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Docket Nos.: 50-348
50-364

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

Joseph M. Farley Nuclear Plant
Request for NRC Staff Review of WCAP-14750
"RCS Flow Verification Using Elbow Taps at Westinghouse 3-Loop PWRs"

Ladies and Gentlemen:

Southern Nuclear Operating Company is submitting a Westinghouse Owners Group (WOG) technical report, WCAP-14750, "RCS Flow Verification Using Elbow Taps at Westinghouse 3-Loop PWRs," for NRC Staff review and approval. The elbow tap flow measurement method provides an alternate method for satisfying the Technical Specifications eighteen month RCS total flow surveillance. This report is applicable to other 3-loop Westinghouse PWRs for which Farley is the lead plant.

An alternate RCS flow measurement method is necessary because of inherent limitations associated with the calorimetric-based method in PWRs with extreme low leakage core loading patterns. In recent operating cycles, Farley, along with other 3-loop PWRs, has experienced apparent reductions in RCS flow rate that have been attributed to variations in hot leg streaming, which have been exacerbated by the low leakage core designs. This apparent flow reduction occurs because the temperature measurements used in the precision calorimetric-based method are influenced by hot leg temperature streaming effects. While RCS flow surveillance using cold leg elbow tap measurements normalized to early cycle calorimetric flow measurements may have larger instrumentation uncertainties, the elbow tap measurements are not sensitive to the hot leg streaming variations. Independent confirmation of the elbow tap flow measurements has been obtained by performance of cycle-specific RCS hydraulic analysis.

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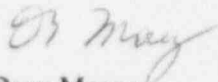
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The elbow tap flow measurement procedure and recommended Technical Specifications changes are included in the attached Westinghouse reports: WCAP-14750 (Proprietary Class 2C) and WCAP-14754 (Proprietary Class 3), "RCS Flow Verification Using Elbow Taps at Westinghouse 3-Loop PWRs." The attachments also include Westinghouse authorization letter CAW-96-1015 and accompanying affidavit, proprietary information notice, and copyright notice. As WCAP-14750 contains information proprietary to Westinghouse Electric Corporation, it is supported by an affidavit signed by Westinghouse, the owner of the information. The affidavit sets forth the basis on which the information may be withheld from public disclosure by the Commission and specifically addresses the considerations listed in paragraph (b)(4) of Section 2.790 of the Commission's regulations. Correspondence with respect to the copyright or proprietary aspects of the items listed above or the supporting Westinghouse affidavit should reference CAW-96-1015 and should be addressed to Nicholas J. Liparulo, Manager of Regulatory & Engineering Networks, Westinghouse Electric Corporation, P. O. Box 355, Pittsburgh, Pennsylvania 15230-0355.

If you have any questions, please advise.

Respectfully submitted,

SOUTHERN NUCLEAR OPERATING COMPANY


Dave Morey

rcsflow5.mge

Attachments

cc: Mr. S. D. Ebner
Mr. T. M. Ross
Mr. J. I. Zimmerman

ATTACHMENTS

Westinghouse letter CAW-96-1015, dated September 26, 1996, "Application For Withholding Proprietary Information From Public Disclosure," with the following enclosures: Affidavit, Proprietary Information Notice, and Copyright Notice.

Westinghouse WCAP-14750 (Proprietary Class 2C) "RCS Flow Verification Using Elbow Taps at Westinghouse 3-Loop PWRs."

Westinghouse WCAP-14754 (Non-Proprietary Class 3) "RCS Flow Verification Using Elbow Taps at Westinghouse 3-Loop PWRs."