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November 24, 1982
NRC/TMI-82-072

Docket No 50-320

Mr. B. K. Kanga
Director, TMI-2
GPU Nuclear Corporation
P. O. Box 480
Middletown, PA 17057

Dear Mr. Kanga:

Subject: Inerting Requirements of EPICOR II Prefilter Shipping Casks

This letter is in response to your letter, 4410-82-L-0024, dated October 14, 1982, in which GPU proposed modifying the nitrogen gas inerting of shipping casks for future EPICOR II prefilter (PF) shipments. Previously, GPU committed, as an additional precaution to inerting the actual liner vessel, to inert all EPICOR II PF shipping casks, (namely, the CNS-8-120 and HN 200) prior to leaving TMI. Your proposed plan is to continue nitrogen inerting of all PF liner vessels prior to shipment; however, the shipping cask cavity will only be inerted if the hydrogen concentration is expected to exceed 4.1% (i.e., flammability limit) in the PF liner during the 16 day maximum shipping window.

The TMI Program Office staff has reviewed your proposed change and the safety issues associated with the inerting requirements. The staff has also reviewed your compliance criteria with all applicable DOT and NRC shipping requirements. As identified in our letter to you (NRC/TMI-82-047, Subject: Inerting and Shipping of EPICOR-PF Liners, dated July 23, 1982), the acceptance criteria to ensure non-flammable conditions exist is less than 4.1% hydrogen. If hydrogen gas composition is expected to be greater than the non-flammable limit in any portion of the package, the cask will be required to be inerted to ensure the oxygen is less than 5%. Compliance with these criteria are to be demonstrated over a period of twice the expected shipment period.

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The staff has determined that your proposed change is in conformance with the requirements established in our letter of July 23, 1982. Adequate safety margins exist in the conservatism of requiring non-flammable mixtures for twice the shipping period, and in hydrogen dilution effects in the cask cavity space if liner leakage occurred. Additionally, we concur that by eliminating the cask inerting, where not necessary, there will be reduction in time and reduced man-rem expenditures, without undue risk to the health and safety of the public. We therefore approve your proposed change.

Lake H. Barrett
 Deputy Program Director
 TMI Program Office

cc: J. J. Barton
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