GPU Nuclear

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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
Use of Hydraulic Cutoff Saw

The purpose of this letter is to advise you of GPU Nuclear's proposal to utilize a hydraulic cutoff saw for sizing operations in the reactor vessel. The activity is necessary to facilitate the separation and loading of debris into defueling canisters and debris containers.

The use of the cutoff saw is not described in the current version of the Early Defueling Safety Evaluation Report (SER), Revision 4. Thus, it is not approved within the current scope of defueling. This letter is intended to document that the use of the cutoff saw is bounded by previous submittals and can proceed safely.

The cutoff saw is essentially a hydraulically driven hack saw that can be utilized for sizing structural material or other debris so that the debris can be easily placed into defueling canisters or the debris containers. The debris will be secured for cutting using a hydraulically actuated clamping station. Both the saw and the clamping station will be located within the RV/IIF and supported from the defueling platform.

Two potential safety issues attendant to the proposed activity are pyrophoricity and leakage of hydraulic fluids.

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The use of the cutoff saw will generate heat and fines from the material (e.g., end-fittings, structural material and fuel rods) being sized, thus potentially creating new unoxidized surfaces of reactive material. As discussed in GPU Nuclear 4410-85-L-0167 dated August 15, 1985, which provided responses to NRC comments on the Defueling Canister Technical Evaluation Report, the oxidation of newly created surfaces would occur very rapidly. The heat of this reaction is easily dissipated to the large amount of reactor vessel water, which acts as a heat sink, and hence negates the potential for a pyrophoric event. Therefore, the generation of fines from saw operations is bounded by this evaluation and the potential for a pyrophoric reaction is not created.

The hydraulic system described in the SER is used to power the cutoff saw and clamping station. Therefore, the hydraulic fluid, used by the cutoff saw and clamping station, is borated to at least 4350 ppm which ensures that the RCS boron concentration is within the 4350 ppm required to maintain subcriticality of the core if system leakage were to occur.

Although the proposed activity is not within the scope of the previously approved Early Defueling SER, GPU Nuclear has determined that it is bounded by existing safety evaluations given in the SER. Therefore, subject to NRC concurrence, GPU Nuclear intends to proceed with the proposed activity and will update the Defueling SER, as appropriate.

Sincerely,

F. R. Standerfer
Vice President/Director, TMI-2

FRS/RBS/eml

Attachment