AUG 11 1988

Docket No. 50-320

Mr. F. R. Standerfer
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Dear Mr. Standerfer:

SUBJECT: CORIUM JET ASSESSMENT FOR EVALUATION OF SER ON LOWER CORE SUPPORT ASSEMBLY AND LOWER HEAD DEFUELING

Reference: Letter with attached safety assessment, 4410-88-L-0006/0253P from F.R. Standerfer to NRC dated June 6, 1988 re "Safety Evaluation Report for completion of Lower Core Support Assembly and Lower Head Defueling"

The above reference provided information in support of your safety evaluations for defueling the lower core support assembly and defueling the lower head. In order to complete our review of this proposed activity we require additional analysis.

Your June 6, 1988 submittal included an evaluation of the lower head thermal response as a result of contact with a jet of molten materials falling into the lower head during the TMI-2 accident. The conclusions in the submittal are based upon the INEL report EGG-TMI-7811, "Thermal Interaction of Core Melt Debris With The TMI-2 Baffle, Core-Former, And Lower Head Structures." On pages 60-63 of that report, an evaluation was presented wherein it was assumed that heat transfer between the corium jet and the lower head was controlled by a convection process. However, the heatup of the lower head assumed a conductive process with transient temperatures being obtained using the Biot number. Such an approximation may be appropriate if the corium jet occurred in the center of the reactor vessel since any melted lower head material and the corium jet would accumulate in this region of the vessel. Since the TMI-2 corium jet occurred in the outer ring of the core, where there is significant curvature of the lower head, melted lower head material would be expected to be carried with the jet and settle in the bottom of the vessel. Thus, lower head material would be continuously exposed to the hot corium jet and abalation of the lower head would be controlled by a convective heat transfer process rather than the conductive process assumed in the analysis. This would result in increased abalation of lower head.

DF01
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Provide a revised analysis of the interaction between the corium jet and the lower head which accounts for this effect. If a decreased lower head thickness results, review its effect on other portions of your safety evaluation report and revise the report as appropriate.

Sincerely,

"ORIGINAL SIGNED BY
JOHN F. STOLZ"

John F. Stolz, Director
Project Directorate I-4
Division of Reactor Projects I/II

cc: See next page

LA:PDI-4	PM:PDI-4	PD:PDI-4
SNorris	MMasnik	JStolz
08/12/88	08/12/88	08/12/88

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