Peter Dietrich
Senior Vice President and Chief Nuclear Officer

DTE Energy Company
6400 N. Dixie Highway, Newport, MI 48166
Tel: 734.586.4153 Fax: 734.586.1431
Email: peter.dietrich@dteenergy.com

June 19, 2020
NRC-20-0025

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555-0001

Fermi 2 Power Plant
NRC Docket No. 50-341
NRC License No. NPF-43

Subject: Additional Changes in DTE Commitment Regarding Containment Coatings

References:
1) DTE Letter to NRC, "DTE Commitment Regarding Containment Coatings," NRC-19-0065, dated September 26, 2019 (ML19270E090)
2) NRC Letter to DTE, "Confirmatory Action Letter – Fermi Power Plant, Unit 2 Commitment to Address Degraded Torus Coatings," EA-19-097, dated October 4, 2019 (ML19280D881)
3) DTE Letter to NRC, "Change in DTE Commitment Regarding Containment Coatings and Additional Information," NRC-20-0019, dated March 13, 2020 (ML20073N414)
4) NRC Letter to DTE, "Revision to Confirmatory Action Letter – Fermi Power Plant, Unit 2 Commitment to Address Degraded Torus Coatings," EA-19-097, dated March 27, 2020 (ML20087L769)

In Reference 1, DTE Electric (DTE) made a commitment to mitigate the degraded coating in the submerged portion of the pressure suppression chamber, also referred to as the torus. The DTE commitment was subsequently confirmed by the NRC in the Confirmatory Action Letter (CAL) in Reference 2. The CAL indicated that the NRC Region III Administrator should be notified, in writing, if for any reason DTE intended to change, deviate from or not complete the documented commitment set forth in References 1 and 2, and advise the NRC Region III Administrator, in writing, of the changes or deviations. Consistent with this directive in the CAL, DTE notified the NRC of a change in the commitment in Reference 3. The NRC acknowledged the change in commitment in Reference 4.

DTE is currently performing the necessary actions to complete the commitment as stated in References 3 and 4. Removal of torus coating in the submerged portion of the torus has been performed. In addition, removal of coating from torus internals in the submerged portion of the torus has been performed with the exception of the internal surfaces of the downcomers and the internal surfaces of process piping as indicated in References 3 and 4. DTE has also applied a new qualified coating capable of withstanding design basis accident conditions.

During performance of these activities, DTE has identified issues that may prevent the current commitment from being fulfilled as explicitly written in References 3 and 4 but will not impact the overall intent of the commitment. The purpose of this letter is to provide clarifying changes to the commitment to address the new discoveries.

Stainless Steel Components

In clarifications provided in Enclosure 1 to Reference 3, DTE identified that components that were previously uncoated would remain uncoated. The safety relief valve (SRV) t-quenchers and torus suction strainers were provided as examples but did not represent an all-inclusive list of uncoated components. Most of the uncoated components in the torus are stainless steel. Corrosion in the torus water environment is not a concern for stainless steel and therefore protective coating for stainless steel components is not necessary. From a design perspective, it is preferred that the stainless steel components remain uncoated as it eliminates a potential source of coating debris in the unlikely event of an accident.

During performance of the coating removal activity, DTE identified the presence of stainless steel material that had been previously coated prior to this refueling outage. The stainless steel components that had been coated included, but were not limited to, portions of the mitigation beam and portions of the ramshead support plate. The presence of coated stainless steel in the torus was entered into the Fermi 2 Corrective Action Program. Review of the design of these components has confirmed that the stainless steel design is acceptable, and the components do not require protective coating to perform their intended function in the torus environment. Consistent with the goal of minimizing potential sources of debris in the unlikely event of an accident, DTE has determined that these stainless steel components should be left uncoated.

Unqualified Coatings

As described above, removal of torus coatings has been performed. Following coating removal, and prior to new coating application, inspections of the torus were performed. These inspections identified small areas where the existing coating had not been removed by pressure washing and blasting. In general, these areas were not readily accessible, such as the interior of weep holes and the interior edges of some sharp corners. The presence of this small amount of unremoved coating in the torus was entered into the Fermi 2 Corrective Action Program. The surface area represented by such areas of unremoved coating was estimated to be less than 0.01% of the coated surface area of the submerged portion of the torus (i.e., a coating removal rate of greater than 99.99%). Further review identified a potential for removal of this remaining coating using hand tools. However, even if the coating could be removed using hand tools, it was identified

that the inaccessible nature of these areas could also prevent establishment of a proper surface finish for new coating application. Since the new coating applied to these areas would not be considered qualified under either of these circumstances (i.e., over unremoved coating or over areas without proper surface finish), DTE elected to apply the new coating directly over the unremoved coating for these small areas.

