

DUKE POWER COMPANY
OCONEE UNIT 1

Report No.: AO-269/74-8

Report Date: May 17, 1974

Occurrence Date: May 7, 1974

Facility: Oconee Unit 1, Seneca, South Carolina

Identification of Occurrence: Reactor coolant pressure transmitters out of calibration

Conditions Prior to Occurrence: Cold shutdown

Description of Occurrence:

On May 7, 1974, pressure transmitters RC3A-PT1, RC3A-PT2, RC3B-PT1, and RC3B-PT2 were found to be out of calibration by -1.9 percent, -2.1 percent, -3.8 percent, and -3.2 percent respectively. These pressure transmitters provide reactor coolant pressure information to the Reactor Protective System.

The full-scale error measured as a result of transmitter drift was:

Channel A RC3A-PT1 - 15.2 psi
Channel B RC3A-PT2 - 16.8 psi
Channel C RC3B-PT1 - 25.6 psi
Channel D RC3B-PT2 - 30.4 psi

All four transmitters drifted in the negative direction and were within 2 percent of each other. The transmitters were last calibrated on February 8-9, 1973, and there has been no indication of problems since the last calibration.

Analysis of Occurrence:

The Reactor Protective System high and low pressure trips are actuated by signals from the affected pressure transmitters. The low pressure trip setpoint drifted in a conservative direction, and the high pressure trip setpoint drifted such that the high pressure trip setpoint exceeded the maximum RPS trip setting (2355 psig) by 24.4 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. This incident did not affect the health and safety of the public.

Corrective Action:

Immediate corrective action was to recalibrate the pressure transmitters. This was completed on May 8, 1974. To prevent similar occurrences, the frequency of calibration will be increased until there is assurance that the transmitters will not drift out of tolerance between calibrations. Initially, calibration will be performed during outages for repatching control rods, approximately

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Every 100 effective full power days.

Failure Data:

The RPS pressure transmitters are Motorola Type 56PM-56PL. The last calibration of these instruments was performed on February 8-9, 1973.