ENCLOSURE

BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2
BLOWN FUSES IN LOW VOLTAGE SWITCHGEAR
NCR 994
10 CFR 50.55(e)
FINAL REPORT

Description of Deficiency

Upon energizing the main breaker on Westinghouse Low Voltage Metal Enclosed (480V) Type DS Switchgear, the fuse (three amp - fast acting) on the primary side of the main bus potential transformer blows. However, the fuse blows only when the voltmeter used for testing the main bus voltage is switched into the circuit. It has since been determined that the fuses originally specified for the switchgear were undersized. There is one fuse affected on each switchgear.

Safety Implications

The problem has occurred on low voltage 480V switchgear supplied to Bellefonte by Westinghouse. This switchgear supplies AC power to safety and nonsafety 480V boards for distribution to equipment as well as other boards in the plant. However, the safety-related switchgear is designed such that the blown fuse would not degrade the ability of the respective switchgear to supply power to its board. Had the deficiency gone uncorrected, the consequences of the blown fuse would be the incorrect annunciation in the control room that the affected 480V board had lost AC power when it actually had not. Annunciators of equipment and boards fed by the affected 480V board would not be affected by the blown fuse and would not annunciate a lost AC power condition. This conflict in signals should alert the operator to a problem in the Status Monitoring System and that power to the 480V boards had not been lost. The blown fuse would not, in itself, cause a condition which would adversely affect plant operation or safety.

Corrective Action

Westinghouse has sent larger fuses (six amp - fast acting) to the Bellefonte site to replace the original three-amp fuses. These larger fuses did not blow upon testing, and the problem has been corrected. The problem apparently occurred because of a higher than anticipated inrush current to the three-amp fuse from the transformer. The larger fuse can withstand this inrush. For the Sequoyah and Watts Bar facilities, investigation has shown that similar problems with this switchgear have not occurred. For the Hartsville and Phipps Bend facilities, this switchgear was not supplied by Westinghouse. This equipment has not yet been procured for the Yellow Creek facility.