

July 29, 1985

Docket No. 50-320

Mr. F. R. Standerfer
Vice President/Director
Three Mile Island Unit 2
GPU Nuclear Corporation
P.O. Box 480
Middletown, PA 17057

Dear Mr. Standerfer:

Subject: Safety Evaluation Report for Early Defueling

By letter dated May 20, 1985, you submitted the Safety Evaluation Report (SER) for Early Defueling of the TMI-2 Reactor Vessel. Based on our initial review of the SER and the information that was discussed between GPU and the TMI Program Office staff on July 25, 1985, we have determined that we need additional information to complete our review. We request your response to the enclosed questions.

Sincerely,

/s/ R. A. Weller for

Bernard J. Snyder, Program Director
Three Mile Island Program Office
Office of Nuclear Reactor Regulation

Enclosure:
As stated

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ENCLOSURE

1. Submit Revision 2 to the Boron Dilution Hazards Analysis and the Safety Evaluation Report for Heavy Load Handling.
2. Describe the procedural and physical controls provided to prevent the inadvertent lifting of debris out of water during defueling activities. Discuss the feasibility of providing mechanical means to restrict the lifting of long-handled tools. What is the highest level that debris could reach if lifted with any combination of rigging bar and long-handled tool?
3. Discuss the precautions that will be taken during early defueling to prevent damage to any incore instrumentation strings.
4. Describe the equipment used and the methods for weighing the three types of canisters during defueling operations and following dewatering in the fuel handling building.
5. Describe RCS sampling capability, frequency, and sampling locations during early defueling.
6. What conditions could require flooding of the fuel transfer canal (FTC)? To what level would the FTC be reflooded to recover from an abnormal event? Is all water sensitive equipment above the maximum reflood water level?
7. Describe the design and operation of the canister retention mechanisms on the bottom of the canister transfer shield. What controls will be implemented to restrict horizontal movement of canisters? Provide drawings of the canister handling bridges, canister transfer shields and related components.
8. Identify all materials with the potential to affect RCS reactivity during defueling. The administrative limit on boron concentration (4950 ppm) is based on maintaining a level that will allow detection and correction of a boron dilution event prior to reaching the Technical Specification limit of 4350 ppm. Since the introduction of materials that may increase reactivity would reduce this margin of safety between the administrative and T. S. values, what is your justification for using the current administrative limit in the criticality analysis addressing the introduction of these materials into the RCS? Discuss means to prevent the inadvertent introduction of these materials into the RCS and specify limits on the quantities that could be introduced.
9. Describe the number, type, and location of radiation monitors to be used during early defueling.
10. Provide revised occupational exposure estimates for early defueling when available.

11. Describe all planned RCS processing activities prior to defueling. Will RCS concentrations of Cs and Sb be reduced to the levels referenced in the SER as a prerequisite for the commencement of defueling?
12. In the event of a canister drop over the dry canal, what are the worst case dose consequences to workers from both direct exposure and airborne contamination?
13. Provide your evaluation showing that the potential accident consequences and occupational exposures that may result from early defueling activities are bounded by the events analyzed in the PEIS.