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US Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

Three Mile Island Nuclear Station Unit 2 (TMI-2)
License No. DPR-73
Docket No. 50-320
TMI-2 Cork Seam

Dear Sir:

The purpose of this letter is to provide information regarding the TMI-2 cork seam that was contaminated with radioactive water during the TMI-2 accident. Enclosure 1 provides a description of the cork seam condition and the additional work to be performed. The intent of the additional work is to gather further information on the cork seam and prevent contamination in the cork seam from spreading to uncontaminated areas in the M-20 area. After this work is completed, a final determination of the need for removal of any cork material and capping of the cork seam can be made.

Sincerely,

R. L. Long
Director, Services Division/TMI-2

EDS/dlb
Enclosure

cc: M. G. Evans - Senior Resident Inspector, TMI
T. T. Martin - Regional Administrator, Region I
M. T. Masnik - Project Manager, PDNP Directorate
L. H. Thonus - Project Manager, TMI

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ENCLOSURE 1

TMI-2 CORK SEAM

Current Condition

The TMI-2 cork seam is a cork-filled construction joint located between the various major structures at TMI-2 (See Figure 1). Its purpose is to accommodate differential expansion between the buildings and to attenuate any vibration/wave motions that may occur.

During the TMI-2 accident, the cork seam located in the Auxiliary Building Seal Injection Valve Room (SIVR) was contaminated with radioactive water. Attempts to contain the contamination within the room have been unsuccessful. During the past 14 years, radioactive material has spread along the joint in one direction into the Annulus, and in the other direction into the Auxiliary Building, Service Building and Control Building-West. The contamination has not reached the M-20 area at this point. The radioactive contamination is prevented from entering the ground water table by a PVC waterstop (See Figure 2) and thus represents no threat to the health and safety of the public.

Core boring holes were made in the M-20 and Auxiliary Building areas of the seam (Figure 1, Holes S2 and S6); cork and water samples were extracted from these holes. The M-20 area was found not to be contaminated. The data retrieved from the Auxiliary Building hole (S6) was analyzed; it was determined that the 40-year Total Integrated Dose (TID) to the PVC waterstop in this area would be $6.4E5$ rads. This is less than 5% of the dose that would cause degradation of the material.

Planned Additional Work

The following additional work is planned to be performed (See Figure 1):

1. A 4" diameter core bore will be drilled in the cork seam in the Control Building-West area and a dam installed to prevent contamination in the seam from spreading into the M-20 area, which is presently not contaminated.
2. In 1986, a dam was installed just south of the S6 hole. It is not known whether it is working or not. Therefore, a 4" diameter core bore will be drilled in the cork seam in the Auxiliary Building between the existing dam and the Auxiliary/Service Building wall. Another dam will be installed to prevent further contamination spread into the Service/Control Building-West area. Prior to installing the new dam at this location, the contaminated water in the seam will be pumped out into a barrel, sampled, and then transferred to the plants' Radioactive Water Storage System, pending future processing

operations. This water removal process will be performed from this new hole, the S6 hole, and any other holes that may be deemed necessary.

The need for further drilling and dam installation at the two locations noted on Figure 1 will then be determined. In addition, there is the possibility for further removal of cork material and subsequent capping of the cork seam.

Summary

The cork filled construction joint within the Auxiliary Building SIVR was contaminated with radioactive water during the TMI-2 accident. The liquid (water) contamination has spread from the SIVR via the cork seam into the annulus and into the Auxiliary Building, Service Building and Control Building-West areas. However, the liquid contamination is prevented from entering the ground water table by a PVC waterstop and thus represents no threat to the health and safety of the public. The work planned will gather further data on the cork seam, prevent contamination in the cork seam from spreading to uncontaminated areas in the M-20 area and determine if the need for further drilling and dam installation exists. After these tasks have been performed, a final determination of the need for removal of any cork material and capping of the cork seam can be made.

