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U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

SUBJECT:

Davis-Besse Nuclear Power Station, Unit No. 1
Docket No. 50-346, License No. NPF-3
Deviation from MRP-227A, "Materials Reliability Program: Pressurized Water Reactor Internals Inspection and Evaluation Guidelines"

In accordance with Nuclear Energy Institute (NEI) 03-08, "Guideline for the Management of Materials Issues," FirstEnergy Nuclear Operating Company (FENOC) is informing the Nuclear Regulatory Commission (NRC) of a deviation from MRP-227A.

The following is a summary of the technical justification for the deviation from MRP-227A inspection requirements for primary and expansion reactor internals components listed in Table 4-1, "B&W Plants Primary Components," and Table 4-4, "B&W Plants Expansion Components." This information is being provided by FENOC for the Davis-Besse Nuclear Power Station (DBNPS), Unit. No. 1 and is for information only. FENOC is not requesting any action from the NRC staff.

Specifically, the deviation addresses an MRP-227A "needed" requirement because MRP-227A Tables 4-1 and 4-4 cannot be implemented as written. MRP-227A, Table 4-1, for primary component, Lower Grid Assembly, Alloy X-750 dowel-to-guide block welds is no longer applicable to DBNPS because the block was modified after hot functional testing and the X-750 material and associated nickel based weld were removed and replaced with stainless steel materials. The expansion link for the Alloy X-750 dowel-to-guide block welds is the Alloy X-750 dowel locking welds to the upper and lower grid fuel assembly support pads. Table 4-4 states that the upper grid assembly, X-750 dowel-to-upper-grid fuel assembly support pad welds applies to all plants with the exception of DBNPS. However, after review of the fabrication records, Alloy X-750 dowel-to-upper grid fuel assembly support pads were transferred to the DBNPS contract and installed in the plant.

The deviation replaces the MRP-227A, Table 4-1, Primary Component, Lower Grid Assembly, Alloy X-750 dowel-to-guide block welds with the current MRP-227A, Table 4-4, Expansion Component, Lower Grid Assembly, lower grid fuel assembly Alloy X-750 dowel-to-lower grid fuel assembly support pad welds. The Alloy X-750 dowel-to-upper grid fuel assembly support pads will become the linked expansion component for the Lower Grid Assembly, lower grid fuel assembly support.

The deviation will add two new table rows applicable to DBNPS as follows.

Table 4-1 B&W Plants Primary Components

| Item | Applicability | Effect (Mechanism) | Expansion Link (Note 2) | Examination Method/Frequency (Note 2) | Examination Coverage |
|---|---------------|---|---|--|---|
| Lower Grid Assembly Alloy X-750 dowel-to-lower grid fuel assembly support pad welds | Davis-Besse | Cracking (SCC), including the detection of separated or missing locking welds, or missing dowels. | Alloy X-750 dowel-to-upper grid fuel assembly support pad welds | Initial visual (VT-3) examination no later than two refueling outages from the beginning of the license renewal period. Subsequent examinations on the 10-year ISI interval. | Accessible surfaces of 100% of the dowel locking welds. |

Table 4-4 B&W Plants Expansion Components

| Item | Applicability | Effect (Mechanism) | Primary Link (Note 1) | Examination Method/Frequency (Note 1) | Examination Coverage |
|---|---------------|--|---|---|--|
| Upper Grid Assembly Alloy X-750 dowel-to-upper grid fuel assembly support pad welds | Davis-Besse | Cracking (SCC), including the detection of separated or missing locking welds, or missing dowels | Alloy X-750 dowel-to-lower grid fuel assembly support pad welds | Visual (VT-3) examination. Subsequent examinations on the 10-year ISI interval unless an applicant/licensee provides an evaluation for NRC staff approval that justifies a longer interval between inspections. | Accessible surfaces of 100% of the dowel locking welds |

By letter dated July 20, 2015 the Electric Power Research Institute Materials Reliability Program has been notified of the aforementioned needed revision to MRP-227 to address the DBNPS as-built configuration.

The duration of this deviation is from April 22, 2015 until MRP-227 is revised to include the as-built configuration for DBNPS.

Because the alternate actions meet the objective and level of conservatism of MRP-227A, there is no postulated impact to safety.

There are no regulatory commitments contained in this letter. If there are any questions or if additional information is required, please contact Mr. Thomas A. Lentz, Manager – Fleet Licensing at (330) 315-6810.

Sincerely,

A handwritten signature in cursive script, appearing to read "Brian D. Boles".

Brian D. Boles

cc: NRC Region III Administrator
NRR Project Manager
NRC DLR Project Manager
NRC Resident Inspector
NRR Division of Component Integrity
Utility Radiological Safety Board