J. Todd Conner
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DTE Energy

10 CFR 50.54(f)

June 26, 2014
NRC-14-0052

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington D C 20555-0001

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

2) NRC Letter, "Request For Information Pursuant to Title 10 of the Code of Federal Regulations 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3 of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident," dated March 12, 2012

3) DTE Electric Company Letter to NRC, "DTE Electric Submittal of Flooding Hazard Reevaluation Report in Response to March 12, 2012 Information Request Regarding Flood Protection Evaluations," NRC-13-0013, dated March 8, 2013

4) NRC Letter, "Request for Additional Information Regarding Fukushima Lessons Learned – Flooding Hazard Reanalysis Report (TAC No. MF1101), dated June 19, 2014

Subject: Response to NRC Request for Additional Information Regarding the Fermi 2 Flood Hazard Reevaluation Report (TAC No. MF1101)

On March 12, 2012, the NRC issued Reference 2 to all power reactor licensees and holders of construction permits in active or deferred status. Reference 2 requested specific Actions, Information and Responses associated with Recommendation 2.1 regarding flooding evaluations.

In Reference 3, DTE Electric Company (DTE) submitted the Fermi 2 Flood Hazard Reevaluation Report as requested in Reference 2.

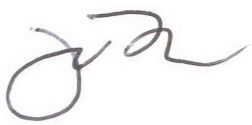
In Reference 4, the NRC provided a Request for Additional Information (RAI) regarding the Fermi 2 Flood Hazard Reevaluation Report.

The Enclosure to this letter provides DTE's response to the Request for Additional Information. A compact disc containing the requested electronic files is also enclosed

No new commitments are being made in this submittal.

Should you have any questions or require additional information, please contact Mr. Kirk R. Snyder, Manager, Industry Interface at (734) 586-5020.

Sincerely,



Enclosures

cc: NRC Project Manager (w/ cd)
NRC Resident Office (w/o cd)
Reactor Projects Chief, Branch 5, Region III (w/o cd)
Regional Administrator, Region III (w/o cd)
Michigan Public Service Commission,
Regulated Energy Division (kindschl@michigan.gov) (w/o cd)

I, J. Todd Conner, do hereby affirm that the foregoing statements are based on facts and circumstances which are true and accurate to the best of my knowledge and belief.

On this 26 day of June, 2014 before me personally appeared J. Todd Conner, being first duly sworn and says that he executed the foregoing as his free act and deed.

Sharon S. Marshall
Notary Public

SHARON S. MARSHALL
NOTARY PUBLIC, STATE OF MI
COUNTY OF MONROE
MY COMMISSION EXPIRES Jun 14, 2019
ACTING IN COUNTY OF Monroe

Enclosure to
NRC-14-0052

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

DTE Response to NRC Request for Additional Information Regarding the Fermi 2 Flood Hazard Reevaluation Report

NRC Request for Additional Information Regarding the Fermi 2 Flood Hazard Reevaluation Report

RAI (Local Intense Precipitation):

On the basis of LIP analysis performed by the licensee, the estimated maximum water surface elevation at the Fermi 2 site is 583.4 ft. resulting from the onsite probable maximum flood (PMF). The acceptance criterion for the LIP analysis chosen by the licensee is 583.5 ft. (page 4, calculation 177910.51.1001 R0), which is the elevation of door sills of Category I structures. The Nuclear Regulatory Commission staff's review indicates that the licensee may have underestimated the base elevation of onsite cross section B, thus resulting in a water surface elevation that is lower than the licensee's acceptance criterion. The staff's visual observation of the site layout indicates that the base elevation along cross section B mainly varies from 582 ft. to 583 ft. based on the site plot plan survey points and Figure 26 (calculation document 177910.51.1001 R0). The staff requests that the licensee provide additional information regarding estimation of the base elevation along cross section B and selection of acceptance criterion for the LIP analysis. Specifically, staff requests the following:

a) Provide a basis to explain how the base elevation (582 ft.) along cross section B was selected. If an average base elevation along cross section B is greater than 582 ft., provide an updated estimate for the maximum water surface elevation. Also provide the supporting onsite ground surface elevation in native electronic format, if available.

b) Discuss the basis for the acceptance criterion of 583.5 ft. for the LIP analysis.

Response to RAI:

a) Within Calculation 177910.51.1001, cross section B was given a constant bottom elevation of 582.0 ft Plant Datum (PD) as this is approximately the onsite ground surface elevation, (contour lines), associated with the drainage area boundary located to the east of cross section B. It was conservatively assumed for this cross section that the entire drainage area to the east will flow to the west through this cross section. As shown on Figure 1, there are some elevations along the cross section that are below 582.0 ft PD and some areas that are above 582.0 ft PD.
Because there are some higher elevations than 582.0 ft PD on cross section B, it was decided to also compute the runoff depth for cross section C in the Location C drainage area. This cross section C took into account a cross section bottom elevation of 582.5 ft PD. By using a higher channel bottom elevation for cross section C, the drainage area to cross section C will be smaller. The smaller drainage area associated with cross section C was the portion that would drain past the RHR Complex building passing through the higher 582.5 ft PD channel bottom elevation. The smaller drainage area for cross section C is shown on Figure 2. The smaller drainage area for cross section C produced a lower water surface elevation (583.02 ft PD) than cross section B (583.4 ft PD).

