

NRR-PMDAPEm Resource

From: Chawla, Mahesh
Sent: Tuesday, August 08, 2017 2:57 PM
To: Davis, J.Michael (J.Michael.Davis@nexteraenergy.com);
laura.swenzinski@nexteraenergy.com; Catron, Steve (Steve.Catron@fpl.com); Kilby,
Gary
Subject: Request for Additional Information - Duane Arnold Energy Center - Relief Request No.
RR-03 - Alternative Requirements for Nozzle Inner Radius and Nozzle-To-Shell Welds -
CAC No. MF9374

By letter dated March 7, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17069A172), NextEra Energy Duane Arnold, LLC (the licensee) submitted the fifth inservice inspection (ISI) interval program plan for Duane Arnold Energy Center (DAEC) for the U.S. Nuclear Regulatory Commission (NRC) review and approval. The program plan contains several relief requests from certain American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, requirements. Among them, Relief Request No. 3 proposed to use an alternative based on ASME Code Case N-702, "Alternative Requirements for Boiling Water Reactor (BWR) Nozzle Inner Radius and Nozzle-to-Shell Welds," for inspection of reactor pressure vessel (RPV) nozzle inner radius and nozzle-to-shell welds at DAEC.

The NRC staff has reviewed the submittal and determined that the additional information below is needed to complete the review of Relief Request No. 3.

RAI-1

In Relief Request No. 3, the licensee proposed an alternative based on ASME Code Case N-702 for the RPV nozzle inspection during the fifth ISI interval.

This Code Case was conditionally approved in Regulatory Guide (RG) 1.147, Revision 17, "Inservice Inspection Code Case Acceptability, Section XI, Division 1," dated August 2014, requiring the applicants to address the evaluation criteria in the safety evaluation (SE) for BWRVIP-108, "Technical Basis for the Reduction of Inspection Requirements for the Boiling Water Reactor Nozzle-to-Vessel Shell Welds and Nozzle Inner Radii" (ADAMS Accession No. ML073600374) or BWRVIP-241, "Probabilistic Fracture Mechanics [PFM] Evaluation for the Boiling Water Reactor Nozzle-to-Vessel Shell Welds and Nozzle Blend Radii" (ADAMS Accession No. ML13071A240). Both reports are for 40 years of operation

On April 26, 2017, the SE for BWRVIP-241, Appendix A (ADAMS Accession No. ML17114A096) for the period of extended operation was issued, which extends the application of BWRVIP-108 and BWRVIP-241, and, therefore, ASME Code Case N-702, from 40 years to 60 years.

Relief Request No. 3 used the evaluation criteria from the SE for BWRVIP-108, but did not explain why the evaluation criteria for 40 years can be used beyond 40 years during the fifth ISI interval. Please provide justification. Licensees have been using plant-specific PFM analysis for this purpose. However, since the issuance of the SE for BWRVIP-241, Appendix A, one could also justify using ASME Code Case N-702 for the entire period of extended operation by referencing BWRVIP-241, Appendix A, and addressing the required demonstrations under A.3 and A.4 of this Appendix.

Please arrange a teleconference with the NRC staff to discuss this request. Thanks

Mahesh Chawla

Project Manager
Phone: 301-415-8371
Fax: 301-415-1222
mahesh.chawla@nrc.gov

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Mail Envelope Properties (Mahesh.Chawla@nrc.gov20170808145600)

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From: Chawla, Mahesh

Created By: Mahesh.Chawla@nrc.gov

Recipients:

"Davis, J.Michael (J.Michael.Davis@nexteraenergy.com)" <J.Michael.Davis@nexteraenergy.com>

Tracking Status: None

"laura.swenzinski@nexteraenergy.com" <laura.swenzinski@nexteraenergy.com>

Tracking Status: None

"Catron, Steve (Steve.Catron@fpl.com)" <Steve.Catron@fpl.com>

Tracking Status: None

"Kilby, Gary" <Gary.Kilby@fpl.com>

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