

September 23, 2002

MEMORANDUM TO: Richard J. Laufer, Chief, Section 1
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

FROM: Daniel S. Collins, Project Manager, Section 1 */RA/*
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

SUBJECT: BEAVER VALLEY POWER STATION, UNIT NO 2 - DRAFT REQUEST
FOR ADDITIONAL INFORMATION (RAI), REGARDING AMENDMENT
REQUEST TO INCREASE ENRICHMENT LIMITS FOR NEW FUEL
STORAGE RACKS (TAC MB5301)

The attached revision to a draft RAI was transmitted by facsimile on September 19, 2002, to Mr. Brian Sepelak of FirstEnergy Nuclear Operating Company in preparation for an upcoming conference call. Review of the RAI would allow the licensee to identify areas where clarification may be needed, as well as determine and agree upon a schedule for responding to the RAI. This memorandum and its attachment do not convey a formal request for information or represent a Nuclear Regulatory Commission position.

Docket No. 50-412

Attachment: As stated

CONTACT: D. Collins, NRR
301-415-1427

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BEAVER VALLEY POWER STATION, UNIT NO. 2

DRAFT

DOCKET NO. 50-412

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing FirstEnergy Nuclear Operating Company's (FENOC) May 31, 2002, application (L-02-070), and supplement dated September 11, 2002 (L-02-093), for an amendment to Facility Operating License No. NPF-73 for the Beaver Valley Power Station, Unit No 2 (BVPS2), which would allow new fuel with an enrichment of 5.00 weight percent (w/o) U-235 to be placed into and stored in the BVPS2 new fuel storage racks.

The NRC staff has determined that additional clarification of FENOC's response to the staff's second question addressed in the September 11, 2002, supplement is needed in order to complete the NRC review of the amendment request. The following is a revision of the staff's previous question #2, and refers to the May 31, 2002, application's Attachment C, "Criticality Analysis of the Beaver Valley Unit 2 Fresh Fuel Racks, April 2002":

1. The application references WCAP-14416 benchmark experiments. By letter dated July 27, 2001, the NRC notified Westinghouse that the methodology of WCAP-14416-NP-A is no longer considered to be a suitable reference to support license amendments. As such, the statement that "No trends or biases as a function of lattice parameters was observed in the KENO-Va benchmarks," must be clarified. That could mean that speculation on enrichment trends is inconclusive and, therefore, not supportive of your application.

The enrichment values in the benchmark experiments of WCAP-14416 are as high as 4.31%. However the requested amendment is for 5.05w/o (including the tolerance). Demonstrate whether the bias and uncertainty from the topical report is appropriate by showing how Δk_{eff} would change at this higher enrichment and what impact that has on meeting the keff acceptance criteria of 10 CFR 50.68.

Critical benchmark experiments using higher enrichments can be found in the "International Handbook of Evaluated Criticality Safety Benchmark Experiments," Volume IV, Low Enriched Uranium Systems.

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