

HARTSVILLE AND PHIPPS BEND NUCLEAR PLANTS (ALL UNITS)  
DEFECTS IN ROSEMOUNT TRIP/CALIBRATION UNITS  
AND PRESSURE TRANSMITTERS  
10CFR50.55(e) REPORT NO. 1 (INTERIM)

On March 28, 1980, TVA notified NRC-OIE Region II, Inspector R. W. Wright, of a reportable deficiency under 10CFR50.55(e) regarding defects in Rosemount trip/calibration units and pressure transmitters being supplied by GE for use at the Hartsville Nuclear Plant. He was also notified on April 15, 1980, that the condition also exists for equipment being supplied for use at Phipps Bend Nuclear Plant. These deficiencies were reported to NRC-OIE Region V, Inspector R. H. Engleken, under 10CFR21 on March 21, 1980, by GE both verbally and by letter MFN 065-80.

This is the first interim report on the subject reportable deficiency. The final report will be sent to you on or before June 20, 1980.

Description of Deficiency

General Electric was advised by Rosemount that some of the model 510DU trip/calibration units and model 1152 pressure transmitters contain defects. The trip unit is used in conjunction with the pressure transmitter to provide high or low trip signals. The pressure transmitter is used for direct pressure measurement transmission or as a level sensor in conjunction with a differential pressure measuring device.

The trip unit has a common mode failure of an essential switch that determines the trip output logic. The malfunction open-circuits the logic, thereby providing an inoperable signal. As an example, when used as an ECCS water level trip unit, this can result in failure to trip on low water level.

The transmitter has a common mode failure of a capacitor when the transmitter operating temperature is greater than 175° F or when the damping potentiometer is rotated clockwise. The failure is manifested as a drop in transmitter output current up to 10 percent of the correct current. As an example, when used as a pressure transmitter, this can result in transmitting reactor pressure 10 percent lower than actual.

GE has initially identified 64 items of equipment which may contain defective pressure transmitters and which have been shipped to Hartsville and Phipps Bend (54 at Hartsville and 10 at Phipps Bend).

GE has also verbally indicated that no trip calibration units have been shipped to either Hartsville or Phipps Bend. They indicated that these units are in control room panels which have not been shipped to either site.

Corrective Actions

GE has undertaken an investigation to determine the location of all equipment which has one or more of the subject defective components installed.

Rosemount will replace the defective switches in the affected trip units and the defective capacitors in the affected transmitter units that have been shipped to GE, including those shipped on to utilities by GE.