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10 CFR 50.46(a)(3)(ii)

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

SUBJECT:
Beaver Valley Power Station, Unit Nos. 1 and 2
BV-1 Docket No. 50-334, License No. DPR-66
BV-2 Docket No. 50-412, License No. NPF-73
10 CFR 50.46 Report of Changes or Errors in ECCS Evaluation Models

Pursuant to 10 CFR 50.46(a)(3)(ii), FirstEnergy Nuclear Operating Company (FENOC) provides the attached report as annual notification of changes or errors in emergency core cooling system (ECCS) evaluation models for Beaver Valley Power Station (BVPS), Unit Nos. 1 and 2. Current information for both large and small break loss of coolant accident (LOCA) transients is provided to satisfy reporting requirements. The following attachments provide information as requested by 10 CFR 50.46.

Attachment 1 — Provides a listing of each change or error in an acceptable evaluation model that affects the peak cladding temperature (PCT) calculation for particular transients. It quantifies the effects of the changes that have occurred since the previous report (November 26, 2008) for the specified transients and provides an index to Attachment 2.

Attachment 2 — Provides a description for each model change or error.

The PCT effects, listed in Attachment 1, results in PCTs for the large and small break LOCA transients as follows:

BVPS-1 Large Break LOCA – 2014 degrees Fahrenheit
BVPS-1 Small Break LOCA – 1895 degrees Fahrenheit
BVPS-2 Large Break LOCA – 2017 degrees Fahrenheit
BVPS-2 Small Break LOCA – 1917 degrees Fahrenheit

A002
NRR

There are no regulatory commitments contained in this submittal. If there are any questions or if additional information is required, please contact Mr. Thomas A. Lentz, Manager – Fleet Licensing, at 330-761-6071.

Sincerely,

Paul A. Harden

Attachment
1. Summary of PCT Effects for BVPS LOCA Transients
2. Descriptions of Model Changes or Errors

cc: NRC Region I Administrator
NRC Resident Inspector
NRR Project Manager
Director BRP/DEP
Site BRP/DEP

Summary of PCT Effects for BVPS LOCA Transients

Description	PCT Effect (°F)	Attachment 2 Page
BVPS-1 LARGE BREAK LOCA		
Discrepancy in Metal Masses Used from Drawings	0	1, 2
BVPS-1 SMALL BREAK LOCA		
Discrepancy in Metal Masses Used from Drawings	0	1
BVPS-2 LARGE BREAK LOCA		
Discrepancy in Metal Masses Used from Drawings	0	1, 2
BVPS-2 SMALL BREAK LOCA		
Discrepancy in Metal Masses Used from Drawings	0	1

Discrepancy in Metal Masses Used from Drawings

Background

Discrepancies were discovered in the use of metal masses from drawings. The updated reactor vessel metal masses and fluid volumes have been evaluated for impact on current licensing-basis analysis results and will be incorporated on a forward-fit basis. These changes represent a closely-related group of Non-Discretionary Changes in accordance with Section 4.1.2 of WCAP-13451, "Westinghouse Methodology for Implementation of 10 CFR 50.46 Reporting."

Affected Evaluation Model(s)

1981 Westinghouse Large Break LOCA Evaluation Model with BASH
1985 Westinghouse Small Break LOCA Evaluation Model with NOTRUMP

Estimated Effect

The differences in the reactor vessel metal mass and fluid volume are relatively minor and would be expected to produce a negligible effect on large and small break LOCA analysis results, leading to an estimated PCT impact of 0 degrees Fahrenheit for 10 CFR 50.46 reporting purposes.

Discrepancy in Metal Masses Used from Drawings

Background

Discrepancies were discovered in the use of Lower Support Plate (LSP) metal masses from drawings. The updated LSP metal masses have been evaluated for impact on current licensing-basis analysis results and will be incorporated on a forward-fit basis. These changes represent a closely-related group of Non-Discretionary Changes in accordance with Section 4.1.2 of WCAP-13451, "Westinghouse Methodology for Implementation of 10 CFR 50.46 Reporting."

Affected Evaluation Model(s)

1996 Westinghouse Best Estimate Large Break LOCA Evaluation Model
1999 Westinghouse Best Estimate Large Break LOCA Evaluation Model, Application to PWRs with Upper Plenum Injection
2004 Westinghouse Realistic Large Break LOCA Evaluation Model Using ASTRUM
SECY UPI WCOBRA/TRAC Large Break LOCA Evaluation Model

Estimated Effect

Sensitivity studies were performed using a representative WCOBRA/TRAC model in which the correct LSP mass was used. It was determined that the effect of the error correction on the peak cladding temperature was negligible, leading to an estimated PCT impact of 0 degrees Fahrenheit for 10 CFR 50.46 reporting purposes.