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Docket No. 50-320

Mr. F. R. Standerfer
Vice President/Director, TMI-2
GPU Nuclear Corporation
P. O. Box 480
Middletown, PA 17057

Dear Mr. Standerfer:

Subject: Safety Evaluation for the Operation of the Filter-Aid Feed System and Use of Diatomaceous Earth as Feed Material

- References: (a) Letter 4410-86-L-0104, F. Standerfer to W. Travers, Safety Evaluation for the Operation of the Filter Aid Feed System and Use of Diatomaceous Earth as Feed Material, dated June 30, 1985
- (b) Letter NRC/TMI 85-055, W. Travers to F. Standerfer, Defueling Water Cleanup System, dated August 6, 1985
- (c) Letter NRC/TMI 85-083, W. Travers to F. Standerfer, Defueling Canister Technical Evaluation Report, dated November 5, 1985

Reference (a) was your submittal of a safety evaluation for proposed modifications to the Defueling Water Cleanup System (DWCS) that would allow precoating of the DWCS filters and injection of a filter aid material to the DWCS process stream. The addition of diatomaceous earth (DE) as a precoat/filter aid is intended to improve DWCS filter performance by preventing fouling of the sintered metal filter media by colloidal suspensions of silicon and iron oxides. The presence of these colloidal suspensions is believed to be the cause of the premature plugging of the filters encountered during early system operation.

We have reviewed your submittal and evaluated the system as described for the impact on the DWCS and defueling canister technical evaluations approved by the staff in references (b) and (c). We have determined that the addition of DE, which is composed of primarily SiO_2 , to the filter canisters will not adversely affect the operation of the catalytic recombiners nor will it have any effect on the predicted radiolytic gas generation rate in a closed canister. The addition of the material will not affect the bounding conditions of the canister criticality analysis discussed in reference (c) and proper administrative controls to assure that the body feed/precoat material is prepared with borated water will insure that operations remain within the bounds of the criticality evaluation in reference (b). The equipment modifications necessary for the addition of body feed/precoat material do not

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present the potential for any releases of radioactive material not previously analyzed in references (b) and (c).

We have concluded that the proposed filter aid addition program can be safely implemented without any undue risk to the health and safety of the public or the occupational work force. We, therefore, approve your proposed program contingent upon the submittal of the associated procedures subject to technical specification 6.8.2.

Sincerely,

ORIGINAL SIGNED BY,
William D. Travers

William D. Travers, Director
TMI-2 Cleanup Project Directorate

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