

December 30, 2002

Mr. Mark B. Bezilla
Vice President
FirstEnergy Nuclear Operating Company
Beaver Valley Power Station
Post Office Box 4
Shippingport, PA 15077

SUBJECT: BEAVER VALLEY POWER STATION, UNIT NO 2 - REQUEST FOR
ADDITIONAL INFORMATION REGARDING AMENDMENT REQUEST TO
INCREASE NEW FUEL STORAGE RACK ENRICHMENT LIMIT
(TAC NO. MB5301)

Dear Mr. Bezilla:

By letter dated May 31, 2002, FirstEnergy Nuclear Operating Company (FENOC) submitted a request to the U.S. Nuclear Regulatory Commission (NRC) to amend the Technical Specifications (TSs) for Beaver Valley Power Station, Unit No. 2 (BVPS2), to increase the new fuel storage rack enrichment limit to 5.00 weight percent (w/o) U-235.

The NRC staff is reviewing information provided in the application and in a September 11, 2002, supplement to the application. We have determined that additional information is needed in order for the NRC staff to complete its evaluation. This RAI was discussed with Mr. Ron Fedin of your staff on December 16, 2002. FENOC staff indicated that a response would be provided to the enclosed request for additional information (RAI) by January 15, 2003. If circumstances result in a need to revise that schedule, please call me at the earliest possible opportunity.

If you should have any questions, please do not hesitate to call me at (301) 415-1427.

Sincerely,

/RAI

Daniel Collins, Project Manager, Section 1
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-412

Enclosure: RAI

cc w/encl: See next page

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Post Office Box 4
Shippingport, PA 15077

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Beaver Valley Power Station, Units 1 and 2

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REQUEST FOR ADDITIONAL INFORMATION
REGARDING AMENDMENT REQUEST TO INCREASE NEW
FUEL STORAGE RACK ENRICHMENT LIMIT
BEAVER VALLEY POWER STATION, UNIT NO. 2
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 the associated 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 BVPS-2 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.

1. NUREG/CR-6698 is a guide for validation of nuclear criticality safety calculational methodologies. Table 2.3 of this NUREG contains physical parameters for areas of applicability, including enrichment. A range of appropriate evaluated benchmark experiments is listed given the enrichment to be modeled. There is no question that the benchmark experiments used for the validation are appropriate if they fall within the range listed in the table. However if the experiments to be credited do not fall within the specified ranges, justification must be provided as to why the experiments used are appropriate.

Page 3, Section 4, of the enclosure to the May 31, 2002, application stated that the methods used in the criticality analysis conform with ANSI/ANS 8.1. From our review, we cannot confirm how you satisfy the requirements of this ANSI standard. Please describe how your methods demonstrate compliance with ANSI/ANS 8.1, paragraph 4.3.1, "Establishment of Bias," and 4.3.2, "Bias Trends," as they relate to areas of applicability, specifically isotopic composition requirements for critical benchmark experiments. This is of particular importance because it is used to establish the validity of your calculated keff.

Explain why the low-enriched experiments detailed in WCAP-14416 (i.e., 2.35 w/o and 2.46 w/o) which supplement the 4.31% enriched experiments are applicable for your validation even though they fall beyond the experimental range suggested by NUREG/CR-6698, Table 2.3.

Enclosure