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September 11, 2002
L-02-093

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

Subject: Beaver Valley Power Station, Unit No. 2
Docket No. 50-412, License No. NPF-73
Supplemental Information in Support of LAR No. 165
New Fuel Storage Racks Enrichment Limit

This letter provides the FirstEnergy Nuclear Operating Company (FENOC) response to a verbal NRC request for supplemental information on August 28, 2002, pertaining to FENOC letter L-02-070 dated May 31, 2002.

FENOC letter L-02-070 submitted License Amendment Request (LAR) No. 165 that proposed changes to the Beaver Valley Power Station (BVPS), Unit No. 2, to increase the new fuel (fresh fuel) storage rack enrichment limit to 5.00 weight percent. Supplemental information is provided in Attachment A of this letter.

This information does not change the evaluations or conclusions presented in FENOC letter L-02-070. If there are any questions concerning this matter, please contact Mr. Larry R. Freeland, Manager, Regulatory Affairs/Corrective Action at 724-682-5284.

I declare under penalty of perjury that the foregoing is true and correct. Executed on September 11, 2002.

Sincerely,

Mark B. Bezilla

Attachments

A001

c: Mr. D. S. Collins, NRR Project Manager
Mr. D. M. Kern, NRC Sr. Resident Inspector
Mr. H. J. Miller, NRC Region I Administrator
Mr. D. A. Allard, Director BRP/DEP
Mr. L. E. Ryan (BRP/DEP)

Letter L-02-093 - ATTACHMENT A

Supplemental Information in Support of
New Fuel Storage Racks Enrichment Limit
for Beaver Valley Power Station, Unit No. 2
(License Amendment Request No. 165)

NRC Supplemental Information Request No. 1

The request to increase the fresh fuel enrichment limit to 5 w/o includes a manufacturing tolerance of +0.05 w/o. Section 1.0 includes a statement that the analysis assumes all available storage cells are occupied with fresh, 5.0 w/o U-235, 17x17 fuel assemblies. However, the analysis assumptions listed in Sections 3.1 and 3.2 include 5.05 w/o enrichment to account for the manufacturing tolerance. Clarify whether the analysis was performed at 5 w/o or 5.05 w/o.

FENOC Response

The actual KENO runs were performed at 5.05% enrichment, although NRC approval is only requested for a maximum storage of 5.0% enrichment.

As stated in the report, Section 2.1 (5th paragraph), the fresh fuel racks are analyzed under "worst case" scenarios conservatively accounting for fuel parameter variability and tolerances on rack dimensions. This is a more conservative approach than analyzing the variability of each individual fuel parameter or rack tolerance separately in PHOENIX and then statistically combining the results and adding it to a nominal K-eff result from KENO.

NRC Supplemental Information Request No. 2

The benchmarking of WCAP-14416 used critical experiments only up to 4.31 w/o U-235 enriched fuel, whereas the requested amendment would allow enrichment to as high as 5.05 w/o (including the tolerance). Provide the details of the process used to extrapolate the critical experiments to 5.05 w/o, U-235.

FENOC Response

The requested amendment would allow enrichments only up to 5.0% (as-built) enrichment. Due to licensing limitations at the Westinghouse Columbia Fuel Site and in the rest of the industry, Westinghouse only accepts orders for fuel up to 4.95% enriched (nominal). Therefore, the maximum enrichment of fuel that could be stored in the rack is 5.0% (4.95% + 0.05% manufacturing tolerance).

The extension of the WCAP-14416 methods up to 5.0% enrichment was based on the fact that no significant biases or trends were observed in the Westinghouse benchmark

results as a function of enrichment. This was documented in the response to the second Request for Additional Information (RAI) on WCAP-14416, and the NRC documented their agreement that the methods were valid up to 5% in their Safety Evaluation Report (SER) on the WCAP.

NRC Supplemental Information Request No. 3

The third paragraph of Section 2.1 includes method bias and uncertainty taken from the WCAP-14416 topical report. Clarify whether or not this analysis used the same code version and cross sections as those used in the WCAP-14416, Section 2.1, benchmarking? If the same code versions and cross sections were not used, provide the basis for using the bias and uncertainty from the topical report.

FENOC Response

The code versions and cross section libraries are the same as used in the original benchmark. However, the codes were re-compiled in 1998 on a computer with a Y2K compliant operating system. As part of that effort, Westinghouse re-ran all of the benchmark cases and revalidated the use of the WCAP-14416 bias and uncertainty.

Letter L-02-093 - ATTACHMENT B

Commitment List

The following list identifies those actions committed to by FirstEnergy Nuclear Operating Company (FENOC) for Beaver Valley Power Station (BVPS) Unit No. 1 in this document. Any other actions discussed in the submittal represent intended or planned actions by Beaver Valley. These other actions are described only as information and are not regulatory commitments. Please notify Mr. Larry R. Freeland, Manager, Regulatory Affairs/Corrective Action, at Beaver Valley on (724) 682-5284 of any questions regarding this document or associated regulatory commitments.

Commitment	Due Date
None	None