



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

JAN 22 1981

Docket No. 50-320

Mr. Gale Hovey
Vice President and
Director of TMI-2
Metropolitan Edison Company
P.O. Box 480
Middletown, Pennsylvania 17057

Dear Mr. Hovey:

Subject: Evaluation of EPICOR-II Wastes Under Projected Handling, Storage,
Transportation, and Disposal Conditions

Our letter, NRC/TMI-80-087, of May 15, 1980 requested among other items, the evaluation by your staff of EPICOR-II resin stability and liner integrity under projected use conditions. Met-Edison letter, TLL-316, of July 2, 1980 provided "Preliminary Evaluations of Liner Integrity and Resin Stability for the EPICOR-II Radwaste System." Further assessments with recommendations were received on December 4, 1980 in letter TLL-634 including a report, "Evaluation of the Liner Integrity of the TMI Unit 2 EPICOR-II Radwaste Systems." These evaluations, based on conservative assumptions, concluded that certain liners have the potential for perforation in 15-19 months from loading without taking into account the effects of radiation on the liner contents. On December 15, 1980, your staff forwarded a report, "Methodology and Calculation of Integrated Dose to EPICOR-II Prefilters." This document provides an estimate of the integrated radiation dose to the contents of Prefilter 29. This document concludes that this liner contains slightly less than 2000 curies and estimates that the localized integrated dose within one year after removal from service will be approximately 10^8 rads in the maximally loaded region. This latest information provides the estimated source data for assessment of the resin stability which is important to both near-term and long-term performance of these wastes and their containers.

Based upon potential concerns about the performance of EPICOR-II prefilters and their contents under conditions projected to be encountered, NRC had Brookhaven National Laboratory (BNL) undertake limited related research work and also review the work of others on this subject. Our referenced letter of May 15, 1980 included a letter status report on some early work and analyses by BNL. During discussions at the TMI site on EPICOR-II operations on December 3, 1980, your staff was provided with an informal report, BNL-NUREG-28682, "Review of Recent Studies of the Radiation Induced Behavior of Ion Exchange Media." This informal report reviewed work performed at BNL, Pennsylvania

8102040101

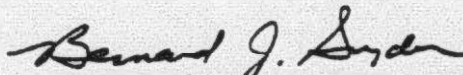
Mr. Gale Hovey

-2-

State University and Georgia Institute of Technology on this subject. This report finds that pH changes, gas generation, resin agglomeration and carbon steel liner corrosion may occur in resin systems that are exposed to integrated doses in the range that may be encountered in the case of the EPICOR-II wastes. A copy of this report is formally transmitted herewith.

Accordingly, we are most desirous of obtaining your final evaluation of resin stability and believe that it should be expedited to the maximum extent feasible. A firm timetable as to its availability is requested to be provided within 2 weeks. In addition, your referenced letter of December 4, 1980 provided recommendations to further test liners and contents, to determine solutions to preclude leakage and to develop contingency plans to handle any leakage situations. We believe that an assessment of the recommendations should be included in your final evaluation of resin stability together with your plans and schedule for implementation of any additional required actions. With regard to contingency plans, you are requested to proceed with the development of a contingency plan which would provide for the stabilization (e.g., provision of a liner overpack) of the liners while in extended storage. This contingency plan should be submitted to the Director (Dr. Bernard J. Snyder), Three Mile Island Program Office, for review and approval within 4 weeks of receipt of this letter. Your efforts to date on this matter are appreciated and we look forward to an early response.

Sincerely,



Bernard J. Snyder, Program Director
TMI Program Office
Office of Nuclear Reactor Regulation

Enclosure:
BNL-NUREG-28682

cc: L. Barrett