

Met-Ed GPU



Metropolitan Edison Company
Post Office Box 480
Middletown, Pennsylvania 17057

Writer's Direct Dial Number

April 24, 1981
LL2-81-0110

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TMI Program Office
Attn: Mr. Lake H. Barrett, Deputy Director
U. S. Nuclear Regulatory Commission
c/o Three Mile Island Nuclear Station
Middletown, Pennsylvania 17057

Dear Sir:

Three Mile Island Nuclear Station, Unit 2 (TMI-2)
Operating License No. DPR-73
Docket No. 50-320
Submerged Demineralizer System

During discussions with members of your staff, you requested that we provide our estimate of the maximum centerline temperature that might be reached in a dewatered zeolite bed. This letter responds to that request.

Our analysis is based on the following assumptions:

1. Total bed loading is 60,000 curies - Cs-137.
2. The resin concentration of radioactivity is 8,000 times the expected feed concentration.
3. The liners are stored under water at 80°F skin temperature.
4. The zeolite is completely dry and thus the worst case of thermal conductivity (0.092 btu/hr - ft. - °F).
5. The bed is solid -- no credit is taken for the center 1½" discharge pipe on the centerline.

This analysis yields a maximum (hypothetical) centerline temperature of 224°C (435°F).

Should this hypothetical maximum temperature be reached there would be no adverse consequences on either the zeolite ion exchange media or the SDS vessel.

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L. H. Barrett

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Should you wish to discuss this matter further, please contact Mr. L. J. Lehman, Jr. of my staff.

Sincerely,



G. K. Hovey
Vice-President and
Director, TMI-2

GKH:LL:djb

cc: Dr. B. J. Snyder, Program Director, TMI Office