

DRAFT

REQUEST FOR ADDITIONAL INFORMATION

OFFICE OF NUCLEAR REACTOR REGULATION

REQUEST TO IMPLEMENT 10 CFR 50.61a

“ALTERNATE FRACTURE TOUGHNESS REQUIREMENTS

FOR PROTECTION AGAINST PRESSURIZED THERMAL SHOCK EVENTS”

BEAVER VALLEY POWER STATION UNIT 1

FIRSTENERGY NUCLEAR OPERATING COMPANY

DOCKET NO. 50-334

By letter dated July 30, 2013,¹ FirstEnergy Nuclear Operating Company (FENOC, the licensee), submitted a license amendment request for Beaver Valley Power Station, Unit No. 1 (BVPS-1). The proposed amendment would authorize the implementation of Title 10 of the *Code of Federal Regulations* (10 CFR) 50.61a, “Alternate Fracture Toughness Requirements for Protection Against Pressurized Thermal Shock (PTS) Events,” in lieu of 10 CFR 50.61, “Fracture Toughness Requirements for Protection Against Pressurized Thermal Shock Events.” To complete its review, the Nuclear Regulatory Commission (NRC) staff requests a response to the Request for Additional Information (RAI) questions below.

Under Section 3.4, Neutron Fluence Values, the license amendment request indicates that neutron fluence values at 50 Effective Full Power Years (EFPY) were interpolated from the 48 and 54 EFPY data available in WCAP-15571-NP, Supplement 1, Revision 2, “Analysis of Capsule Y from Beaver Valley Unit 1 Reactor Vessel Radiation Surveillance Program .” Regarding WCAP-15571-NP, Supplement 1, Revision 2, the fluence methodology is not described in much detail.

RAI 1 Please provide details of the fluence methodology to enable the U. S. Nuclear Regulatory Commission (NRC) staff to verify that the calculations are in accordance with Regulatory Guide 1.190 (RG 1.190),² “Calculational and Dosimetry Methods for Determining Pressure Vessel Neutron Fluence.”

When performing the statistical tests required by the Alternate PTS Rule, all heats of steel from the reactor pressure vessel (RPV) of interest for which 10 CFR 50 Appendix H surveillance data exist should be evaluated. The statistical tests should be performed separately for each heat. For each heat for which data are available, the ΔT_{30} values used in the statistical tests should include data from both of the following sources:

¹ Agencywide Documents Access and Management System (ADAMS) Accession No. ML13212A027.

² ADAMS Accession No. ML010890301.

- Data obtained for the heat of material in question as part of a 10 CFR 50 Appendix H surveillance program conducted for the plant in question, and
- Data obtained for the heat of material in question as part of a 10 CFR 50 Appendix H surveillance program conducted for any other PWR that is operating, or has operated, under a license issued by the NRC. Data from this source is often referred to as having come from a “Sister Plant.”

RAI 2 Identify the plants and heats of material which will provide “sister plant” data.

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