



FirstEnergy Nuclear Operating Company

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L-16-149

10 CFR 50.4

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

SUBJECT:

Beaver Valley Power Station, Unit No. 2
Docket No. 50-412, License No. NPF-73
Post Accident Monitoring Report

The attached report is submitted in accordance with Beaver Valley Power Station (BVPS) Unit No. 2 Technical Specifications 3.3.3 and 5.6.5. The report is required due to the inoperability of one BVPS Unit No. 2 Source Range Nuclear Excore Instrumentation channel for a period in excess of the 30 day restoration time.

There are no regulatory commitments contained in this submittal. Any actions discussed in this document that represent intended or planned actions are described for the NRC's information, and are not regulatory commitments.

If there are any questions or if additional information is required, please contact Mr. William C. Cothen, Manager, Regulatory Compliance at 724-682-4284.

Sincerely,

Marty L. Richey

Attachment

cc: Mr. D. H. Dorman, NRC Region I Administrator
Mr. J. A. Krafty, NRC Senior Resident Inspector
Ms. T. A. Lamb, NRR Project Manager
Mr. L. J. Winker (BRP/DEP)

ADD
NRR

ATTACHMENT
L-16-149

Beaver Valley Power Station Unit 2 Post Accident Monitoring Report
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This Report is being submitted for Beaver Valley Power Station Unit No. 2 (BVPS-2) per Technical Specification (TS) 5.6.5 titled "Post Accident Monitoring Report." TS 3.3.3 titled "Post Accident Monitoring (PAM) Instrumentation" requires that two channels of Source Range Neutron Flux instruments be Operable during plant operation in Modes 1, 2, and 3. On March 17, 2016, one channel of Source Range Neutron Flux was declared inoperable and TS 3.3.3 Condition "A" was entered. TS 3.3.3 Condition "A" requires channel restoration to Operable status in 30 days. If TS 3.3.3 Condition "A" is not satisfied in 30 days, then TS 3.3.3 Condition "B" is entered. FENOC has determined that the Source Range instrument cannot be restored in 30 days; therefore, TS 3.3.3 Condition "B" requires initiation of action in accordance with TS 5.6.5. This TS Administrative Controls Reporting Requirement requires a report be submitted within the following 14 days outlining the preplanned alternate method of monitoring, the cause of the inoperability, and the plans and schedule for restoring the instrumentation channels of the Function to Operable status.

Description of Issue

On March 17, 2016, while at full power, it was noted that Source Range Channel Nuclear Instrument NI-32 was indicating erratically (mid-scale). The detector is automatically de-energized at 10%; therefore, at full power, the source range indication should be zero. The Source Range Instrument NI-32 was declared inoperable. The second channel, NI-31, remains Operable.

The issue (documented in CR 2016-03549) is the channel does not display downscale as expected for plant conditions, but instead displays an erratic mid-scale indication. In Mode 1 operation, the NI-32 detector is de-energized because it would be destroyed in a high flux environment. The detector is automatically energized below the P6 interlock on decreasing intermediate range flux, for example, following a reactor trip.

Cause of the Inoperability and Action Taken

The cause, based on troubleshooting conducted to date, is likely an AC electrical disturbance or noise production within the remote pre-amplifier or cable connections. Noise reduction efforts similar to what have previously been performed on NI-31 have not significantly improved the performance of NI-32. A new pre-amplifier has also been installed with no significant improvement.

Preplanned Alternate Method of Monitoring

The proposed alternate method of monitoring for the PAM instrumentation is two Gamma-Metrics (G/M) detectors (NE-52 and NE-53) which provide diverse indication for the entire range from source range to power range. These G/M channels are powered by diesel generator backed emergency 120 vac distribution panels E7 and E8, respectively.

Plan and Schedule for Restoring the Instrumentation Channels

Additional testing is in progress with the support of contract industry experts to pinpoint the cause of the interference. It is currently expected that repairs can be performed within approximately 90 days after testing has determined the cause.