

December 21, 2005

Mr. James H. Lash  
Vice President  
FirstEnergy Nuclear Operating Company  
Beaver Valley Power Station  
P. O. Box 4  
Shippingport, PA 15077

SUBJECT: BEAVER VALLEY POWER STATION, UNIT NOS. 1 AND 2 (BVPS-1 AND 2) -  
REQUEST FOR ADDITIONAL INFORMATION (RAI) - 2004 AND 2005 STEAM  
GENERATOR (SG) TUBE INSPECTIONS (TAC NOS. MC8770 AND MC8771)

Dear Mr. Lash:

By letters dated November 5, 2004 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML043200116), November 12, 2004 (ADAMS Accession No. ML043270491), January 26, 2005 (ADAMS Accession Nos. ML050320038 and ML050320213), April 19, 2005 (ADAMS Accession No. ML051150335), April 26, 2005 (ADAMS Accession No. ML051220112), July 5, 2005 (ADAMS Accession No. ML051940281), and October 14, 2005 (ADAMS Accession No. ML052920617), FirstEnergy Nuclear Operating Company (the licensee) submitted information summarizing the results of the 2004 and 2005 SG tube inspections at BVPS-1 and 2, respectively. The Nuclear Regulatory Commission (NRC) staff previously reviewed portions of the January 26, 2005, letter and its enclosure regarding implementation of the voltage-based alternate tube repair criteria and the W\* methodology (i.e., inspections in the tubesheet region). The NRC staff's review, in those areas, is documented in a letter dated August 4, 2005 (ADAMS Accession No. ML052140156).

In order for the NRC staff to complete its review of the October 14, 2005, SG reports, we request that the licensee provide responses to the enclosed RAI. If you have any questions, please contact me at 301-415-1402.

Sincerely,

*/RA/*

Timothy G. Colburn, Senior Project Manager  
Plant Licensing Branch I-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. 50-334 and 50-412

Enclosure: RAI

cc w/encl: See next page

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DORL/DPR

ACCESSION NO. ML053540005      \*Input provided. No substantive changes made.

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REQUEST FOR ADDITIONAL INFORMATION

BEAVER VALLEY POWER STATION, UNIT NOS. 1 AND 2 (BVPS-1 AND 2)

2004 AND 2005 STEAM GENERATOR (SG) TUBE INSPECTIONS

DOCKET NOS. 50-334 AND 50-412

BVPS-1

1. The SG report stated that 23 SG tubes were identified having indications in the parent tube behind the lower sleeve joint. These locations were inspected during the 1R15 (2003) inspection and no indications were reported in the parent tube behind the sleeve. Discuss possible causes for these indications. If there is primary water getting between the sleeve and the parent tube at this location, the basis for not including this leakage in the operational assessment should be provided.
2. The information contained in Attachment 1 to the November 12, 2004, letter does not appear consistent with the data table on page B-3 of the January 26, 2005, letter. In addition, these tables do not always appear to match the discussions in Appendix B to the January 26, 2005, letter. Please clarify these apparent differences. The major discrepancies appear to be with the indications at the tube support plates. For indications in the sludge pile and within the tubesheet, it appears that the information provided in the January 26, 2005, letter uses the top of tubesheet as the demarcation point for reporting the indications whereas other locations of this information focus on the location of the expansion transition (i.e., all circumferential indications are in the expansion transition which may be above or below the top of tubesheet).
3. Pages B-2 and B-3 of the January 26, 2005, letter and Attachment 1 of the November 12, 2004, letter, indicate that volumetric indications were detected. In one instance, it was reported that the volumetric indications were not associated with corrosion while in another instance the volumetric indications were not associated with loose parts. Please clarify the discussions of all locations where volumetric indications were identified. In addition, discuss the nature/cause of these volumetric indications.
4. Provide additional information regarding the tube support plate axial indication located above the tubesheet sleeve (e.g., is this indication associated with the sleeve or does this indicate that the tube was not inspected with the nominal size probe so the tube was plugged).
5. Regarding the permeability variation and the secondary side anomalies that were plugged, please discuss whether the indications were traceable to previous inspections, whether they are changing with time, and how it was determined that there was no degradation at these locations.

Enclosure

6. In order to confirm the absence of cracking at wear scars, were rotating-probe exams performed at any of these locations? If not, provide the basis for not conducting rotating-probe exams at these locations.
7. Describe in greater detail, the cold-leg expanded tube support plate intersections that are discussed on Page B-1 of the January 26, 2005, letter.
8. Please discuss the difference between the signals characterized as parent-tube flaws and parent-tube problems.
9. Please discuss the reason for expanding the scope of inspections at the dented tube support locations (greater than 2 volts but less than 5 volts) in SG A.

#### BVPS-2

1. One tube was plugged for a permeability variation indication. Please discuss whether this indication has changed since the preservice inspection. If the indication has changed, discuss the reason for any change and discuss how you confirmed the tube had adequate integrity (given that permeability variation may affect your ability to inspect this region with eddy current techniques).
2. Several non-quantifiable indications and distorted tubesheet signals with possible indications were reported. Please discuss (in general) how these indications were dispositioned (e.g., a rotating-probe exam was performed at each location which did not reveal any service-induced flaws).
3. Please discuss the results of your foreign object search and retrieval. If any foreign object (loose part) was left in the SGs, please discuss any corrective actions taken (e.g., plugged and stabilized surrounding tubes; engineering analysis confirming tube integrity would be maintained, etc.).

Beaver Valley Power Station, Unit Nos. 1 and 2

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