



Carolina Power & Light Company

November 29, 1974

FILE: NG-3513 and 3514(R)

SERIAL: NG-74-1432

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

DP-112
50-261

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

Dear Sirs:

H. B. ROBINSON UNIT NO. 2
 LICENSE NO. DPR-23
FAILURE OF BORIC ACID HEAT TRACE CIRCUIT

In accordance with Specification 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

E. E. Utley
 Vice-President
 Bulk Power Supply

DBW:sb

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

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ABNORMAL OCCURRENCE REPORT

1. Report No. 50-261/74-27
2a. Date November 22, 1974
2b. Occurrence Date November 18, 1974
3. Facility H. B. Robinson Unit No. 2
Hartsville, South Carolina 29550

4. Identification of Occurrence

Failure of Boric Acid Heat Tracing.

5. Conditions Prior to Occurrence

The plant was operating at 100% nuclear power with a 698 MW net load on the generator.

6. Description of Occurrence

On November 18, 1974 at 0420 hours, No. 11 breakers in the boric acid heat trace panels, primary and secondary channels were observed tripped. These breakers were immediately reset. (Heat trace circuits E-1, E-2 and E-5 for "A" boric acid transfer pump, "B" boric acid transfer pump and the boric acid filter, respectively, are on the No. 11 breakers.) These breakers tripped randomly several more times while the Shift Foreman and an Operator searched for a possible problem. Each breaker was reset immediately after tripping to maintain continuous operability. When it was determined that circuit E-5 temperatures were dropping, the Shift Foreman called for an Instrumentation & Control Technician and commenced normal reactor shutdown procedures at 0510 hours. (It was later noted that circuit E-2 temperature was also dropping.)

When the technician determined that circuit E-1, primary channel was grounded, he disconnected it. Circuit E-1, secondary channel had cleared itself. At 0545 hours, primary channel circuits E-2 and E-5 and secondary channel circuits E-1, E-2 and E-5 were placed back in service. At 0553 hours, load and power reduction was stopped, and the reactor was returned to 100% power, 699 MW net at 0637 hours. At 0830 hours, primary channel circuit E-1 was successfully returned to service.

7. Designation of Apparent Cause of the Occurrence

A piece of wire was found to be grounding a strip heater inside of the "A" boric acid transfer pump enclosure. This ground in the primary channel of circuit E-1 had tripped breaker No. 11, which also feeds circuits E-2 and E-5. The ground remained on the primary channel but had apparently burned away on the secondary channel, enabling the secondary to continue in service. The origin of the wire could not be determined. There was, however, an opening in the top of the pump enclosure which would permit entrance of foreign material.

8. Analysis of Occurrence

This occurrence did not result in a release of radioactive material, there were no personal injuries, and public health and safety were not endangered.

When the heat trace circuits initially tripped, they were immediately reset by the Operator. Subsequent trips were also immediately reset as they occurred while the Operator and Shift Foreman were attempting to determine if a problem existed in the heat trace circuitry. This action permitted system capability to be maintained. When it was determined that a problem did exist in the circuitry and at least one channel of heat tracing could not be maintained operational, normal reactor shutdown procedures were commenced. Shutdown procedures continued until the grounded primary circuit was disconnected and the secondary channel was verified to be operational.

Technical Specification paragraph 3.2.3.C requires the failed heat tracing channel to be returned to service within 24 hours to permit continued reactor operation. Primary circuit channel E-1 was successfully returned to service within this time period.

9. Corrective Action

Immediate corrective action was taken to remove the wire which was grounding the heat trace on "A" boric acid transfer pump, resulting in satisfactory operation of the heat trace channel. Additionally, the inside of the pump enclosure was examined for foreign material, and none was found. The "B" boric acid transfer pump enclosure was also examined and no foreign material was discovered.

To prevent a re-occurrence of this problem, the openings in the tops of both pump enclosures were closed with insulating material.

10. Failure Data

January 31, 1973	Section of heat trace failed due to blown fuse.
April 11, 1974	Failure of section of heating cable.