

January 5, 2005

Mr. L. William Pearce  
Vice President  
FirstEnergy Nuclear Operating Company  
Beaver Valley Power Station  
Post Office Box 4  
Shippingport, PA 15077

SUBJECT: BEAVER VALLEY POWER STATION, UNIT NOS. 1 AND 2 (BVPS-1 AND 2) -  
REQUEST FOR ADDITIONAL INFORMATION (RAI) - EXTENSION OF  
EMERGENCY DIESEL GENERATOR (EDG) ALLOWED OUTAGE TIME (AOT)  
(TAC NOS. MC3331 AND MC3332)

Dear Mr. Pearce:

The Nuclear Regulatory Commission (NRC) staff has reviewed the information provided in your May 26, 2004, license amendment application and October 29 and December 3, 2004, supplements to extend the BVPS-1 and 2 EDG AOTs to 14 days. The NRC staff has determined that the additional information requested in the enclosure to this letter is needed to complete its review. As discussed with your staff, we request your response by January 18, 2005, in order for the NRC staff to complete its scheduled review of your submittal.

Sincerely,

*/RA/*

Timothy G. Colburn, Senior Project Manager, Section 1  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket Nos. 50-334 and 50-412

Enclosure: RAI

cc w/encl: See next page

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\*Input provided. No substantive changes made.

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REQUEST FOR ADDITIONAL INFORMATION (RAI)

RELATED TO FIRSTENERGY NUCLEAR OPERATING COMPANY (FENOC)

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

EMERGENCY DIESEL GENERATOR (EDG) ALLOWED OUTAGE TIME (AOT)

DOCKET NOS. 50-334 AND 50-412

By letter dated May 26, 2004, as supplemented October 29 and December 3, 2004, FENOC, the licensee, proposed changes to BVPS-1 and 2 Technical Specifications to extend AOTs for the EDGs from 72 hours to 14 days to restore an inoperable EDG to operable status. In order for the Nuclear Regulatory Commission (NRC) staff to complete its review of the proposed change, the following information is needed.

1. The licensee's October 29, 2004, initial response to question No. 3 of the NRC staff's first-round RAI, indicated that the BVPS-1 and 2 probabilistic risk assessment (PRA) credits repair of an EDG that was unavailable or failed in a core damage sequence. The license amendment that is being evaluated changes the length of time an EDG may be out of service and allows the manufacturer's recommended maintenance, which is currently performed during shutdown, to be done online. As indicated in the October 29, 2004, RAI response to question No. 6, Table 2, the mean time-to-repair (MTTR) is expected to increase from 12.8 hours to 59.7 hours (BVPS-1) and from 9.25 hours to 43.17 hours (BVPS-2). Please provide the following information (see Regulatory Guide (RG) 1.177, Section 2.3.4.2).
  - a. Calculate the change in BVPS-1 and 2 core damage frequency (CDF) and large early release frequency using EDG recovery curves updated to reflect the anticipated MTTR after the change in AOT. Alternately, a bounding sensitivity may be performed assuming no recovery or repair is credited for the portion of the EDG unavailability attributable to performing the manufacturer's recommended maintenance online instead of shutdown.
  - b. Calculate the change in BVPS-1 and 2 incremental conditional core damage probability and incremental conditional large early release probability assuming no recovery or repair is credited for the out-of-service EDGs.
2. In Section 4.3.2 of the May 26, 2004, license amendment request, Tier 3 credits the BVPS-1 and 2, Maintenance Rule Program (Title 10 of the *Code of Federal Regulations*, Section 50.64(a)(4)). The licensee states: "The risk assessment is performed... using the BVPS PRA Models and the Safety Monitor Program to calculate CDF for actual plant conditions." Is the EDG recovery or repair credited in the Maintenance Rule risk assessment when the plant configuration includes an out-of-service EDG? If the answer is "yes," describe how the Maintenance Rule Program will correctly assess and manage risk during online performance of the manufacturer's recommended maintenance, since

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the EDG will not be recoverable until the maintenance evolution is concluded (see RG 1.177, Section 2.3.3).

3. Based on the October 29, 2004, RAI response to question Nos. 11.b and 11.c, it appears that anomalous results can occur because the BVPS-1 and 2 PRA models do not apply recovery and repair credit consistently across scenarios. Specific examples are the credits for refueling water storage tank (RWST) refill and fast bus transfer repair. While this approach may be reasonable for an average risk model, these assumptions may mask the actual risk impact of the requested change.

Please identify the key assumptions in the PRA model and their impact on the risk assessment of the requested change in EDG AOT. Provide sensitivity studies of the risk metrics with no credit for RWST refill and fast bus transfer repair. Include a sensitivity analysis for any other key assumptions identified or provide a basis for concluding that the key assumptions will not affect the risk assessment significantly (see RG 1.174, Section 2.2.3.3).

cc:

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