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July 21, 1986

TMI-2 Cleanup Project Directorate  
Attn: Dr. W. D. Travers  
Director  
US Nuclear Regulatory Commission  
c/o Three Mile Island Nuclear Station  
Middletown, PA 17057

Dear Dr. Travers:

Three Mile Island Nuclear Station, Unit 2 (TMI-2)  
Operating License No. DPR-73  
Docket No. 50-320  
Extension of Lower Head Core Stratification Sample Acquisition

The purpose of this letter is to document the substance of conversations between the NRC TMICPD Staff and GPU Nuclear regarding the extension of the lower head sampling program described in GPU Nuclear letter 4410-86-L-0091 dated June 23, 1986 and approved via NRC Letter NRC/TMI-86-070 dated July 16, 1986. The proposed program extension will allow drilling into the lower debris bed at other locations as described below.

Drill locations will be selected from candidate locations E-5, O-7, D-8 and F-6, which do not have inspection ports, and D-4 which has an inspection port. The locations identified above do not contain incore instruments.

The lower head activities will be performed using drill string components with a welded stop collar to limit the drill depth to 293' 0-1/8 inch. At the closest point of approach, the drill string will be at least 5 inches from the lower head, i.e., including stack-up errors for peripheral locations accessible to the core bore machine. Interior drill locations will have a larger margin. This margin exceeds the requirements imposed in the NRC approval of the extended core bore activity (NRC/TMI-86-070 dated July 16, 1986).

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Other drilling parameters, such as applied torque, downward force on the drill bit and drill speed will be as specified in NRC/TMI-86-070. Other plant parameters, such as BWST level and boron concentration, IIF instrumentation, IIF water level, and Reactor Building Basement water level and boron concentration also will be maintained as specified by NRC/TMI-86-070. Structural strength of the incore instrument nozzle welds as well as loads applied to incore nozzle welds is as assumed in previous analyses. The only difference between the proposed operation and the initial lower head sample operation, conducted at position K-9, is that drilling through the lower elliptical flow distributor plate may be attempted if the plate is not intact (i.e., at location E-5, O-7, O-8 or F-6 due to accident damage). No attempt will be made to drill through an intact distribution plate. Therefore, drilling through the degraded plate, if possible, does not create any safety hazard.

Based on the above, the probability of occurrence or the consequences of a malfunction are not increased since the limits applied to this operation are the same as those imposed for the initial lower head sample operations at K-9. Thus, the probability of occurrence remains the same per operation. Should an event occur, the consequences are bounded by the previous NRC approved evaluation.

Since the activity is the same as previously analyzed except for location, which does not affect the analysis, and drilling through a damaged elliptical flow distributor, which has no safety implications under current TMI-2 conditions, the possibility of an accident or malfunction of a different type is not created.

The margin of safety as defined in the basis for any technical specifications is not reduced since there are no technical specifications directly affected by this operation.

Therefore, it has been concluded that the proposed activity does not constitute an unreviewed safety question and, therefore, can be performed without undue risk to the health and safety of the public.

Sincerely,



R. R. Standerfer

Vice President/Director, TMI-2

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