the March 10 submittal we indicated that we had tentatively selected a tap into an incore instrument tube for the low point, but that we were continuing to evaluate the relative advantages and disadvantages of that location vs. tie-in to the decay heat drop-line.

We have now completed comparison of these locations. We believe that either would be technically acceptable, and would provide the basis for an inventory tracking system which would meet the NRC requirements. We have concluded, however, that the decay heat drop-line tie-in provides several significant advantages:

1. Tie-in to the incore instrument tube requires removal of that instrument string from the reactor core. Although safe reactor operation is possible with one or more instrument strings out of service, it is desirable to retain as many in operation as possible to monitor the incore conditions. A tie-in to the decay heat drop-line would not require instrumentation to be removed from service.

2. Tie-in to the decay heat drop-line results in a system which we believe would provide better accuracy in measuring hot leg level.

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This is true because temperature compensation is much more simple and induces less inaccuracy, and also because indication of the water level is unperturbed by conditions which might exist within the core, such as localized boiling.

3. It is our understanding that other B&W Owners are utilizing a delta-p system with a tie-in to the decay heat drop-line. The NRC staff has repeatedly urged that B&W owners adopt a common approach to meeting NRC requirements in order to facilitate the staff review of the proposed approach.

For the above reasons, we are hereby modifying the approach described in our March 10 submittal so that the low point for the delta-p system is now a tie-in to the decay heat drop-line rather than the incore instrument tube.

Other aspects of the March 10 submittal remain unchanged, including the proposed schedule for implementation. In order, however, for GPU Nuclear Corporation to meet this implementation schedule, we need your concurrence with our conceptual design no later than June 1, 1983.

Sincerely,

H. D. Hukill
Director, TMI-1

HDH:LWH:vjf

cc: J. Van Vliet
J. Stolz
NRC Region I Administrator