

DUKE POWER COMPANY
OCONEE UNIT 2

Report No.: AO-269/75-2

Report Date: April 2, 1975

Occurrence Date: March 20, 1975

Facility: Oconee Unit 1, Seneca, South Carolina

Identification of Occurrence: Reactor coolant pressure transmitter out of calibration

Conditions Prior to Occurrence: Unit at 75 percent full power

Description of Occurrence:

On March 20, 1975, the calibration of the Oconee Unit 1 reactor coolant pressure transmitter was checked. The Channel "D" pressure transmitter was found to be out of calibration by -2.7 percent. The full scale error measured as a result of transmitter drift was -21.6 psi. The pressure transmitters for Channels A, B and C were within the required 2 percent limit. These transmitters provide reactor coolant pressure information to the Reactor Protective System (RPS).

Designation of Apparent Cause of Occurrence:

The apparent cause of this occurrence is the excessive drift associated with changing ambient temperature for this pressure transmitter. This transmitter was calibrated on February 19, 1975 when the unit was in a cold shutdown condition. After heating up, the instrument drifted in the negative direction by -2.7 percent.

Analysis of Occurrence:

The Reactor Protective System (RPS) high and low pressure trips are actuated by signals from these pressure transmitters. The RPS logic produces a trip when two out of four channels trip. Due to the redundancy present in the RPS, the calibration of one pressure transmitter did not affect the safe operation of the unit.

For the affected transmitter, the low pressure trip setpoint drifted in a conservative direction, and the high pressure trip setpoint exceeded the maximum RPS trip setting (2355) by 15.6 psi. However, the high pressure trip setpoint had been set at 2349 psig to allow for instrument drift and a total reactor coolant pressure measurement error of -30 psi had been assumed in the safety analysis. Therefore, the pressure transmitter drift would not have resulted in a high pressure trip at a pressure higher than that assumed in the safety analysis. Furthermore, the safety limit of 2790 psig was not approached. It is concluded that the health and safety of the public was not affected.

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Corrective Action:

The pressure transmitter was recalibrated to the required specifications. A test of this and several possible replacement transmitters, calibrated to the same specifications, has been completed with the recommendation that the narrow range pressure transmitters be replaced. Procurement of new transmitters is in progress, and it is estimated that they will be available for installation in early 1976. In the interim, the transmitters are being calibrated monthly and only at the elevated operating temperatures so as to minimize transmitter drift.

Failure Data:

The pressure transmitter is a Motorola Type 56 PH, ID #1224-0301.