B. Ralph Sylvia
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NRC-88-0081

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D. C. 20555

References: 1) Fermi 2
NRC Docket No. 50-341
NRC License No. NPF-43

2) NRC Generic Letter 87-05, "Request for Additional Information-assessment of Licensee Measures to Mitigate and/or Identify Potential Degradation of Mark I Drywells," dated March 12, 1987

3) Detroit Edison Letter to NRC, "Potential Degradation of Mark I Drywells," NRC-87-0075, dated June 15, 1987

Subject: Revised Response to Generic Letter 87-05

Reference 3 submitted Detroit Edison's response to the Generic Letter 87-05. This letter is to revise our response to item No. 2 of Generic Letter 87-05 to correctly reflect our commitments regarding minimizing the possibility of leakage from the refueling cavity. The revised response indicates that the sight glass attached to the manifold of the drywell seal bellows drain will be monitored daily for the first three days when the reactor cavity is flooded and weekly thereafter for the remaining period while the reactor cavity is flooded, not when the refueling pool is flooded as indicated in the earlier response. Additionally, the sand cushion drains will be monitored monthly for signs of moisture.

The complete response to Generic Letter 87-05 is enclosed herewith. Drawings, figures, and UFSAR subsections referenced as attachments in the enclosure have already been submitted with the original response and are therefore not included with this letter.

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If you have any questions, please contact Mr. Girija Shukla at (313) 586-4270.

Sincerely,

B Ralph Sylvia

Enclosure

cc: Mr. A. B. Davis
Mr. R. C. Knop
Mr. T. R. Quay
Mr. W. G. Rogers

NRC Item 1

Provide a discussion of your current program and any future plans for determining if the drain lines that were provided at your facility for removing any leakage that may result from refueling or from spillage of water into the gap between the drywell and the surrounding concrete or from the sand cushion itself are unplugged and functioning as designed.

Response to Item 1

Fermi 2 has four drain lines that can be used to remove moisture from the sand cushion located between the Drywell wall and the surrounding concrete. (See attached drawing 7M721-2219). These four drain lines are 1 1/2 inch schedule 40 galvanized steel. There is a P-trap on the end of the pipe. The drains are filled with sand up to the P-trap. A sample of the sand will be taken during the first refueling outage. This would be the appropriate time to perform this test since the fuel pool areas will be flooded. If any leakage were to occur this would be the most likely time. Once the sample is taken, it will be tested for moisture and the presence of any contaminants that would result from corrosion of the drywell steel. In addition, the ends of the drain lines will be visually examined to determine any evidence of past leakage from the sand cushion. Further recommendations pertaining to any additional or future actions will be based upon the results of these examinations.

The drain lines located in the gap between the Drywell and surrounding concrete have been visually inspected and found not to be plugged and functioning as designed. A more detailed discussion of Detroit Edison's future plans for these drain lines is discussed in the response to NRC Additional Item section contained in this letter.

NRC Item 2

Provide a discussion of preventive maintenance and inspection activities that are currently performed or are planned to minimize the possibility of leakage from the refueling cavity past the various seals and gaskets that might be present.

Response to Item 2

The Drywell seal bellows drain empties into a manifold which is equipped with a sight glass. This sight glass will be monitored daily for the first three days when the reactor cavity is flooded and weekly thereafter for the remaining period while the reactor cavity is flooded, in order to detect any potential leakage of water. If any leakage is detected, Operations will evaluate and determine if the water is going to the space around the Drywell shell. In addition, the sand cushion drains will be monitored monthly for signs of moisture. Procedures will be developed or revised to incorporate the subject actions prior to flooding the reactor cavity.

NRC Item 3

Confirm the information listed in Table 1 of Generic Letter 87-05 is correct with regard to your facility.

Response to Item 3

Detroit Edison has reviewed the information in Table 1 of Generic Letter 87-05 with respect to Fermi 2. In the column title "Gap Material" it states "foam." To be more accurate, the gap material used at Fermi 2 is Polyurethane foam. The other information listed for Fermi 2 is correct.

Additional Information Requested

Mark I owners whose design is such that the sand cushion is open to the gap between the drywell and surrounding concrete were required to submit additional information. This additional information is supplied in the most part in the response to the NRC Additional Item below. Fermi design does have the open gap between the drywell and surrounding concrete. Drawing 6C721-2358 and 7M721-2219 (attached) shows the design employed by Detroit Edison for the subject area. In addition, Figures 1 and 2 (attached) show the current Fermi design and the Oyster Creek design of the drain system. It can be seen that the Fermi Design contains more drain lines which provide for better drainage.

NRC Additional Item

Provide any plans for performing ultrasonic thickness measurements of the drywell shell plates and adjacent to the sand cushion or any other

proposed actions to ascertain if plate degradation has occurred. Since the degradation that has occurred at Oyster Creek is localized, sufficient details should be included to show that the sampling basis for ultrasonic thickness measurements is adequate in terms of size and test location.

Response to NRC Additional Item

Drawing 6C721-2358 (attached) shows the subject area. In order to ultrasonic test (UT) the drywell plates adjacent to the sand cushion, concrete would have to be cut, removed and then replaced once the UT was over. This process is neither feasible nor would it be advantageous for the reasons indicated below:

First, the design of the refueling bellows assembly minimizes the possibility of leakage into the drywell gap. The leakage of the drywell to cavity seal bellows during refueling was considered to be a source of leakage into the sand cushion at Oyster Creek. The refueling bellow assembly forms a seal between the drywell and the refueling pool to permit flooding of the refueling pool. The drywell seal bellows at Fermi 2 extends from the drywell shell out to the refueling pool and consists of a cylindrical, one piece stainless steel bellows (drawing 5M721-2169 attached). All seal boundaries consist of welded steel and contain no active components.

Secondly, a different type of coating is utilized at Fermi 2 for the exterior of the drywell. At Fermi 2, the full length of the exterior surface of the drywell is coated with Carboline Carbo Zinc 11 (drawing B2-93 69-5562. This is a self-curing zinc-filled inorganic two-part basic zinc silicate complex supplying galvanic corrosion protection to steel surfaces in marine environments. The coating is insoluble in water and resistant to aggressive water and solvents (UFSAR subsection 6.2.1.6 attached). The polyurethane foam sheets located within the drywell gap are coated with an epoxy resin binder (on both sides), to prevent water leakage into the foam (Specification 3071-48). In addition, the Fermi 2 drywell, in the vicinity of the sand cushion, is 1.5 inches thick (drawing 5C-721-2701 attached).

Third, a walkdown found no recent indications of moisture in the sand cushion drain lines.

Finally, the area directly below the drywell seal bellows contains a 2" drywell to reactor well seal drain, a 2" liner drain, and a 4" drywell seal rupture drain (Figures 1 and 2 attached). Should the refueling bellow assembly fail, this design minimizes the possibility of water leaking into the sand cushion. Instead, the leakage would enter these drain lines.