

- 1. Reportable Occurrence Report No. 50-313/78-12
- 2. Report Date: May 5, 1978                      3. Occurrence Date: April 24, 1978
- 4. Facility:            Arkansas Nuclear One-Unit 1  
                                 Russellville, Arkansas 72801

5. Identification of Occurrence:

Loss of required overlap between operating control rods groups.

6. Conditions Prior to Occurrence:

Steady-State Power	<u>    X    </u>	Reactor Power	<u>                    </u> MWth
Hot Standby	<u>                    </u>	Net Output	<u>                    </u> MWe
Cold Shutdown	<u>                    </u>	Percent of Full Power	<u>  75  </u> %
Refueling Shutdown	<u>                    </u>	Load Changes During Routine Power Operation	<u>                    </u>
Routine Startup Operation	<u>                    </u>		
Routine Shutdown Operation	<u>                    </u>		
Other (specify)			

7. Description of Occurrence:

At approximately 2045 hours on 4/24/78, Group 7 control rods dropped into the core due to a failure of a gate drive circuit. Due to this failure, the  $25 \pm 5\%$  overlap was not maintained as required by Technical Specification 3.5.2.5.2.

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8. Designation of Apparent Cause of Occurrence:

Design	_____	Procedure	_____
Manufacture	_____	Unusual Service Condition Including Environmental	_____
Installation/ Construction	_____	Component Failure (See Failure Data)	<u>  X  </u>
Operator	_____		
Other (specify)			

9. Analysis of Occurrence:

A detailed investigation was performed but the cause of the failure is not known.

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 corrective action taken was to insert Group 6 to obtain the required overlap.

11. Failure Data:

Similar events reported include Reportable Occurrences 50-313/75-10, 50-313/76-01 and 50-313/77-22.

LICENSEE EVENT REPORT

EXHIBIT A

CONTROL BLOCK: \_\_\_\_\_ (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

01 | A | R | A | N | O | 02 | 0 | 0 | 0 | - | 0 | 0 | 0 | 0 | - | 0 | 0 | 03 | 4 | 1 | 1 | 1 | 1 | 04 | \_\_\_\_\_ | 05

CONT | REPORT SOURCE | L | 05 | 00 | 03 | 13 | 07 | 04 | 24 | 78 | 08 | 05 | 05 | 78 | 09

02 | During power operation, Group 7 control rods dropped into the core, and  
03 | subsequently the 25±5% overlap as required by T.S. 3.5.2.5.2 was  
04 | not maintained. There was no core safety significance  
05 | associated with the minimum overlap requirement, thus no  
06 | hazard to the public health and safety of the public. Similar  
07 | events were reported in LER 50-313/77-22, 76-01, & 75-10.  
08 | \_\_\_\_\_

09 | SYSTEM CODE: RIB | CAUSE CODE: E | CAUSE SUBCODE: G | COMPONENT CODE: CRDRVE | COMP. SUBCODE: Z | VALVE SURCODE: Z  
17 | LER/RO REPORT NUMBER: 78 | EVENT YEAR: 78 | SEQUENTIAL REPORT NO.: 0112 | OCCURRENCE CODE: 01 | REPORT TYPE: T | REVISION NO.: 0  
18 | ACTION TAKEN: X | FUTURE ACTION: A | EFFECT ON PLANT: B | SHUTDOWN METHOD: Z | HOURS: 0004 | ATTACHMENT SUBMITTED: Y | NPRO-4 FORM SUB.: Y | PRIME COMP SUPPLIER: N | COMPONENT MANUFACTURER: DISO

10 | Cause description and corrective actions  
10 | Group 7 control rods dropped due to a failure of a gate drive circuit.  
11 | Cause of failure is unknown. Control rod group 6 was inserted to  
12 | obtain required overlap. Reactor power was ultimately reduced from  
13 | 75% to 56%. Reactor power was increased back to 75% after  
14 | normal overlap was established. The failed gate will be repaired or replaced.

15 | FACILITY STATUS: E | % POWER: 075 | OTHER STATUS: Z | METHOD OF DISCOVERY: A | DISCOVERY DESCRIPTION: Operator Observation

16 | ACTIVITY CONTENT: Z | AMOUNT OF ACTIVITY: NA | LOCATION OF RELEASE: NA

17 | PERSONNEL EXPOSURES: NUMBER: 000 | TYPE: Z | DESCRIPTION: NA

18 | PERSONNEL INJURIES: NUMBER: 000 | DESCRIPTION: NA

19 | LOSS OF OR DAMAGE TO FACILITY: TYPE: Z | DESCRIPTION: NA

20 | PUBLICITY ISSUED: NA | DESCRIPTION: NA

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