

AEC DISTRIBUTION FOR PART 50 DOCKET MATERIAL  
(TEMPORARY FORM)

CONTROL NO: 13163

FILE: INCIDENT REPORT

FROM: Carolina Power & Light Co. Raleigh, N.C. 27602 E.E. Utley		DATE OF DOC 12-23-74	DATE REC'D 12-30-74	LTR XX	TWX	RPT	OTHER
TO: Mr. Norman C. Mosely		ORIG 2 signed	CC 37	OTHER	SENT AEC PDR XXX SENT LOCAL PDR XXXX		
CLASS	UNCLASS XXXXX	PROP INFO	INPUT	NO CYS REC'D 39	DOCKET NO: 50-261		

DESCRIPTION: Ltr trans the following:

ENCLOSURES: Abnormal Occurrence AO-50-261/  
74-31 on 12-11-74 involving failure of the part  
length rod control system....

(39 cys encl rec'd)

PLANT NAME: H.B. Robinson Unit 2

FOR ACTION/INFORMATION DHL 12-15

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Carolina Power & Light Company

December 23, 1974

File: NG-3513 (R)

Serial: NG-74-1537

50-261

Mr. Norman C. Moseley, Director  
Directorate of Regulatory Operations  
U. S. Atomic Energy Commission  
Region II, Suite 818  
230 Peachtree Street, N.W.  
Atlanta, Georgia 30303

Mr. Donald Knuth, Director  
Directorate of Regulatory Operations  
U. S. Atomic Energy Commission  
Office of Regulation  
Washington, D. C. 20545



Dear Sirs:

H. B. ROBINSON UNIT NO. 2  
LICENSE NO. DPR-23  
FAILURE OF THE PART LENGTH ROD CONTROL SYSTEM

In accordance with 6.6.2.a of the Technical Specifications for H. B. Robinson Unit No. 2, the attached Abnormal Occurrence Report is submitted for your information. This report fulfills the requirement for a written report within ten days of an Abnormal Occurrence and is in accordance with the format set forth in Regulatory Guideline 1.16, Revision 1.

Yours very truly,

E. E. Utley  
Vice-President  
Bulk Power Supply

DBW:mvp  
Attachment

cc: Messrs. N. B. Bessac  
W. B. Howell  
J. B. McGirt  
D. V. Menscer  
D. B. Waters

13163

ABNORMAL OCCURRENCE REPORT

12-23-74

1. Report No. 50-261/74-31
- 2a. Date December 20, 1974
- 2b. Occurrence Date December 11, 1974
3. Facility H. B. Robinson Unit No. 2  
Hartsville, South Carolina 29550

4. Identification of Occurrence

Violation of a Limiting Condition for Operation due to the failure of the part length rod control system.

5. Conditions Prior to Occurrence

Reactor Power was 100%, and all systems were operating normally.

6. Description of Occurrence

On December 11, 1974, at 2315 hours, the Control Operator received the "Part Length Rod Control Alert" alarm on the RTGB. This resulted from three alarms on the part length rod control panel which blocked all control over these rods. An Instrumentation and Control Technician on site at the time of the occurrence was notified to determine the cause of the alarm and correct the situation if possible. The Control Operator was instructed to closely monitor the part length rod position indicators for any movement and to increase the frequency at which the radial tilts are calculated. The part length control rod system was returned to service at 0227 hours on December 12, 1974, after a high frequency monitoring relay was replaced.

7. Designation of Apparent Cause of Occurrence

The Instrumentation and Control Technician located the source of the failure in the Part Length Rod Control Cabinet. The high frequency monitoring relay for the control voltage input had failed. Failure of this relay inhibited the movement of the part length rods.

8. Analysis of Occurrence

Classification of this event when it occurred was complicated by the fact that the present Technical Specifications do not contain four subparagraphs concerning part-length rods and the heading and one subparagraph concerning inoperable control rods which should be included. This resulted from an error in Technical Specification Change No. 34 transmitted June 14, 1974. The proposed Technical Specifications for Loss of Coolant Accident Analyses (10CFR50, Appendix K) reinsert this missing information.

Another confusing factor in evaluating this event was that the proposed Appendix K Technical Specifications prohibit operation of part length control rods except for physics tests (in Section 3.10.5.2), yet permit no more than one control rod (part length or full length) to be inoperable during power operation (Section 3.10.6.2). It was the evaluation of plant management that Technical Specification 3.10.5.2 took precedence and that shutdown of the plant was unreasonable and unwarranted.

Two members of Region II Regulatory Operations who were conducting an on-site audit were notified of the incident.

With the rods fully withdrawn as they were at the time of the occurrence, a failure of the high frequency monitoring relay would not allow the rods to be inserted in the core. While energized and in "hold" these eight rods are prevented from moving by a stationary electrical field in the motor windings, and, if de-energized, a mechanical brake is engaged. The part length rods are incapable of being dropped into the core. Therefore, at no time were the part length rods capable of accidental insertion due to the failure of the high frequency monitoring relay. To assure that they were not drifting down into the core, the Shift Foreman had the Operator closely monitor their position.

Later in the day the Plant Nuclear Safety Committee met, and it was decided that the failure of the part length rod control system was a violation of Specification 3.10.6.2 using the definition of "inoperable" given in Specification 3.10.6.1 of the proposed Appendix K Technical Specifications.

#### 9. Corrective Action

The defective relay was identified and replaced by an Instrumentation and Control Technician. The part length rod control system was in service at 0227 hours on December 12, 1974.

#### 10. Failure Data

The component that failed was a high frequency monitoring relay made by Guardian Electric Company, Stock Number IR-FS2-610, 115 VAC, 60 Hz, 45 to 66 Hz adjustable.

A similar failure of this relay occurred on July 26, 1972.