

Letter to N. C. Moseley from Carolina Power and Light Company dated December 16, 1974.

Letter to N. C. Moseley from Carolina Power and Light Company dated December 12, 1974.

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December 16, 1974

File: NG-3513 (R)

Serial: NG-74-1490

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

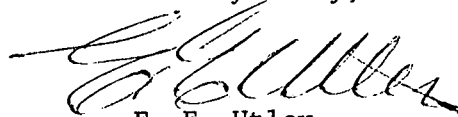
Mr. Donald Knuth, Director  
Directorate of Regulatory Operations  
U. S. Atomic Energy Commission  
Office of Regulation  
Washington, D. C. 20545

Dear Sirs:

H. B. ROBINSON UNIT NO. 2  
LICENSE NO. DPR-23  
FAILURE OF BORIC ACID TRANSFER PUMP SHAFT

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

JBM:DEW:mvp  
Attachment

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

## ABNORMAL OCCURRENCE REPORT

1. Report No. 50-261/74-29
- 2a. Date December 12, 1974
- 2b. Occurrence Date December 4, 1974
3. Facility H. B. Robinson Unit No. 2  
Hartsville, S. C. 29550

4. Identification of Occurrence

Failure of "B" Boric Acid Transfer Pump constituting an abnormal occurrence as defined in Section 1.8.d of the Technical Specifications.

5. Conditions Prior to Occurrence

The plant was operating at 100% nuclear power with 705 M.W. net electrical output. "B" Boric Acid Transfer Pump was lined up to the boric acid blender and "A" Boric Acid Transfer Pump was lined up to recirculate with the Boron Injection Tank.

6. Description of Occurrence

At 2111 hours an automatic makeup signal was initiated. No flow was observed on the recorder or integrator. A local inspection indicated proper valve lineup. However, no discharge pressure was observed and the "B" pump was very noisy. "A" Boric Acid Transfer Pump was immediately test operated satisfactorily. Steps were then taken to determine the cause of "B" pump failure.

7. Designation of Apparent Cause of Occurrence

The pump motor was checked electrically and found to be sound. Investigation revealed the shaft had broken at its juncture with the rotor. The pump bearing showed excessive wear and the part of the shaft housed by the bearing was galled and scored. One previous failure of this type has occurred and bearing wear appears to have resulted in shaft fretting, vibration and ultimate failure.

8. Analysis of Occurrence

Upon determination that "B" Boric Acid Transfer Pump would not meet its design function, the "A" Boric Acid Transfer Pump was tested and operability verified. The plant safety was therefore not jeopardized, and no limiting condition of operation was violated. No personnel injuries, undue exposures, releases of radioactive materials, or threat to the public health and safety resulted from this occurrence.

9. Corrective Action

The "B" Boric Acid Transfer Pump was replaced with a spare pump and returned to service at 0243 hours, December 5, 1974. A new pump, model GVH-10K, was recommended by Chempump and is being investigated as a replacement for the problematic pump.

10. Failure Data

August 15, 1973 - Crane Chempump model G.E. 20K broken shaft near keyway.

December 4, 1973 - Crane Chempump model G.E. 20K broken shaft near keyway.

March 20, 1974 - Crane Chempump model G.E. 20K broken shaft near keyway.

August 8, 1974 - Crane Chempump model G.E. 20K broken shaft near keyway.

August 26, 1974 - Crane Chempump model G.E. 20K broken shaft at rotor  
(pump end).

December 4, 1974 - Crane Chempump model G.E. 20K broken shaft at rotor  
(pump end).



**Carolina Power & Light Company**

**H. B. ROBINSON STEAM ELECTRIC PLANT**  
Post Office Box 790  
Hartsville, South Carolina

December 12, 1974

Robinson File No. 2-0-4-a-1

Mr. Norman C. Moseley, Director  
Directorate of Regulatory Operations  
U. S. Atomic Energy Commission  
Region 11, Suite 818  
230 Peachtree Street, N.W.  
Atlanta, Georgia 30303

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

Dear Sirs:

In accordance with Section 6.6.2 of the Technical Specifications the following Abnormal Occurrence is reported.

At 2315, December 11, 1974, while operating at full power, a "Part Length Rod Control Alert" alarm was received at the RTGB. Investigation revealed that the eight part length control rods were inoperative and could not be moved by their drive mechanisms. These rods were fully withdrawn from the core, and operation of these rods is not permitted by Technical Specifications except for special tests. At 0227, December 12, 1974, a faulty frequency monitoring relay was replaced, and the part length rod system was returned to service. Since the proposed Technical Specifications for Loss of Coolant Accident Analyses (10CFR50, Appendix K), Section 3.10.6.2, permits no more than one inoperative control rod, this incident constitutes a violation of a Limiting Condition for Operation.

This was reported to Mr. Herb Whitener and Mr. Neal Bender of the AEC, who were on site December 12, 1974.

Yours very truly,

  
Jack B. McGirt, Manager  
H. B. Robinson SEG Plant

ACT:sla