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December 14, 1982  
NRC/TMI-82-075

Docket No. 50-320

Mr. B. K. Kanga  
Director, TMI-2  
GPU Nuclear Corporation  
P. O. Box 480  
Hiddletown, PA 17057

Dear Mr. Kanga:

Subject: Reactor Coolant System Refill

This letter is in response to your letter, 4410-82-L-0049, dated November 22, 1982, in which you forwarded GPU's plan to refill and pressurize the Reactor Coolant System (RCS). The purposes of RCS refill are to purge gases from the RCS high points, and to provide RCS water level conditions which will permit safe operation of the Once Through Steam Generator (OTSG) secondary side recirculation/cleanup system.

The TMIPO staff has reviewed your plan and held additional discussions with the GPU staff on the proposed RCS refill plan. We concur that refilling and pressurizing the RCS provides additional assurance that RCS boron dilution will not occur during operation of the OTSG cleanup system. Secondly, by pressurizing the RCS to approximately 70 psig, combustible gases generated by radiolysis within the reactor core will remain dissolved in the pressurized coolant. These potential combustible gases will be safely vented and purged from the RCS prior to opening the system as was done prior to the "Quick Look" task.

In addition to the use of the Standby Pressure Control (SPC) system for maintaining RCS pressure, we understand that it is your plan to maintain the existing gas bubble (~90% H<sub>2</sub> and ~10% O<sub>2</sub>) in the pressurizer space. This condition will provide better system pressure controls (relative to a solid system configuration sensitive to temperature and volume changes) with no apparent reduction in safety margin and therefore we support this approach. Since refill will be accomplished using makeup from the Reactor Coolant Bleed Hold Tanks, which will be monitored for boron concentration, and all RCS chemistry will be maintained within the Technical Specifications using equipment and procedures previously approved, the staff approves of your proposed plan for RCS refill.

Lake H. Barrett  
Deputy Program Director  
TMI Program Office

cc: J. Barton  
J. Larson  
J. Theising  
E. Wallace  
L. King  
J. Byrne

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