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

JUN 8 1981

Socket No. 50-320



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

Dear Mr. Hovey:

SUBJECT: SDS - Processing Strategy Plan

We appreciate receipt of your letter LL2-81-0108 dated May 8, 1981 containing the processing strategy plan for operations of the combined SDS - EPICOR-II systems that you plan to use for cleanup of reactor building sump water.

As you know, we are currently reviewing all of the information provided in support of Met-Ed's proposal for processing the water in the containment building. NRC action on your proposal will be taken in future correspondence. However, we believe it is useful to communicate some of our views now on your May 8 letter.

We believe that the text of your letter adequately describes the planned operating philosophy and we agree with the three basic objectives that you are attempting to satisfy in using inorganic ion exchange material in the four SDS ion exchange stages. However, Attachments 1 and 2 appear to be over-simplifications with regard to disposal modes and change out criteria since they indicate the same information for all four stages. As a result they do not appear to be consistent with the discussion in the text. Accordingly, we note below our understanding of those areas.

SDS liners 1 through 4 will all be loaded with essentially the same homogeneous mix of inorganic ion exchange materials. Your stated objective of minimizing the total volume of spent high specific activity ion exchange material is, in our view, clearly desirable and appropriate. However, this must be balanced against the two competing considerations of maximum assurance of no breakthrough beyond the series of four zeolite vessels and minimization of vessel handling steps and connections. We believe that such a balance can be struck by maximizing the loadings on the first two zeolite stages and minimizing the loadings in third and fourth stages so that the latter units operate essentially as polishing units. On this basis we believe that the liner change out criteria

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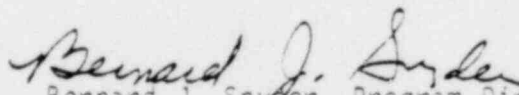
in Attachment 2 should logically be far lower for units 3 and 4 than units 1 and 2, rather than the same as proposed in your letter. In fact we feel that with appropriate administrative controls, the few third and fourth stage units that will be removed from the processing operation should be suitable for disposal at an arid shallow land disposal site in a stabilized form (or in a suitable high integrity container) with appropriate intruder barriers, in the event that the radionuclide loadings are limited to levels less than class C low level wastes as listed in the classification table of draft 10 CFR 61 which will be transmitted to you separately. If the 3rd and 4th units contain less than 1000 Ci cesium, and 160 Ci strontium these liner will in all likelihood not be utilized in DOE's research development and testing program as outlined in their June 3, 1981 letter to me.

The meeting on May 21, 1981 with the Technical Advisory Group (TAG) and ORNL personnel concerning the selection of ion exchange media for SDS processing was informative and reassuring concerning the ability to reconcentrate the fission product activity in the reactor building sump water on inorganic media and at the same time, limit the volume of high specific activity wastes. We understand that ORNL will be completing its tests on zeolites using cold simulated sump water in the near future and that based on that work, a selection of the mixture of zeolites most appropriate for this cleanup will be forthcoming from the TAG.

At our meeting the TAG expressed its confidence that the operations of sump water cleanup should be able to proceed with complete assurance of protecting the health and safety of the public based upon the results of the cold laboratory tests at ORNL and the subsequent studies and analyses of appropriate zeolite mixtures for effective cesium and strontium removal. We are pleased to receive this strong assurance and look forward to learning of the specific results from the TAG as soon as practicable after completion of their efforts.

There are apparently sufficient differences between the sump and RCS waters, such as radionuclide contents, system variables, etc., that a somewhat different zeolite mixture and/or operating procedures should be considered and evaluated prior to RCS water cleanup. We look forward to hearing from the TAG its recommendations for RCS water processing in the near future so that RCS cleanup operations can be approached with the same high degree of assurance that the TAG has expressed about sump water cleanup.

Sincerely,


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

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