**FENOC**

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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 No. NPF-3
Response to Davis-Besse Nuclear Power Station, Unit No. 1 – Individual Plant Actions RE: Pressurized-Water Reactor Owners Group Topical Report BAW-2374, Revision 2, "Risk-Informed Assessment of Once-Through Steam Generator Tube Thermal Loads Due to Breaks in Reactor Coolant System Upper Hot-Leg Large-Bore Piping" (TAC No. ME1798)

On June 25, 2009, the U.S. Nuclear Regulatory Commission (NRC) held a public meeting with representatives of the Pressurized-Water Reactor Owners Group (PWROG) at NRC Headquarters. The purpose of the meeting was to discuss issues related to PWROG Topical Report (TR) BAW-2374, Revision 2, "Risk-informed Assessment of Once-Through Steam Generator Tube Thermal Loads due to Breaks in Reactor Coolant System Upper Hot-Leg Large-Bore Piping."

By letter dated July 31, 2009 (Agencywide Documents Access and Management System [ADAMS] Accession No. ML092120411), the NRC staff requested that the FirstEnergy Nuclear Operating Company (FENOC) provide a written response to a list of actions that were taken from the June 25, 2009 meeting summary. The FENOC response to this request for the Davis-Besse Nuclear Power Station (DBNPS) is provided in Attachment 1.

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The regulatory commitment contained in this submittal is listed in Attachment 2. If there are any questions or additional information is requested, please contact Mr. Thomas A. Lentz, Manager – Fleet Licensing, at (330) 761-6071.

Sincerely,

Barry Allen

Barry Allen

Attachment:
1. Response to the NRC letter dated July 31, 2009, "Individual Plant Actions RE: Pressurized-Water Reactor Owners Group Topical Report BAW-2374"
2. Regulatory Commitment List

cc: NRC Region III Administrator
NRC Resident Inspector
NRR Project Manager
Utility Radiological Safety Board

The NRC requests that each Babcock and Wilcox (B&W) licensee submit a letter providing plans to address the following items resulting from the June 25, 2009, public meeting regarding once-through steam generator tube loads under conditions resulting from postulated breaks in reactor coolant system upper hot-leg large-bore piping. The staff request is provided below in bold type followed by the FENOC response for Davis-Besse Nuclear Power Station (DBNPS).

1. **Confirmation that its justification for continued operation (JCO) for addressing the tube integrity following a large break loss-of-coolant accident (LBLOCA) remains valid. (All B&W licensees).**

FENOC did not prepare a JCO because there was sufficient information to show that the steam generators were operable in the initial condition report assessment.

The DBNPS Once-Through Steam Generator (OTSG) Functional Evaluation dated April 19, 2000, evaluated the steam generators against conditions expected for a LBLOCA in the upper hot-leg region of the reactor coolant system. This evaluation assessed the tube to tubesheet joint, the tube and sleeve repair criteria, the tube repair processes, installed repair hardware, and in-service tube indications (tube to tube support wear). FENOC reviewed the evaluation and determined that it is current and valid for the DBNPS OTSGs. FENOC monitors this through steam generator condition monitoring assessments performed following each steam generator inspection. The most recent evaluation was performed following completion of the 2008 cycle 15 steam generator inspection.

2. **Confirmation that compensatory measures, such as changes to emergency operating procedures, have been incorporated into plant procedures and operator training has been performed. (All B&W licensees)**

The DBNPS steam generator tube rupture procedure includes an attachment to control and track secondary side isolation if a steam generator tube rupture is suspected. This action to isolate the secondary side was previously reported under B&W Owners Group Letter OG-1802, dated November 27, 2000 (Agencywide Documents Access and Management System [ADAMS] Accession No. ML003774333). This emergency operating procedure action remains appropriate. Training has been performed through both Initial License Operator Training and continues to be performed through Licensed Operator Continuing Training. There are no other compensatory measures to be addressed for this issue.

**3. Confirmation that 10 CFR 50.46(a)(3) reporting requirements have been satisfied. (All B&W licensees)**

In accordance 10CFR 50.46 (a)(1)(i), emergency core cooling system performance must be calculated for a number of postulated loss of coolant accidents (LOCA) to provide assurance that the most severe postulated LOCAs are calculated. This postulated accident (LBLOCA) in the upper hot-leg region of the reactor coolant system however, is not limiting for fuel peak center line temperature, for fuel local oxidation, hydrogen generation, coolable core geometry, and for long-term core cooling because adequate pump net positive suction head is preserved and long-term core cooling is maintained with automatic and EOP directed follow-up actions to isolate portions of the secondary system with indications of steam generator tube rupture.

Based on the above discussion, FENOC determined that it was not reportable under 50.46(a)(3) because it does not result in a change to or cause an error in an existing evaluation model or in the application of such a model.

**4. Confirmation that all LBLOCAs (including those in the candy-cane region) are considered as design-bases accidents in the assessments of steam generator (SG) tube integrity following each SG tube inspection. (All B&W licensees).**

FENOC evaluates tubing flaws identified during the steam generator inspection against worst case LBLOCA loading conditions to verify that the steam generators perform acceptably per the Technical Specifications and Operating License. This evaluation was most recently completed on March 5, 2008 under the Condition Monitoring and Operational Assessment Evaluation of steam generator tubing performed during the 2008 refueling outage. FENOC provided the results to the NRC by letter dated April 10, 2008, (ADAMS Accession No. ML081070433). FENOC assessed the DBNPS Steam Generators through eddy current inspection and engineering analysis, and demonstrated compliance with the station's Operating License and Technical Specifications.

**5. Provide confirmation that the replacement SGs will be designed to withstand the loads associated with a LBLOCA including the thermal loads associated with a LBLOCA in the candy-cane region of the reactor coolant system. (Davis-Besse only)**

First Energy has contracted with B&W Canada to have a LBLOCA analysis, including the LBLOCA in the upper hot-leg region (candy-cane region) included in the replacement once-through steam generator (ROTSG) analysis and design. The ROTSGs will therefore be designed to withstand thermal loads associated with LBLOCA in the upper hot-leg region of the reactor coolant system.

6. **Commitment to provide the structural limit associated with the most limiting LBLOCA for the replacement SGs as part of the next SG tube inspection report (required by the technical specifications) following completion of the next inspection of the tubes in the replacement SGs, unless previously submitted. (All B&W licensees)**

FENOC will provide the structural limit associated with the most limiting LBLOCA for the replacement DBNPS steam generators (SGs) as part of the next SG tube inspection report following completion of the next inspection of the tubes in the replacement SGs, unless previously submitted.

Regulatory Commitment List


The following list identifies those actions committed to by FirstEnergy Nuclear Operating Company (FENOC) for the Davis-Besse Nuclear Power Station (DBNPS) in this document. Any other actions discussed in the submittal represent intended or planned actions by FENOC. They are described only as information and are not Regulatory Commitments. Please notify Mr. Thomas A. Lentz, Manager – Fleet Licensing, at (330) 761-6071 of any questions regarding this document or associated Regulatory Commitments.

| Regulatory Commitment | Due Date |
|---|---|
| 1. FENOC will provide the structural limit associated with the most limiting LBLOCA for the replacement DBNPS steam generators (SGs) as part of the next SG tube inspection report following completion of the next inspection of the tubes in the replacement SGs, unless previously submitted. | In accordance with DBNPS Technical Specification 5.6.6, "Steam Generator Tube Inspection Report" which states a report shall be submitted within 180 days after the initial entry into MODE 4 following completion on an inspection performed in accordance with the Specification 5.5.8, "Steam Generator (SG) Program." |