Therefore, to maximize the drainage area that was conservatively assumed to drain to the west, passing through cross section B, the cross section's channel bottom elevation was set to the approximate drainage area boundary's onsite ground surface elevation contributing to that cross section, which is 582.0 ft PD. If cross section B were to have a higher channel bottom elevation, then a smaller drainage area would contribute to that cross section with a higher channel bottom elevation, as described above for cross section C.

In conclusion, for Calculation 177910.51.1001 the base elevation chosen for cross section B is 582.0 ft PD. This elevation conservatively maximizes the flow through the cross-section and results in a higher water surface elevation than if a greater base elevation were used.

Provided in the enclosed compact disc are the supporting onsite ground surface elevations in native electronic format. The files (listed below) are the Map A-2100 Plot Plan – PLANT AREA NORTH END revY.tiff, and the Estimated Contours shapefiles. The onsite ground surface elevations (contour lines) were estimated and drawn by referencing spot elevations off of Map A-2100 Plot Plan – PLANT AREA NORTH END revY.tiff and placing the onsite ground surface elevations in the estimated locations. The estimated onsite ground surface elevations were drawn in a Geographical Information System (GIS) as a polygon, not as a polyline. Therefore, when the GIS software labels the onsite ground surface elevation polygon, it places the label at the best fit location inside the polygon. That is why 581.5 and 582 are placed approximately in the center of the drawing in the Calculation 177910.51.1001, because they are actually being placed inside the 581.5 and 582 ft PD onsite ground surface elevation polygons. To clarify this issue, Figure 1 in this response illustrates the elevation labels at the edge of the estimated onsite ground surface elevations (contour lines).

List of files on compact disc:

- Map A-2100 Plot Plan – PLANT AREA NORTH END revY.tiff
- Contours_Estimated.dbf
- Contours_Estimated.prj
- Contours_Estimated.sbn
- Contours_Estimated.sbx
- Contours_Estimated.shp
- Contours_Estimated.shx

Figure 1. Cross section B with estimated onsite ground surface elevations with identification labels.

