

DUKE POWER COMPANY
POWER BUILDING
422 SOUTH CHURCH STREET, CHARLOTTE, N. C. 28242

WILLIAM O. PARKER, JR.
VICE PRESIDENT
STEAM PRODUCTION

October 31, 1979

TELEPHONE: AREA 704
373-4083

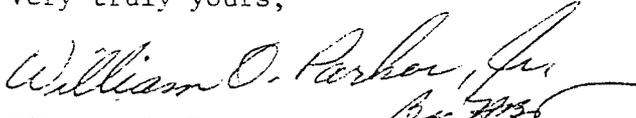
Mr. J. P. O'Reilly, Director
U.S. Nuclear Regulatory Commission
Region II
101 Marietta Street, Suite 3100
Atlanta, GA 30303

Re: Oconee Nuclear Station, Unit 1
Docket No. 50-269

Dear Mr. O'Reilly:

My letter of October 24, 1979, transmitted Reportable Occurrence Report RO-269/79-35 to your office. However, a previous incident was determined to be non-reportable, and the report numbers for subsequent reports were reassigned. Therefore, please find attached a copy of the report submitted on October 24, 1979, which has been revised only to change the report number to RO-269/79-34.

Very truly yours,


William O. Parker, Jr. *By [Signature]*

SRL/sch
Attachment

cc: Director, Office of Management Information
and Program Control



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DUKE POWER COMPANY
OCONEE UNIT 1

Report Number: RO-269/79-34

Report Date: October 31, 1979

Occurrence Date: October 10, 1979

Facility: Oconee Unit 1, Seneca, South Carolina

Identification of Occurrence: NI's Out-of-Calibration in Non-conservative Direction

Conditions Prior to Occurrence: Power Escalation from 83 to 100% Full Power

Description of Occurrence:

At 2200 on October 9, 1979 power escalation following a unit trip was temporarily suspended to adjust imbalance and rod position limits for final escalation to 100% full power. At this time the NI's were in calibration (with respect to primary/secondary heat balance calculations). Power had reached 85% by 0015 on October 10, 1979 and the NI's had drifted greater than 2% out-of-calibration in the non-conservative direction. Personnel noted the drift but did not take corrective action at this time. By 0300 all NI's were out-of-calibration by more than 4% non-conservative and were in violation of Technical Specification bases for the RPS trip setpoints based on reactor power. Corrective action and power reduction were initiated at 0630. By 0730 all NI's were returned to within calibration limits and the power reduction was terminated.

Apparent Cause of Occurrence:

The cause of the occurrence was personnel error in failing to follow established procedures. Several steps of OP/1/A/1102/01 (unit startup) and OP/1/A/1102/02 (unit operation) require calibration when two or more NI's are out-of-calibration by more than 2% non-conservative. These steps were specifically added to prevent this type of occurrence. The personnel involved correctly noted the condition but failed to take corrective actions required.

Analysis of Occurrence:

The NI channels are part of the Reactor Protection System (RPS), required to initiate reactor trips during transient or off-normal events when the monitored parameter exceeds the trip setpoint. The analyses of the trip setpoints and the safety analyses of postulated transient events were performed assuming a measurement tolerance of 4% for the NI detectors. Therefore, the incidents resulted in operation of Unit 1 with NI measurement tolerances exceeding the tolerance value assumed in the safety analyses and RPS trip setpoint analyses. However, the safety analyses and RPS trip setpoint analyses were also performed with the assumption that several other independent parameters or phenomena (such as RCS flow, RCS pressure and temperature, power peaking, hot channel flow area, fuel rod and pellet characteristics, calculational uncertainties, etc.) would be simultaneously at their worst design values; and, further, the monitored parameters

were assumed to be measured with the maximum design tolerance. Therefore, all these parameters would have to be simultaneously at their worst design values during transients for the core safety limits to be approached. Recognizing that the NI's were out of the required calibration tolerance only for a short period of time and that design analyses include significant conservatisms, it is considered that these incidents were of no significance with respect to safe operation of the affected units, and the health and safety of the public were therefore not endangered.

Corrective Action:

The immediate corrective actions were to reduce unit power and to recalibrate the NI's. In that corrective actions following similar incidents (RO-269/77-14, RO-269/79-14) has reduced the frequency but has, as yet, not been sufficient to preclude this situation, further corrective action is required. This will include counselling personnel involved, procedure change to require increased surveillance of NI calibration status (every 2 hours vice every shift) and the installation of a "NI-error" statalarm. It is considered that these corrective actions will prevent further recurrence.