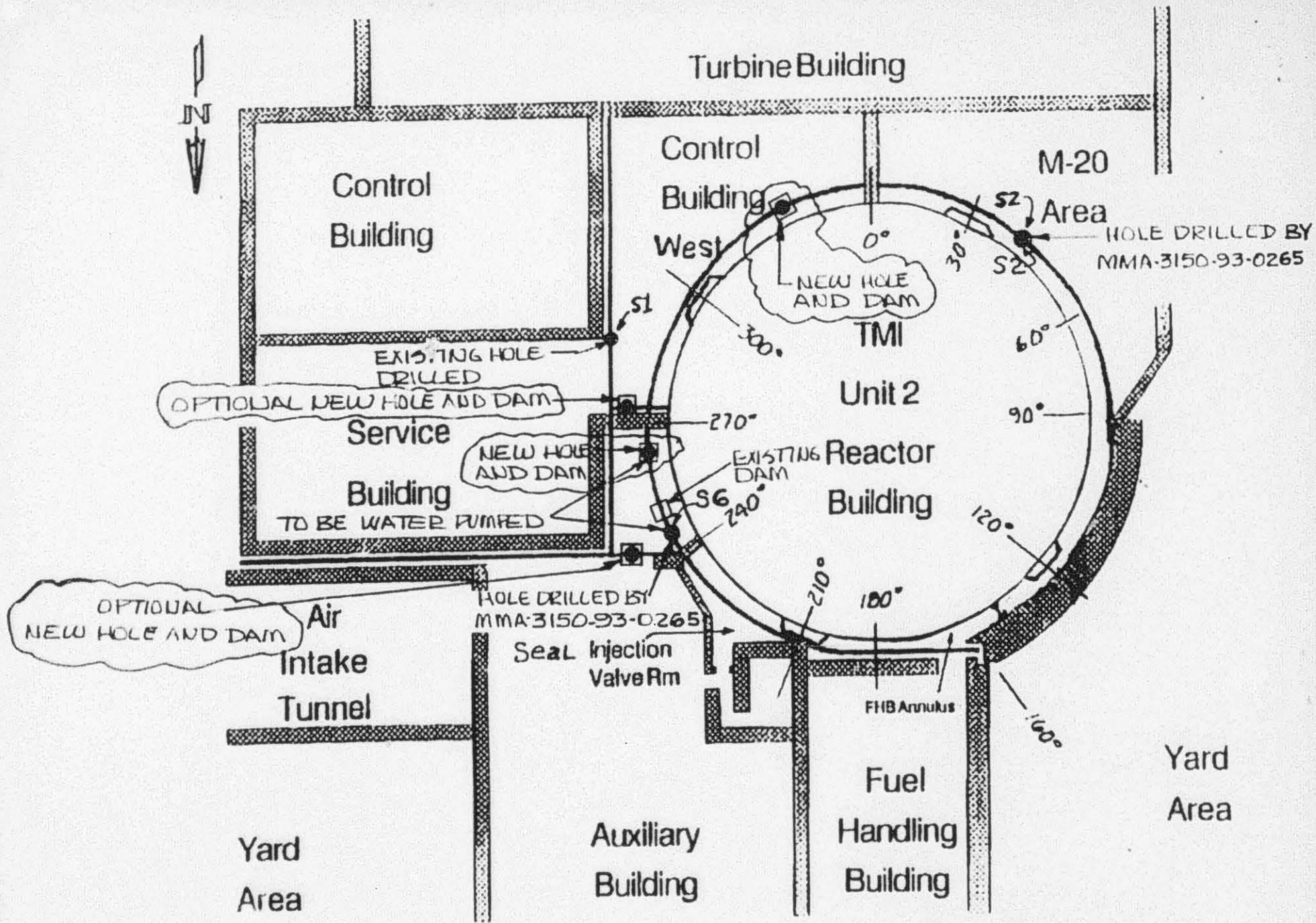


FIGURE 1