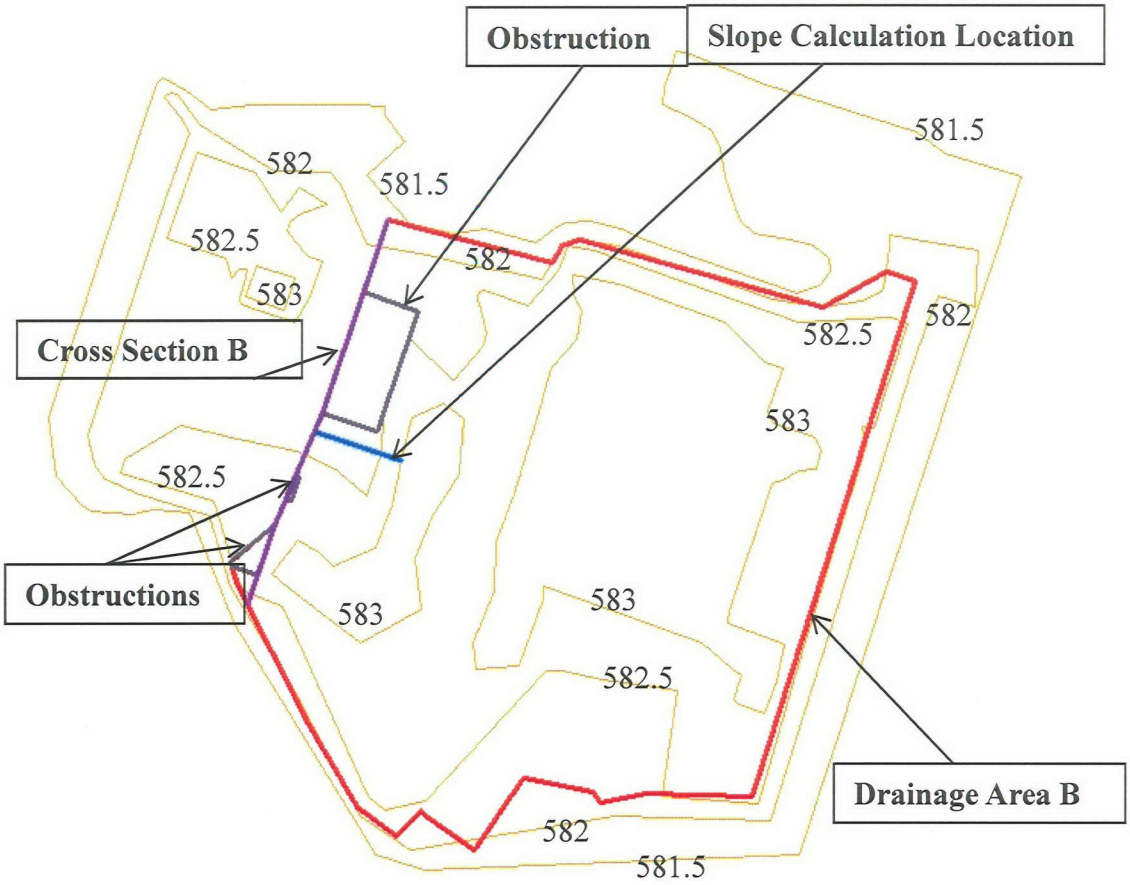
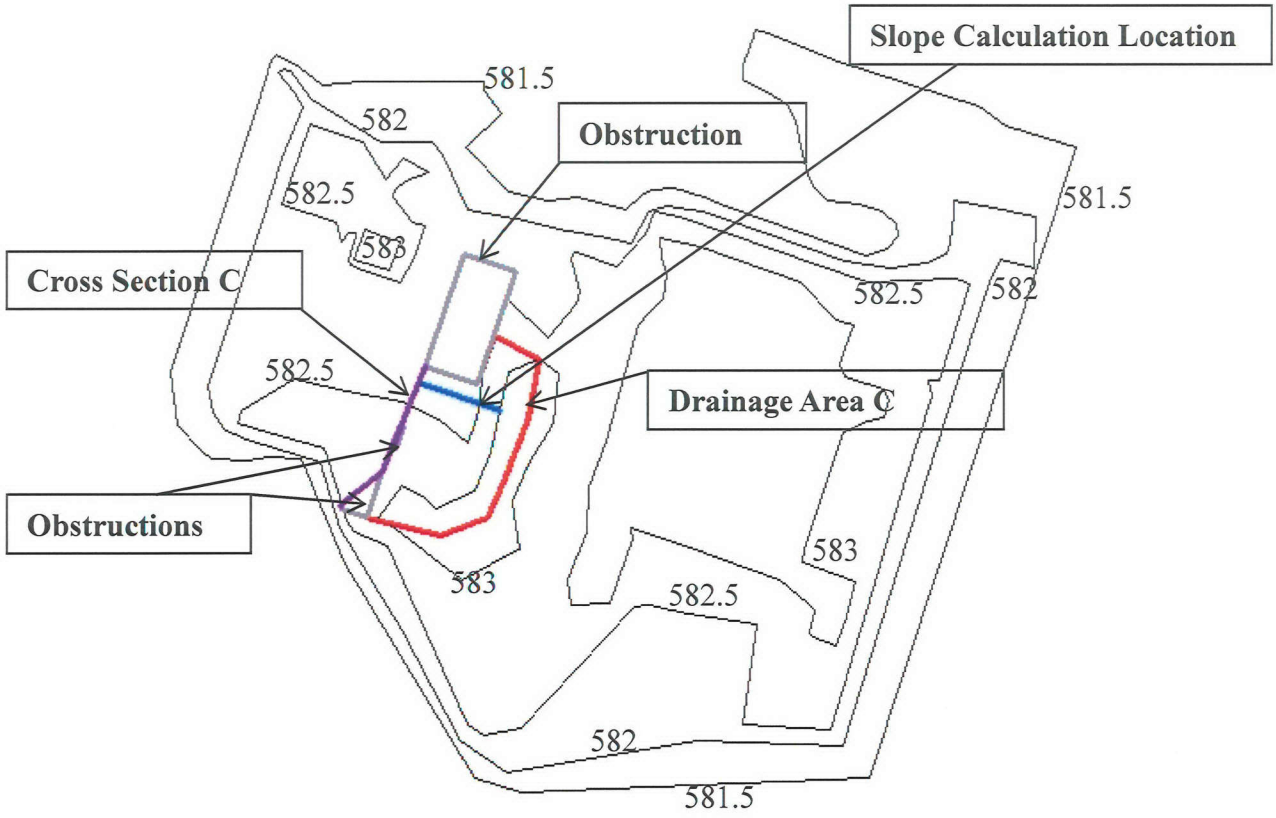


Figure 2. Cross section C smaller drainage area shown draining to cross section C with bottom elevation 582.5 ft PD



b) The acceptance criterion of 583.5 ft is the same acceptance criterion as was used in the original LIP analysis documented in the Fermi 2 UFSAR. This elevation corresponds to the height of the door sills of category one structures. The original analysis is described in UFSAR Section 2.4.2.2, Flood Design Considerations.