

Nuclear

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June 30, 1986

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
Seismic Design Criteria for Modified Containment Penetrations

NRC letter dated November 5, 1984, clarified the intent of the July 17, 1984 exemption from the requirements of 10 CFR 50, Appendix A, Criterion 2, 50, and 51, for modified containment penetrations. The referenced letter provided the staff's analysis which supported the exemption. That analysis examined the off-site dose consequences of the following seismic-induced accident scenarios:

- o Fire and penetration failure in the Reactor Building
- o Leaks and spills in the Reactor Coolant System
- o Drops of defueling canisters
- o Pyrophoric event and penetration failure

The staff's analysis of the above scenarios demonstrated that the worst case off-site dose projections are well within the exposure guidelines of 10 CFR Part 100. However, the conclusion of the analysis stated, "This analysis is valid for up to 20 ft² of penetrations in the auxiliary or fuel handling buildings."

The purpose of this letter is to request that the above constraint be removed based on the evaluations presented in the Seismic Design Criteria Safety Analysis (reference GPU Nuclear letter 4410-85-L-0077 dated April 16, 1985).

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The Seismic Design Criteria Safety Analysis considered a broad spectrum of potential accident source terms and driving forces for radionuclide movement into the environment. The source terms were selected to bound both current and future recovery activities. Each source term was coupled with conservative driving forces to bound the potential off-site consequences. The accident scenarios in the GPU Nuclear analysis included potential seismically induced accident releases associated with the following:

- o Drained Reactor Pressure Vessel
- o Wall and Equipment Contamination
- o Makeup and Purification System Cleanup
- o ■PICOR II Processing
- o Submerged Demineralizer System Processing
- o Defueling Water Cleanup System Processing
- o Sediment Transfer and Processing
- o Defueling Canister Movement
- o Radioactive Trash Storage Areas
- o Other Radioactive Waste Storage Area (e.g., Interim Solid Waste Staging Facility)

In addition, this analysis assumed that the environmental releases for the above seismically induced accidents were unfiltered and occurred through open pathways (e.g., a collapsed building, open Fuel Handling Building Truck Bay Door, or an open Reactor Building Equipment Hatch). The cross-sectional area of these pathways is much greater than the 20 ft² area limit established in the staff analysis.

The primary conclusion of the GPU Nuclear Corporation Seismic Design Criteria Safety Analysis was that the failure of any TMI-2 recovery structure, system, or component, as a result of a seismic event, will not result in a radiological release in excess of a small fraction of the guideline values in 10 CFR Part 100. Thus, the imposition of a numerical restriction on the cumulative area of modified containment penetrations is not warranted technically and may impose undue restriction on the licensee during future recovery activities which may necessitate additional modification of existing penetrations. Therefore, GPU Nuclear requests that this limit be deleted.

Per the requirements of 10 CFR 170, an application fee of \$150.00 is enclosed.

Sincerely,



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

FRS/RDW/eml

Enclosed: GPU Nuclear Corp. Check No. 00024443