

Raymond A. Lieb
Vice President, Nuclear419-321-7676
Fax: 419-321-7582December 20, 2012
L-12-432

10 CFR 54

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

SUBJECT:

Davis-Besse Nuclear Power Station, Unit No. 1
Docket No. 50-346, License Number NPF-3
Supplemental Reply to Request for Additional Information for the Review of the
Davis-Besse Nuclear Power Station, Unit No. 1, License Renewal Application
(TAC No. ME4640)

By letter dated August 27, 2010 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML102450565), FirstEnergy Nuclear Operating Company (FENOC) submitted an application pursuant to Title 10 of the *Code of Federal Regulations*, Part 54 for renewal of Operating License NPF-3 for the Davis-Besse Nuclear Power Station, Unit No. 1 (Davis-Besse). By letter dated May 24, 2011 (ML11151A090), FENOC submitted a response to Nuclear Regulatory Commission (NRC) request for additional information (RAI) B.2.2-3, stating that the aboveground diesel oil storage tank configuration included a sealant between the bottom edge of the tank and the concrete pad. However, on October 25, 2012, FENOC identified that the diesel oil storage tank did not have a sealant installed at the bottom edge of the tank, contrary to the description provided in the response to RAI B.2.2-3. On November 8, 2012, FENOC informed the NRC there was no sealant at the bottom edge of the diesel oil storage tank, and therefore the description of the diesel oil storage tank provided in the response to RAI B.2.2-3 was incorrect. It was subsequently identified that the FENOC response to NRC RAI A.1.2-1 by letter dated July 22, 2011 (ML11208C274) also stated that a sealant was installed, and was therefore incorrect. This letter provides a supplemental response to RAI B.2.2-3 to describe the as-found condition of the diesel oil storage tank and the actions taken to install sealant at the bottom edge of the tank, correcting the discrepancies.

The Attachment provides the FENOC supplemental response to NRC RAI B.2.2-3. The NRC request is shown in bold text followed by the FENOC response.

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There are no regulatory commitments contained in this letter. If there are any questions or if additional information is required, please contact Mr. Clifford I. Custer, Fleet License Renewal Project Manager, at 724-682-7139.

I declare under penalty of perjury that the foregoing is true and correct. Executed on December 20, 2012.

Sincerely,



Raymond A. Lieb

Attachment:

Supplemental Reply to Request for Additional Information for the Review of the Davis-Besse Nuclear Power Station, Unit No. 1 (Davis-Besse), License Renewal Application, Section B.2.2

cc: NRC DLR Project Manager
NRC Region III Administrator

cc: w/o Attachment
NRC DLR Director
NRR DORL Project Manager
NRC Resident Inspector
Utility Radiological Safety Board

Attachment
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Supplemental Question RAI B.2.2-3

The NRC initiated a telephone conference call with FENOC on November 20, 2012, to discuss the condition of the diesel oil storage tank and the related FENOC response to NRC request for additional information (RAI) B.2.2-3 submitted by FENOC letter dated May 24, 2011 (ML11151A090). During a preventive maintenance task, it was discovered that there was no visible moisture barrier between the bottom of the diesel oil storage tank and the concrete support pad for the tank. Also, areas of corrosion were discovered on the horizontal flange at the bottom of the tank. The preventive maintenance task included an ultrasonic test (UT) examination of the tank bottom.

Following the discussion, both parties agreed that FENOC should submit a supplemental response to RAI B.2.2-3 to address the following items:

1. the as-found condition of the diesel oil storage tank;
2. that the condition was entered into the Corrective Action Program;
3. details of the UT examination and the results; and,
4. whether the design criteria for the tank was met, and if not, a justification as to why the condition of the tank is acceptable.

SUPPLEMENTAL RESPONSE RAI B.2.2-3

1. An external inspection of the diesel oil storage tank was performed by a tank inspection vendor during a periodic preventive maintenance task. The vendor performed the inspection using American Petroleum Institute (API) Standard 653, "Tank Inspection, Repair, Alteration, and Reconstruction." The as-found condition of the exterior of the storage tank is summarized as follows:
 - The concrete pad foundation was in serviceable condition with minor cracks observed throughout.
 - No moisture barrier was observed between the tank horizontal bottom flange, which extends approximately 1-1/2 inches beyond the shell of the tank, and the concrete pad. Corrosion, including rust scale and minor pitting, was noted at the tank horizontal bottom flange to concrete pad interface. The vendor

recommended cleaning, priming and recoating the areas of corrosion, and caulking or sealing the area between the bottom horizontal flange and concrete pad.

