FENOC

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L-03-021

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

Subject: Beaver Valley Power Station, Unit No. 1 and No. 2
BV-1 Docket No. 50-334, License No. DPR-66
BV-2 Docket No. 50-412, License No. NPF-73
Additional Information in Support of License Amendment Requests Nos. 300 and 172.

Pursuant to 10 CFR 50.90, FirstEnergy Nuclear Operating Company (FENOC) requested an amendment to the above licenses in the form of changes to the Technical Specifications. The proposed changes will revise the Operating Licenses to permit each of the Beaver Valley Power Station (BVPS) units to be operated with an atmospheric containment. The proposed changes, which are contained in License Amendment Request 300 (Unit 1) and 172 (Unit 2), were transmitted by FENOC letter L-02-069, dated June 5, 2002. This letter is to reaffirm FENOC's desire to proceed with License Amendment Requests (LARs) 300 and 172.

The subject LARs include the following two fundamental changes in the design and licensing basis for the BVPS units.

(a) Selective application of Alternative Source Term (AST) methodology in accordance with 10 CFR 50.67 and following the recommendations of Regulatory Guide 1.183, "Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors," for loss-of-coolant accident (LOCA) and control rod ejection accident (CREA) dose consequences.

(b) Reanalysis of containment integrity following a LOCA or Main Steam Line Break (MSLB), using the MAAP5 containment module developed by Westinghouse/Fauske, as described in WCAP-15844, "Topical Report on the MAAP5 PWR Large Dry Containment Model," which was submitted to the NRC for review by Westinghouse on March 31, 2002.

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FENOC plans to convert the BVPS Unit 2 containment to atmospheric upon returning the unit to power operation following the next scheduled Unit 2 refueling outage, i.e., 2R10, which is scheduled to begin in the Fall of 2003. Review and approval of the LARs by the NRC was requested by July 15, 2003, in order to support implementation at BVPS Unit 2 following the 2R10 outage. In order to support this schedule, FENOC will make every resource available to the NRC to answer any Requests for Additional Information (RAIs) and resolve any remaining issues on the LARs. By FENOC letter L-03-007, dated January 30, 2003, responses to all of the RAIs received to date were provided.

FENOC understands that the NRC is continuing its review of the MAAP5 Topical Report and that NRC approval of the topical report is required to support NRC approval of the LARs. FENOC remains convinced of the significant benefits afforded by use of MAAP5. These benefits include improved insight into the performance capabilities and safety margins of systems installed to mitigate design basis accidents.

FENOC believes that the following safety and operational benefits will result from NRC approval of the LARs to permit the BVPS containment to operate at atmospheric conditions.

1. Results in higher back pressure presented to the break flow during a LOCA resulting in both real and analytical benefits, creating additional Peak Clad Temperature margin for the accidents described in the Updated Final Safety Analysis Reports.

2. Simplifies the safety systems actuation logic for BVPS Unit 1 and reduces the probability of system failure, by eliminating the Quench Spray System flow cutback feature, and associated circuitry.

3. Adds improvements in both the main and auxiliary feedwater systems for BVPS Unit 1 that will limit the available mass and energy released to containment in the event of a MSLB or Main Feedwater Line Break inside containment, and increases the similarity between BVPS Units 1 and 2.

4. Eliminates the occupational safety hazard created by the subatmospheric pressure inside containment to workers at BVPS.

5. Eliminates the need for using portable airpacks when entering or working inside containment, which will improve mobility and communications among workers when performing entries and when working inside containment.

6. Improves the access to containment during power operation, promoting more frequent and timely containment inspections during operations.

7. Eliminates using the Control Room Emergency Bottled Air Pressurization System, which was based on the subatmospheric containment design concept, and which complicated the protection of control room habitability unnecessarily in an atmospheric containment design.

8. Simplifies the Technical Specifications by eliminating the Maximum Allowable Operating Air Partial Pressure Curve.

9. Based on the operating experience at Millstone-3 following reduction of its containment vacuum, it is anticipated that conversion to atmospheric containments at BVPS will result in lower containment operating temperature due to improved performance by the containment ventilation systems coolers. This creates real additional margin for any high-energy line break inside containment, since the heat sink temperatures will be lower.

10. Lower containment temperatures should reduce Reactor Coolant Pump motor winding temperatures, and extend operating life of Class 1E and other electrical devices inside containment.

In addition to all these improvements, FENOC has recently initiated the design of a new flow path for water which becomes trapped in the reactor cavity, following initiation of the containment spray system, to drain into the Emergency Core Cooling System (ECCS) sump. This modification is intended to provide real additional Net Positive Suction Head margin for the ECCS and Recirculation Spray System pumps during the recirculation phase following both large and small-break LOCAs.

FENOC believes the real health and safety benefits discussed above are important improvements which will enhance the operation of the BVPS units. In addition, the analysis benefits of operation with an atmospheric containment have been incorporated into the planned extended power uprate. FENOC expects to submit LARs requesting NRC review of the extended power uprate later this year.

There are no new commitments made in this letter. If there are any questions concerning this matter, please contact Mr. Larry R. Freeland, Manager, Regulatory Affairs/Performance Improvement at 724-682-5284.

I declare under penalty of perjury that the foregoing is true and correct. Executed on February 4, 2003.

Sincerely,

Mark B. Bezilla

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)