



FirstEnergy Nuclear Operating Company

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September 27, 2006
L-06-142

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

**Subject: Beaver Valley Power Station, Unit No. 2
Docket No. 50-412, License No. NPF-73
Supplemental Information Regarding Proposed Alternative to American
Society of Mechanical Engineers Code Section XI Repair Requirements
(Request No. BV2-PZR-01)**

On March 31, 2006, FirstEnergy Nuclear Operating Company (FENOC) submitted a request to the NRC to use a proposed alternative to the American Society of Mechanical Engineers (ASME) Code Section XI requirements in support of weld overlay repairs for Beaver Valley Power Station (BVPS) Unit No. 2 pressurizer nozzles. In support of reviewing FENOC's submittal, the NRC requested additional information by letter dated July 26, 2006. FENOC submitted the answers for the request for additional information (RAI) on August 8, 2006. Subsequently, the NRC identified additional information necessary to support the analysis of FENOC's request and communicated the needed supplemental information to FENOC by email along with a follow-up teleconference on September 21, 2006. The supplemental information requested by the NRC is contained in Attachment 1.

As stated in the March 31, 2006 letter, FENOC requests approval of the relief request to support the Beaver Valley Power Station Unit No. 2 maintenance and refueling outage, scheduled to begin October 2, 2006.

Regulatory commitments submitted with this letter are listed in Attachment 2. If there are any questions or if additional information is required, please contact Mr. Gregory A. Dunn, Manager FENOC Fleet Licensing at (330) 315-7243.

Sincerely,



James H. Lash

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Beaver Valley Power Station, Unit No. 2
Supplemental Information for Relief Request No. BV2-PZR-01
L-06-142
Page 2

Attachments

1. Supplemental Information for Relief Request No. BV2-PZR-01
2. Regulatory Commitments

cc: Mr. T. G. Colburn, NRR Senior Project Manager
Mr. P. C. Cataldo, NRC Senior Resident Inspector
Mr. S. J. Collins, NRC Region I Administrator
Mr. D. A. Allard, Director BRP/DEP
Mr. L. E. Ryan (BRP/DEP)

SUPPLEMENTAL INFORMATION FOR
RELIEF REQUEST NO. BV2-PZR-01
BEAVER VALLEY POWER STATION, UNIT NO. 2
FIRSTENERGY NUCLEAR OPERATING COMPANY
DOCKET NO. 50-412

- 1. Identify the UT acceptance criteria that will be used for the complete full structural weld overlay and heat affected zone beneath the weld overlay. If the acceptance criteria to be used are not consistent with the respective positions stated in Regulatory Guide 1.147, Rev. 14, for the applicable code cases, provide the technical bases for its use.**

Response:

Pre-service ultrasonic examinations will be performed in accordance with Code Case N-504-2 and Q-4000 of Nonmandatory Appendix Q at least 48-hours after the completed overlay has returned to ambient temperature. The results will be evaluated in accordance with acceptance criteria of Code Case N-504-2, Paragraph (i), and Nonmandatory Appendix Q, Paragraph Q-4100(c), which invoke the acceptance criteria of ASME Section XI IWB-3514-2 and IWB-3514-3, in lieu of the acceptance criteria of NB-5330 of ASME Section III.

The acceptance criteria stated in the applicable code cases in relation to the respective positions contained in Regulatory Guide 1.147, Rev. 14 will not be utilized. The Section III criteria required by the condition imposed in Regulatory Guide 1.147 for the generic use of Code Case N-638-1 address concerns relating to deep cavity base material repairs that are not applicable to its use in weld overlay applications. Acceptance criteria of ASME Section XI Code Case N-504-2 and Nonmandatory Appendix Q in lieu of those of NB-5330 of ASME Section III are the most appropriate for weld overlay applications of Code Case N-638-1 and provide an acceptable level of quality and safety.

Code Case N-638-1 applies to any type of welding in which a temper bead technique is employed and is not specifically written for a weld overlay repair. For a weld overlay, any base material cracking would take place in the Heat Affected Zone directly below the weld overlay or in the underlying Alloy 82/182 weld deposit and not in the required band of material out beyond the overlay. Therefore, any cracking that occurs would be identified by the ultrasonic examination of the weld overlay in accordance with N-504-2 and Nonmandatory Appendix Q. The acceptance criteria required by Code Case N-504-2 and Nonmandatory Appendix Q are specifically tailored to the design and application of structural weld overlays to ensure that the

overlay and underlying piping are capable of performing their design function, as specified in the design requirements of the Code Case and corresponding Appendix.

- 2. Provide a commitment to submit within 14 days from completion of UT examination of the weld overlays, a report that summarizes the results of the examinations, consistent with the September 14, 2006 letter from Exelon to the NRC regarding Byron Station, Unit 1 Relief Request 13R-03.**

Response:

FENOC will submit a report that summarizes the examination results of the pressurizer spray nozzle, relief nozzle, three safety nozzles, and surge nozzle weld overlays for safe end-to-pipe and nozzle-to-safe end locations implemented during the 2R12 refueling outage, to include the following information:

- A listing of all indications detected,
- The disposition of all indications using the standards of ASME Section XI, IWB 3514-2 and/or IWB 3514-3 criteria, and, if possible,
- The type and nature of the indications.

Included in the results will be a discussion of any repairs to the overlay material and/or base metal and the reason for the repair. The report will be submitted within 14 days of completion of the last ultrasonic examination of the 2R12 refueling outage.

REGULATORY COMMITMENTS

The following list identifies those actions committed to by FirstEnergy Nuclear Operating Company (FENOC) for Beaver Valley Power Station (BVPS) Unit No. 2 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. Gregory A. Dunn, Manager, Fleet Licensing at 330-315-7243 of any questions regarding this document or associated regulatory commitments.

<u>Commitment</u>	<u>Due Date</u>
FENOC will submit a report that summarizes the examination results of the pressurizer spray nozzle, relief nozzle, three safety nozzles, and surge nozzle weld overlays for safe end-to-pipe and nozzle-to-safe end locations implemented during the 2R12 refueling outage.	Within 14 days of completion of the last ultrasonic examination of the 2R12 refueling outage.