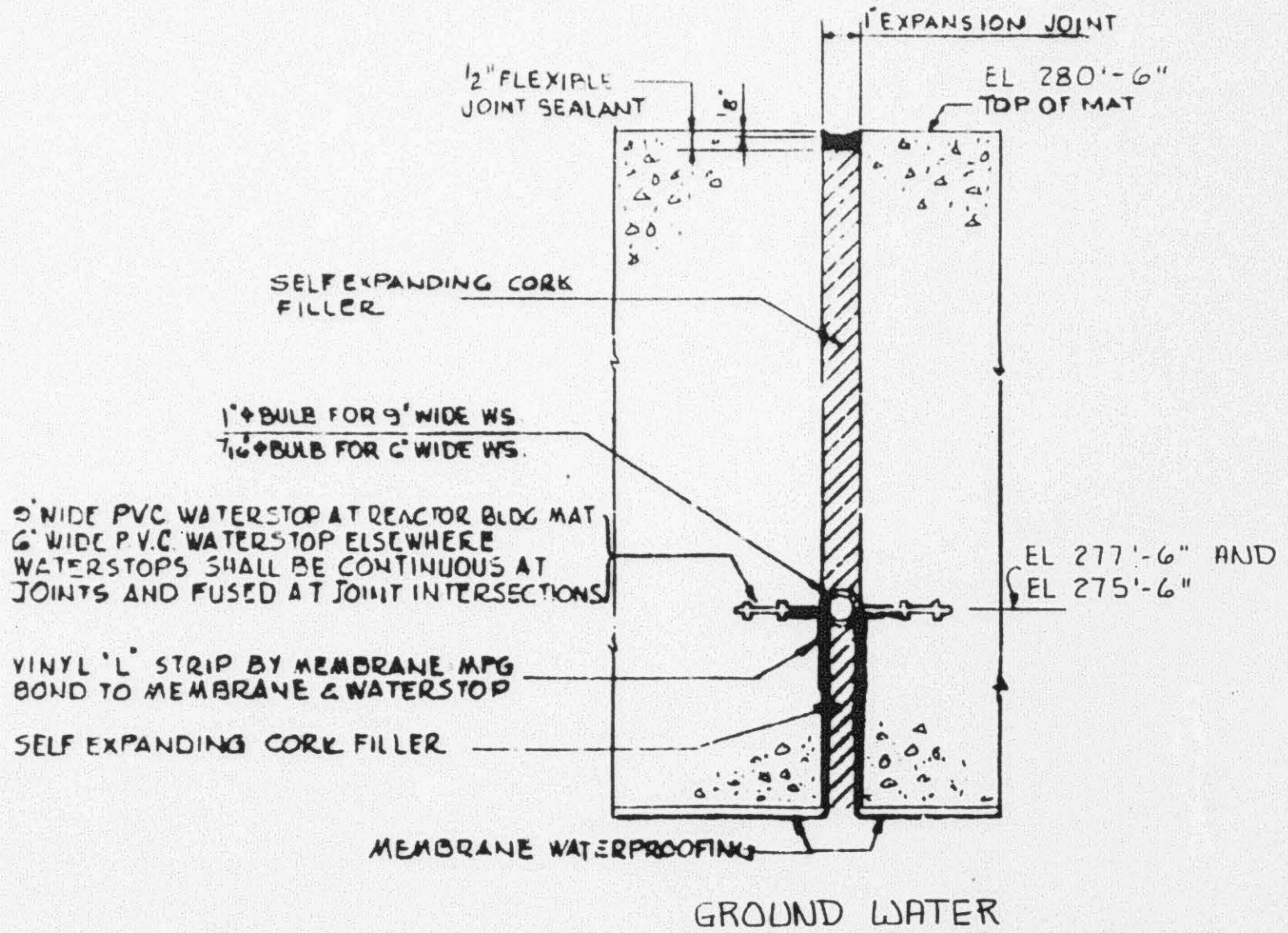


FIGURE 2