FENOC™
FirstEnergy Nuclear Operating Company

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April 25, 2014
L-14-119

10 CFR 2.202

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-001

SUBJECT:
Beaver Valley Power Station, Unit No. 1
Docket No. 50-334, License No. DPR-66
Request for Schedule Relief/Relaxation from NRC Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049) (TAC No. MF0841)

On March 12, 2012, the Nuclear Regulatory Commission (NRC) issued Order Number EA-12-049 (Reference 1) to FirstEnergy Nuclear Operating Company (FENOC) for Beaver Valley Power Station (BVPS), Unit Nos. 1 and 2. Reference 1 was immediately effective and directs FENOC to develop, implement, and maintain guidance and strategies to maintain or restore core cooling, containment, and spent fuel pool cooling capabilities in the event of a beyond-design-basis external event (FLEX strategies).

FENOC submitted its overall integrated plan for BVPS, Unit Nos. 1 and 2, by letter dated February 27, 2013 (Reference 2). In accordance with Reference 1, licensees are required to complete full implementation no later than two refueling cycles after submittal of the Overall Integrated Plan, or December 31, 2016, whichever comes first. In accordance with Reference 1, the first refueling outage for BVPS Unit No. 1 occurred in fall 2013. The second refueling outage and required FLEX implementation date for BVPS Unit No. 1 is currently scheduled for May 2015.

Section IV of Reference 1 states that licensees proposing to deviate from requirements contained in NRC Order EA-12-049 may request that the Director, Office of Nuclear Reactor Regulation, relax those requirements. In accordance with Section IV of Reference 1, FENOC is requesting that the Director, Office of Nuclear Reactor Regulation, relax the requirement for completion of full implementation for BVPS Unit No. 1 as prescribed in Section IV.A.2 of NRC Order EA-12-049 to fall 2016.

FENOC considers that, upon approval by the NRC, the alternative full implementation date regarding NRC Order EA-12-049 proposed in the attachment will constitute a condition of the NRC Order EA-12-049 for BVPS Unit No. 1.

This letter contains no new regulatory commitments. If you have any questions regarding this report, please contact Mr. Thomas A. Lentz, Manager – Fleet Licensing, at 330-315-6810.

I declare under penalty of perjury that the foregoing is true and correct. Executed on April 25, 2014.

Sincerely,

Eric A. Larson

Attachment:
Request for Relaxation of NRC Order EA-12-049 Requirement IV.A.2 for Beaver Valley Power Station Unit No. 1

References:
1. NRC Order Number EA-12-049, Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events, dated March 12, 2012
2. FirstEnergy Nuclear Operating Company's (FENOC's) Overall Integrated Plan in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049), dated February 27, 2013

cc: Director, Office of Nuclear Reactor Regulation (NRR)
NRC Region I Administrator
NRC Resident Inspector
NRC Project Manager
Ms. Jessica A. Kratchman, NRR/JLD/PMB, NRC
Director BRP/DEP (without Attachment)
Site BRP/DEP Representative (without Attachment)

Relaxation Request:

Pursuant to the procedure specified in Section IV of Nuclear Regulatory Commission (NRC) Order EA-12-049, "Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events" (Reference 1), FirstEnergy Nuclear Operating Company (FENOC) hereby submits a request for schedule relaxation from the Order requirements for completion of full implementation for Beaver Valley Power Station (BVPS) Unit No. 1.

Order requirement from which relaxation is requested:

NRC Order EA-12-049, Section IV.A.2, requires completion of full implementation of the Order requirements either no later than two refueling cycles after submittal of the Overall Integrated Plan, as required by Condition C.1.a, or December 31, 2016, whichever comes first. In accordance with the requirements of the Order, FENOC submitted the Overall Integrated Plan for BVPS Unit No. 1 (Reference 2) by letter dated February 27, 2013. The Overall Integrated Plan milestone schedule identified the completion dates for full implementation of NRC Order EA-12-049 as May 2015 to align with the completion of the spring 2015 refueling outage for BVPS Unit No. 1.

NRC Order EA-12-049 requires the development, implementation, and maintenance of guidance and strategies to maintain or restore core cooling, containment, and spent fuel pool cooling capabilities in the event of a beyond-design-basis external event (BDBEE). As described in the Overall Integrated Plan for BVPS, these mitigation strategies are dependent upon installation of low leakage reactor coolant pump (RCP) shutdown seals. FENOC currently intends to use the Westinghouse low leakage RCP shutdown seals (SHIELD® seals) at BVPS. Recent post-operational testing of the SHIELD seals has resulted in the need to enhance the SHIELD design. The new seals will ensure the safety functions of containment integrity (during an extended loss of alternating current power or ELAP), and core cooling (reactor coolant system inventory and level) are maintained for BDBEEs.

Justification for relaxation request:

As described in the Overall Integrated Plan and clarified during the audit teleconference with the NRC, a key aspect of the BVPS Unit No. 1 mitigating strategies is implementation of the Westinghouse RCP SHIELD passive thermal shutdown seals (low leakage RCP seals). The reduced seal leakage is a fundamental basis for the coping analysis, required modifications, and procedures to ensure core cooling, containment integrity and equipment functionality are adequately maintained during the event. Recent testing of RCP SHIELD seals has identified issues with the reliability of the current design to perform as assumed in the BVPS Unit No. 1 FLEX strategies.

Westinghouse has developed design changes to the RCP SHIELD seals to fully support seal performance consistent with Reference 2. Final design, testing, and qualification are in progress, with full involvement from utility customers. Westinghouse provided a white paper to the NRC in March 2014 on the basis for crediting the low leakage seals. This document is to be reviewed by the NRC for endorsement.

Although FENOC remains confident that the RCP SHIELD seal design issues will be resolved to allow full credit in the FLEX strategies, there is uncertainty regarding the timing of this resolution.

Based on this timeline, FENOC is requesting a schedule relaxation of one refueling cycle for implementation of the mitigation strategies for BVPS Unit No. 1. The extension would provide additional time to obtain NRC acceptance of the new RCP seals and for FENOC to safely plan, schedule, and install the new seals at BVPS Unit No. 1. FENOC intends to continue to report on the status of all design and modification activities as part of the six-month update process.

An extension of one additional refueling cycle for BVPS Unit No. 1 is hereby requested, which would move the implementation date from May 2015 to completion of the refueling outage in fall 2016 (currently scheduled for October 2016). The requested relaxation of the BVPS Unit No. 1 schedule does not exceed the December 31, 2016 deadline. The completion schedule for BVPS Unit No. 2 implementation would remain unchanged (as November 2015 to align with the refueling outage in fall 2015).

Conclusion:

As described above, compliance with the current NRC Order EA-12-049 schedule requirement for full completion of implementation of mitigation strategies would result in hardship or unusual difficulty without a compensating increase in the level of safety. Therefore, in accordance with the provisions of Section IV of the Order, FENOC requests relaxation of the requirement described in Section IV.A.2, as explained above.

References:

1. NRC Order Number EA-12-049, Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events, dated March 12, 2012
2. FirstEnergy Nuclear Operating Company's (FENOC's) Overall Integrated Plan in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049), dated February 27, 2013