CP&L
Carolina Power & Light Company

July 21, 1977

FILE: NG-3516 (R) SERIAL: NG-77-814

Regulatory File Cy

Mr. Norman C. Moseley, Director
U. S. Nuclear Regulatory Commission
Region II, Suite 818
230 Peachtree Street, N.W.
Atlanta, Georgia 30303

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET 50-261
LICENSE NO. DPR-23
LICENSEE EVENT REPORT 77-12

Dear Mr. Moseley:

In accordance with Section 6.9.2.b of the Technical Specifications for the H. B. Robinson Steam Electric Plant, Unit 2, the attached Licensee Event Report is submitted. This report fulfills the requirement for a written report within thirty (30) days of a reportable occurrence and is in accordance with the format set forth in Regulatory Guide 1.16, Revision 4.

Yours very truly,

Harold R Banks

H. R. Banks
Manager
Nuclear Generation

WH:tme

Attachment

cc: Messrs. W. G. McDonald
E. Volgenau

772200224

336 Fayetteville Street • P. O. Box 1551 • Raleigh, N. C. 27602

LICENSEE EVENT REPORT

CONTROL BLOCK: [ ] (1–6) **(PLEASE PRINT ALL REQUIRED INFORMATION)**

	LICENSEE NAME	LICENSE NUMBER	LICENSE TYPE	EVENT TYPE
01	SCHBR2 (7–14)	00-00000-00 (15–25)	4110 (26–30)	01 (31–32)

	CATEGORY	REPORT TYPE	REPORT SOURCE	DOCKET NUMBER	EVENT DATE	REPORT DATE
01 CONT	[ ] (57–58)	L (59)	L (60)	050-0261 (61–68)	062277 (69–74)	072177 (75–80)

EVENT DESCRIPTION

02 While operating at 100% power, received a high speed alarm on "C" charging pump and
03 indication of decreasing pressurizer level. Several attempts were made to vent "C"
04 pump while alternately operating with "A" and finally "B" pump thus maintaining
05 pressurizer level. "B" pump was initially out of service but was returned to service
06 during the foregoing operations. "C" pump was vented properly and returned to service (HBR2 RO77-12).

	SYSTEM CODE	CAUSE CODE	COMPONENT CODE	PRIME COMPONENT SUPPLIER	COMPONENT MANUFACTURER	VIOLATION
07	PC (9–10)	E (11)	PUMPXX (12–17)	N (43)	U055 (44–47)	N (48)

CAUSE DESCRIPTION

08 Union Pump Company pump, type TX-150 became air bound due to accumulation of air at
09 suction of the pump. Pump was vented to alleviate condition.
10

	FACILITY STATUS	% POWER	OTHER STATUS	METHOD OF DISCOVERY	DISCOVERY DESCRIPTION
11	E (9)	100 (10–12)	N/A (13–44)	A (45)	N/A (46–80)

	FORM OF ACTIVITY RELEASED	CONTENT OF RELEASE	AMOUNT OF ACTIVITY	LOCATION OF RELEASE
12	Z (9)	Z (10)	N/A (11–44)	N/A (45–80)

PERSONNEL EXPOSURES

	NUMBER	TYPE	DESCRIPTION
13	000 (9–11)	Z (12)	N/A (13–80)

PERSONNEL INJURIES

	NUMBER	DESCRIPTION
14	000 (9–11)	N/A (12–80)

OFFSITE CONSEQUENCES

15 N/A (9–80)

LOSS OR DAMAGE TO FACILITY

	TYPE	DESCRIPTION
16	Z (9)	N/A (10–80)

PUBLICITY

17 N/A (9–80)

ADDITIONAL FACTORS

18 (9–80)

19 (9–80)

NAME: J. B. McGirt PHONE: (803) 332-1351

GPO 881-667

Supplementary Information for
Reportable Occurrence 77-12

1. Report No.: 50-261/77-12

2a. Report Date: July 15, 1977

2b. Occurrence Date: June 22, 1977

3. Facility: H. B. Robinson Unit No. 2, Hartsville, South Carolina 29550

4. Identification of Occurrence: At 0728 hours on June 22, 1977, "C" charging pump was removed from service due to air binding of the pump. At this time "A" pump was operable and "B" pump was out of service. This is a violation of Technical Specification 3.2.2.a and constitutes a Reportable Occurrence in accordance with Technical Specification 6.9.2.b.(2).

5. Conditions Prior to Occurrence: The plant was operating at 100% power and there were no operations in progress that could be attributed to the occurrence.

6. Description of the Occurrence: At 0728 hours on June 22, 1977, while operating at 100% power, a charging pump high speed alarm was received and a decrease in pressurizer level was noted. At this time "C" charging pump was in operation, "B" pump was out of service, and "A" pump was operable but not running. It was not desirable to operate "A" pump at this time because of excessive packing leakage on this pump.

   The following events took place upon discovering that "C" pump was air bound:

   a. At 0728 hours "C" pump was stopped and "A" pump was started. "B" pump remained out of service.

   b. "C" pump was recirculated and vented from 0755 to 0839 hours.

   c. At 0844 hours, "C" pump was restarted and "A" pump was stopped.

   d. At 0914 hours, air binding on "C" pump prevented maintaining pressurizer level and "C" pump had to be stopped and "A" pump started.

   e. "C" pump was recirculated from 1103 to 1203 hours then "A" pump was stopped; "C" pump remained running.

   f. At 1226 hours "A" pump was started and "C" pump was stopped.

   g. At 1500 hours "B" pump was placed back in service and "A" pump was stopped.

h. At 1511 hours "A" pump was removed from service. Thus "B" pump was running and "C" pump was not running but was operable.

i. At 1745 "A" pump was placed back in service. "B" pump was stopped.

j. "C" pump was recirculated and vented and was placed in service at 1841 hours. Then "A" pump was stopped.

In the above description of events from 0728 to 1745 hours, only one charging pump was operable except for short intervals.

7. Description of the Apparent Cause of the Occurrence: The cause of the occurrence is attributed to air binding of the "C" charging pump.

8. Analysis of Occurrence: Two reasons for the occurrence were determined to be the most probable:

a. Air leakage into the charging pump suction piping through a ruptured diaphragm in an air operated valve.

b. Low level on the Volume Control Tank (VCT) allowing gas to pass from this tank through a vortex into the suction piping of the charging pumps.

The probability of air leakage through ruptured diaphragms can be effectively eliminated. These diaphragms were checked and/or replaced after a similar occurrence of air binding of the charging pumps on June 7, 1977.

It is suspected that the set point for the operating level of the VCT is too low. Low level possibly creates a vortex condition at the base of the tank in which gases are entrained with the water leaving the tank.

9. Corrective Action: The VCT level requirements will be reviewed and consideration will be given to raising the set point for operating level of the VCT.

10. Failure Data: A similar event to this occurred on June 7, 1977.