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FACIL:50-287 OCONEE #3, DUKE POWER CO.

05000287

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RECIPIENT AFFILIATION

**REG.2,ATLANTA,OFF.OF THE DIRECTOR

SUBJECT: LER 78-020/03L-0 on 781208:quadrant power tilt exceeded
steady state limit;nuclear overpower trip setpoints reduced.
No cause yet determined.

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DUKE POWER COMPANY
OCONEE UNIT 3

Report Number: RO-287/78-20

Report Date: January 8, 1979

Occurrence Date: December 8, 1978

Facility: Oconee Unit 3, Seneca, South Carolina

Identification of Occurrence: Quadrant Power Tilt in Excess of Steady-State Limit

Conditions Prior to Occurrence: 33% Full Power

Description of Occurrence:

At 2243 on December 7, 1978 Oconee 3 was taken critical following a unit outage. At 0343, December 8, 1978 the quadrant power tilt in the Z-W quadrant exceeded the error-adjusted steady-state limit on the incore detector system (+ 3.71%). At 0540, as required by Technical Specification 3.5.2.4.b.2 the nuclear over-power trip setpoints were lowered to provide additional conservatism on the flux and flux/flow/imbalance trips. The power level at this time was 33% full power. The tilt returned to within limits at 0704 and by 0740 it was + 2.35%. During the remainder of December 8, 1978 the tilt continued to decrease and returned to levels experienced before the transient.

Apparent Cause of Occurrence:

No cause for the spurious tilt phenomena during this occurrence had been determined. The tilt was apparently not a result of detector error, since both incore and out-of-core detectors gave consistent indications, nor differential cold leg temperature (ΔT_c) since the cold leg temperature was monitored before, during, and after the occurrence.

Analysis of Occurrence:

The maximum actual tilt experienced during this occurrence was 4.6%. This is well below the transient limit of 9.44% established for Unit 3. The maximum tilt occurred when the unit operated at 16% full power. As power was increased actual tilt decreased. With a tilt of 4.6% and other parameters at worse-case condition, the increase in linear heat rate due to the tilt is less than 7.5%. The "hot spot" heat rate would then be less than that experienced at 55% full power. Since the worst linear heat rate which could have been experienced is well within normal operating levels this occurrence did not adversely effect reactor safety or the health and safety of the public.

Corrective Actions:

No further corrective actions other than routine monitoring of quadrant power tilt are considered necessary.

LICENSEE EVENT REPORT

EXHIBIT A

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No cause has yet been determined. The resetting of the setpoints provided																																																																																									
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