



1. Reportable Occurrence Report No. 50-313/77-22  
2. Report Date: 12/7/77 3. Occurrence Date: 11/23/77  
4. Facility: Arkansas Nuclear One-Unit 1  
Russellville, AR 72801

5. Identification of Occurrence:

Loss of required overlap between operating control rods groups.

6. Conditions Prior to Occurrence:

Steady-State Power _____	Reactor Power _____ MWth
Hot Standby _____	Net Output _____ MWe
Cold Shutdown _____	Percent of Full Power <u>22</u> %
Refueling Shutdown _____	Load Changes During Routine Power Operation _____
Routine Startup Operation _____	
Routine Shutdown Operation _____	
Other (specify)	

7. Description of Occurrence:

At approximately 2040 hours on 11/23/77 during a test of the turbine throttle valves, the turbine tripped. During insertion of the Group 6 control rods to prevent auto trip of the reactor, the  $25 \pm 5\%$  overlap was not maintained as required by Technical Specification 3.5.2.5.

8. Designation of Apparent Cause of Occurrence:

Design	_____	Procedure	_____
Manufacture	_____	Unusual Service Condition Including Environmental	_____
Installation/ Construction	_____	Component Failure (See Failure Data)	_____
Operator	_____		
Other (specify) (See Item 9)			

9. Analysis of Occurrence:

A detailed investigation of all components whose failure could have caused the sequencing malfunction revealed no component failures. It appears that Group 7 had not reached its in-limit when its motion was stopped by Group 6 being at 75%.

There is no core safety significance associated with the minimum overlap requirement, rather the concern is for an overlap greater than 30%. This reduction in overlap did not create an unsafe condition, and no core protection limits were approached. This incident did not endanger the health and safety of the public.

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10. Corrective Action:

The operator adjusted Group 5 manually since Group 5 will not normally move unless Group 7 is at its in-limit.

11. Failure Data:

Similar events reported in RORs 50-313/75-10 and 50-313/76-01.