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August 6, 1985

NRC/TMI 85-055

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: Defueling Water Cleanup System

- Reference: (a) Letter 4410-85-L-0005, F. Standerfer to B. Snyder, Defueling Water Cleanup System Technical Evaluation Report, dated January 14, 1985
- (b) Letter 4410-85-L-0099, F. Standerfer to B. Snyder, Technical Evaluation Report for the Defueling Water Cleanup System, dated April 26, 1985
- (c) Letter 4410-85-L-0119, F. Standerfer to B. Snyder, Technical Evaluation Report for the Defueling Water Cleanup System, dated May 28, 1985
- (d) Letter 4410-85-L-0125, F. Standerfer to B. Snyder, Technical Evaluation Report for the Defueling Water Cleanup System, dated June 13, 1985

This letter is in response to references (a) through (d).

Reference (a) was your initial submittal of the Defueling Water Cleanup System (DWCS) Technical Evaluation Report (TER) for NRC staff review and approval. References (b), (c), and (d) submitted subsequent revisions to the subject TER for staff review. The TER addressed the general design and operation of the system, consequences of various system failures, criticality and decay heat removal considerations, boron dilution, heavy load handling, radioactive releases, and both off-site and on-site radiation dose assessment. Additional information was provided in discussions between members of our technical staffs on April 3, 1985, during which various questions and issues relating to the system were addressed. We have not completed our review of the DWCS filter canister criticality analysis. Our evaluation of this analysis will be presented in our response to your Fuel Canister TER which was submitted for our review in your letter 4410-85-L-0067, dated April 9, 1985. In addition, two other areas relating to DWCS operation require further review. First, we

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have not completed our review of the consequences of heavy load handling over the fuel storage racks when fuel material is present. Our review in this area may affect your plans for replacement of spent filter canisters in the DWCS. Second, our approval of system operating procedures relating to chemistry sampling frequency will be dependent upon your submittal of the revised boron dilution hazards analysis for our review. This letter transmits our safety evaluation and our approval of the proposed design, installation, and testing of the DWCS. Our review was based on your description of the proposed system presented in revision 6 of the TER and revision 3 of the associated system descriptions 15737-2-M72-DWC01 and 1537-2-M72-DWC02. We have determined that the use of this system does not pose a risk to the health and safety of the public, nor does it exceed the scope of activities and the associated environmental impacts which were considered in the staff's Programmatic Environmental Impact Statement (PEIS). Operation of the system to process water from the reactor coolant system will be contingent upon our approval of the fuel canister TER, resolution of heavy load handling issues, review of the boron dilution hazards analysis, and submittal of the related procedures subject to our approval per Technical Specification 6.8.2.

We are aware of your intention to begin partial operation of the DWCS (i.e., reactor vessel filtration) prior to full system installation. We have reviewed the proposed interim processing scheme, as shown on your piping and instrument drawings 15737-2-M75-DWC03 and 15737-2-M75-DWC04, revision 0, and have determined that the conclusions presented in our safety evaluation for the full system are also valid for the partial system operation. We therefore approve the interim processing plans subject to the same conditions discussed above for the complete system.

Sincerely,

William D. Travers
Deputy Program Director
TMI Program Office

cc: T. F. Demmitt
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