The new coating being applied is a qualified coating capable of withstanding design basis accident conditions for application on carbon steel. As described previously, the new coating will not be applied to stainless steel components. There are several surface interfaces of torus components that required masking to allow the coating to be applied to one side of the interface without applying coating to the adjacent side (e.g., carbon and stainless steel interfaces). In order to ensure the carbon steel side of the interface receives proper coverage of coating, the masking is performed in a manner which allows for a small band or overlap of coating to be applied to the stainless steel side of the interface. The creation of these types of small overlap bands has been minimized to the extent possible.

Impact on Commitment

Following these discoveries, the DTE commitment as stated in References 3 and 4 was reviewed to determine if there was any potential impact. The commitment states the intent to mitigate degraded coatings by removal of all coatings in the submerged portion of the torus. Exceptions in the current commitment are provided for specific components which may not need their coating removed. The discovery and identification of small areas where coating could not be removed using pressure washing and blasting, other than those specific components listed in the exceptions, is not explicitly addressed. However, coating removal was performed to the extent possible and achieved a removal rate of over 99.99% which is effectively all. The planned corrective action to leave this unremoved coating in place is not explicitly addressed by the previous exceptions or clarifications. Therefore, the following change to the commitment (added text shown in italics) is provided to address this new discovery or other similar discoveries:

> DTE commits to mitigate the degraded coating in the submerged portion of the torus by removing all coating *(i.e., to the extent possible)* in the submerged portion of the torus…

The wording of the current commitment also implies that all components which had their coating removed will have new coating applied. Exceptions in the current commitment are provided for components which may not need their coating removed and so will not be recoated. Clarifications in Reference 3 also addressed components that were already uncoated and will be left uncoated. The discovery and identification of coated stainless steel components and the planned corrective action to remove the coating and leave them uncoated is not explicitly addressed by the previous exceptions or clarifications. Therefore, the following change to the commitment (added text shown in italics) is provided to address this new discovery or other similar discoveries:

> *Torus components that do not require protective coating to perform their intended function may be left uncoated.*

The wording of the current commitment also implies that all the new coating to be applied in the submerged portion of the torus will be qualified coating capable of withstanding design basis accident conditions. No exceptions or clarifications are currently provided. The discovery and identification of small areas where coating qualification cannot be ensured and the planned corrective action to leave those areas of coating as unqualified is not explicitly addressed. Therefore, the following change to the commitment (added text shown in italics) is provided to address this new discovery or other similar discoveries:

> *Following completion of these activities, unqualified coatings in the torus will be explicitly addressed for potential impact on ECCS strainers in the same manner as other unqualified coatings in primary containment.*

The above clarifications and changes do not modify the intent of the commitment; degraded coatings in the submerged portion of the torus will have been mitigated following completion of the commitment. In addition, the concerns identified in the NRC Special Inspection associated with the commitment, namely the potential impact of degraded coatings on ECCS strainers, will have been resolved. The full text of the DTE commitment, including these changes, is provided as follows:

> DTE commits to mitigate the degraded coating in the submerged portion of the torus by removing all coating (i.e., to the extent possible) in the submerged portion of the torus and applying a qualified coating capable of withstanding design basis accident conditions. Removal of coating and application of qualified coating will also be performed for torus internals in the submerged portion of the torus with the exception of the internal surfaces of the downcomers and the internal surfaces of process piping. The internal surfaces of the submerged portion of the downcomers and the coated internal surfaces of the submerged portion of process piping will be inspected and degraded coating, if any, will be removed during the next refueling outage. Torus internals that do not require protective coating to perform their intended function may be left uncoated. Following completion of these activities, unqualified coatings in the submerged portion of the torus will be explicitly addressed for potential impact on ECCS strainers in the same manner as other unqualified coatings in primary containment. This DTE commitment will be completed prior to resuming power operation following the next refueling outage. The next refueling outage will begin no later than April 30, 2020.

DTE is not clarifying, modifying, or deviating from the commitment schedule as originally stated in References 1 through 4. The current refueling outage began on March 21, 2020 (i.e., the outage began prior to April 30 as committed) and the activities will be completed prior to resuming power operation from the current refueling outage.

Should you have any questions or require additional information, please contact Ms. Margaret Offerle, Manager – Nuclear Licensing, at (734)586-5076.

Sincerely,

Peter Dietrich
Senior Vice President and Chief Nuclear Officer

cc: NRC Project Manager
NRC Resident Office
Regional Administrator, Region III