



FirstEnergy Nuclear Operating Company

Peter P. Sena III
Site Vice President

724-682-5234
Fax: 724-643-8069

March 26, 2008
L-08-096

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
Response to Request for Additional Information - 2006 Steam Generator Tube
Inspections (TAC No. MD7489)

By letter dated February 2, 2007, FirstEnergy Nuclear Operating Company (FENOC) submitted information summarizing the results of the 2006 steam generator tube inspections at Beaver Valley Power Station (BVPS) Unit No. 2. In a letter dated February 29, 2008, the NRC staff requested additional information in order to complete its review of the February 2, 2007 steam generator tube inspection report. The FENOC responses to this request are provided in the attachment to this letter.

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 – FENOC Fleet Licensing, at 330-761-6071.

Sincerely,

Peter P. Sena III

Attachment:

1. Response to Request for Additional Information, 2006 Steam Generator Tube Inspections, Beaver Valley Power Station, Unit No. 2

A001
NRR

Beaver Valley Power Station, Unit No. 2

L-08-096

Page 2

c: Mr. S. J. Collins, NRC Region I Administrator
Mr. D. L. Werkheiser, NRC Senior Resident Inspector
Ms. N. S. Morgan, NRR Project Manager
Mr. D. J. Allard, Director BRP/DEP
Mr. L. E. Ryan (BRP/DEP)

ATTACHMENT
L-08-096

Response to Request for Additional Information
2006 Steam Generator Tube Inspections
Beaver Valley Power Station, Unit No. 2

Page 1 of 2

By letter dated February 2, 2007 (ADAMS Accession No. ML070360529), FirstEnergy Nuclear Operating Company (licensee) submitted information summarizing the results of the 2006 steam generator (SG) tube inspections at Beaver Valley Power Station, Unit No. 2 (BVPS-2). These inspections were performed during the twelfth refueling outage (2R12). In addition to this report, the Nuclear Regulatory Commission (NRC) staff summarized a conference call about the 2006 SG tube inspections at BVPS-2 in a letter dated November 9, 2006 (ADAMS Accession No. ML063100291). In order to complete the review, the NRC staff needs the following additional information:

1. For the tube located at Row 36 Column 18 of SG B, listed on page B-18 of Attachment B to the February 2, 2007, letter, please provide the percent through wall measurement of the volumetric indication.

Response

The amplitude from the Plus Point probe was 0.19 volts. Sizing the indication, using the EPRI Examination Technique Specification Sheet 21998.1, results in an estimated depth of less than 20 percent through wall.

2. As stated on page A-6 of Attachment A to the February 2, 2007, letter, please provide the cumulative number of indications detected in the tubesheet region as a function of elevation within the tubesheet.

Response

The table on page A-6 shows the twenty two tubes with indications reported from the Plus Point examination of the top-of-tubesheet region. One tube was reported with an indication at 0.71 inches above the tubesheet face and 21 tubes were reported with indications below the top-of-tubesheet. Of these 21 tubes, 20 tubes had indications within -0.14 inches of the top-of-tubesheet which places them in the expansion transition region of the tube. One tube (SG C Row 40 Column 55) was initially reported to contain an axial primary water stress corrosion crack (PWSCC) indication located at approximately 3.14 inches below the top-of-tubesheet. A historical review of this indication was performed using the Plus Point data from the previous six outages. The review showed no change in signal amplitude or phase angle. Based on this observation, it was concluded that this indication located at approximately 3.14 inches below the top-of-tubesheet was not representative of true PWSCC. All outside diameter stress corrosion cracking (ODSCC) was reported within or above the tube expansion transition region.

3. During the October 12, 2006, conference call, the licensee provided the scope and results of the secondary side inspection in SG B, but inspection of SG C had not yet commenced. If you could provide similar information for SG C, that would be fine. We are looking for a high level summary of your inspection results.

See Question 10 in Attachment 1 of the NRC staff's letter dated November 1, 2006 (ADAMS Accession No. ML 063060284).

Response

Regarding SG C, remote visual examinations were performed inside the feedwater header to assess the condition of the feedwater header at the J-tube entrance. Minor erosion was noted. This examination was performed to establish a baseline erosion condition prior to the power uprate. Examination of the feedwater header exterior at the J-tube discharge points was also performed. No erosion was noted. Ultrasonic thickness measurements of randomly selected J-tubes and the feedwater header tee showed no indications of thinning. Examination of the primary moisture separation equipment was performed with no evidence of erosion/corrosion being reported. Foreign object search and retrieval of the top of tubesheet region was performed.

4. You indicate that two tubes (one tube in SG A and one tube in SG B) were plugged for data quality reasons. Please discuss how tube integrity was determined at the locations where the data quality was in question (e.g., were the tubes still able to be inspected or were they in-situ pressure tested).

Response

The two tubes in question (SG A Row 4 Column 58; SG B Row 26 Column 50) were plugged due to anomalous signals in the U-bend region. Tube integrity was verified via an adequate inspection of the tubes with regard to detection of degradation. However, consensus between analysts could not be reached as to the flawed or unflawed condition of the tubes. These tubes were administratively removed from service.

5. Attachment B to the February 2, 2007, letter, which lists tubes with indications of service induced degradation, includes many tubes that were not plugged. Please confirm that there are no degradation/flaws for those tubes listed as distorted support plate signal with possible indication, non-quantifiable indication, and dent/ding with an indication (i.e., only the tubes with flaws are listed as percent through wall, single volumetric indication, single circumferential indication, multiple circumferential indication, and single axial indication).

Response

All indications listed in Attachment B with I-codes (e.g., distorted support plate signals with indications (DSIs), non-quantifiable indications (NQIs), dents with indications (DNIs), etc.) were re-inspected with the Plus Point Probe. If the Plus Point probe indicated that no degradation/flaws were present, the tube remained in service. If degradation/flaws were reported from the Plus Point examination the tube was removed from service via plugging. As determined by Plus Point examination, no degradation/flaws were present for indications listed in Attachment B as DSIs, NQIs or DNIs.