- The tank was sufficiently grounded.
 - The tank shell showed minor corrosion on the first course near the bottom, but no bulging or distortions of the shell were identified. The tank coating (applied in 2006) was noted to be serviceable with no evidence of deterioration. UT thickness readings were taken on all three courses of the shell going up the vertical stairway; readings revealed no measured wall loss. No evidence of out of roundness was observed. Tank shell welds shows no evidence of corrosion to date.
 - The fixed roof plates were free from corrosion. Roof plates and shell were free from significant distortion.
 - Nozzles and flanges were in serviceable condition with no evidence of leakage noted. Nozzles had adequate reinforcement where required.
 - The ladders, platforms, and handrails were in serviceable condition.
 - No weld repairs were recommended as a result of the external visual inspection.
2. A Condition Report was written and entered into the FENOC Corrective Action Program to document two concerns related to the diesel oil storage tank external as-found condition:
- Contrary to the Davis-Besse design drawing, no moisture barrier was installed between the tank horizontal bottom flange and the concrete pad.
 - The FENOC response to NRC RAI B.2.2-3 by letter dated May 24, 2011 (ML11151A090), which was based on the design drawing, stated that a sealant was installed between the tank and the foundation.

Further investigation revealed that FENOC's response to NRC RAI A.1.2-1 by letter dated July 22, 2011 (ML11208C274) also stated that a sealant was installed. On November 8, 2012, FENOC informed the NRC of the missing sealant at the base of the diesel oil storage tank and the discrepancy with the RAI responses.

A work order was created to install a moisture barrier at the base of the diesel oil storage tank. Sand blasting was performed on the tank bottom flange, bottom to shell weld, and the concrete pad around the flange to remove the corrosion from the tank flange and prepare the surfaces for priming. An industrial primer and joint

sealant were applied according to the manufacturer's instructions and FENOC procedures, coating the bottom to shell weld, the tank bottom flange, the gap between the tank bottom flange and the concrete pad, and the concrete pad several inches beyond the edge of the bottom flange. The sealant installation was completed on December 13, 2012.

Following the correction of the configuration control discrepancy by the installation of the moisture barrier between the diesel oil storage tank and the tank foundation, the FENOC responses to RAI B.2.2-3 by letter dated May 24, 2011 (ML11151A090), and RAI A.1.2-1 by letter dated July 22, 2011 (ML11208C274), as described above, are complete and accurate.

3. An internal inspection of the diesel oil storage tank was also performed by the tank inspection vendor during the periodic preventive maintenance task. The vendor performed the inspection using American Petroleum Institute (API) Standard 653, "Tank Inspection, Repair, Alteration, and Reconstruction." The storage tank was in service during the inspection. The purpose of the internal inspection was to measure the remaining bottom plate thickness of the diesel oil storage tank.

A robotic crawler with ultrasonic test (UT) probes was lowered into the diesel oil storage tank through the roof opening. Nine (9) UT runs of approximately 20 feet each were systematically taken of the tank bottom in a star pattern. Thickness measurements were taken continuously during the runs and fed into a computer for data capture and later evaluation. During the inspection approximately 345,000 data points were taken. All collected data was analyzed off site.

The nominal thickness of the diesel oil storage tank floor is 0.250 inches. The results of the UT readings showed that the average minimum measured bottom thickness was 0.247 inches. The minimum measured bottom thickness was 0.244 inches. There were no runs where plate thinning of 10 percent or greater was observed during the inspection.

4. Based on the external and internal inspections of the diesel oil storage tank, the design criteria for the tank are met. The external visual inspection findings and external UT thickness readings taken on shell, nozzles, and roof plates demonstrates that the tank is suitable for continued service within the current operating parameters, with an estimated remaining life of greater than 20 years. The internal UT measurements of the bottom of the tank bottom plate were evaluated using an Extreme Value Analysis, which showed that the probability of the thickness of any portion of the bottom plate being less than 0.243 inches is less than one percent. The vendor concluded that the remaining life thickness of the tank bottom is greater than 20 years.