ENCLOSURE

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

Description of Deficiency

Upon energizing the main breaker on Westinghouse Low Voltage Metal Enclosed (480V) Type DS Switchgear, the fuse (3 amp-fast acting) on the primary side of the main bus potential transformers blows. However, the fuse blows only when the voltmeter used for testing the main bus voltage is switched into the circuit. 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.

If the fuses do not blow, there would not be any consequences adverse to safety. The consequences of a 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. A blown fuse would not, in itself, cause a condition which would adversely affect plant operation or safety.

Corrective Action

The only fuse failures to occur at this time have been those which prompted the nonconformance. Tests by TVA and Westinghouse have failed to produce further fuse failures. A specific reason for the original fuse failures cannot be determined. Although adequate storage of the switchgear was maintained, it is postulated that moisture could have been present in the switchgear and could have caused the problem. However, this cannot be determined. Since no further failures have occurred and no cause can be found for the original failures, no corrective action is planned. Close attention will be paid to present and future switchgear installations for similar problems.

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.