

50-261

NRC DISTRIBUTION FOR PART 50 DOCKET MATERIAL

FILE NUMBER
INCIDENT REPORT

TO: N.C. MOSELEY

FROM: CAROLINA POWER & LIGHT CO
RALEIGH, N.C.
H.R. BANKS

DATE OF DOCUMENT

6/21/77

DATE RECEIVED

7/11/77

NUMBER OF COPIES RECEIVED

1 516280

☒ LETTER
☒ ORIGINAL
☐ COPY☐ NOTORIZED
☒ UNCLASSIFIED

PROP

INPUT FORM

DESCRIPTION

LICENSEE EVENT REPORT FOR R.O. # 77-9,
ON 6/7/77 CONCERNING "C" CHARGING PUMP BEING
REMOVED FROM SERVICE WHILE "A" PUMP WAS OUT
OF SVC AND "B" PUMP WAS OPERATING BUT WAS
INCAPABLE OF SUPPLYING SUFFICIENT CHARGING
FLOW DUE TO ITS BEING AIR BOUND.

(1P & 2P)

PLANT NAME: H.B. ROBINSON # 2
SAB**DO NOT REMOVE**
ACKNOWLEDGED

ENCLOSURE

NOTE: IF PERSONNEL EXPOSURE IS INVOLVED
SEND DIRECTLY TO KREGER/J. COLLINS

FOR ACTION/INFORMATION

| | |
|--------------------------|----------|
| BRANCH CHIEF: | Reid |
| W/3 CYS FOR ACTION | |
| LIC. ASST.: | Ingram |
| W/1 CYS | |
| ACRS /6 CYS HOLDING/SENT | AS CAT B |

INTERNAL DISTRIBUTION

| | | | | | |
|--------------------|--|--|--|--|--|
| REG FILE | | | | | |
| NRC PDR | | | | | |
| I & E (2) | | | | | |
| MIPC | | | | | |
| SCHROEDER/IPPOLITO | | | | | |
| HOUSTON | | | | | |
| NOVAK/CHECK | | | | | |
| GRIMES | | | | | |
| BUTLER | | | | | |
| HANAUER | | | | | |
| TEDESCO/MACCARY | | | | | |
| EISENHUT | | | | | |
| BAER | | | | | |
| SHAO | | | | | |
| VOLLMER/BUNGH | | | | | |
| KREGER/J. COLLINS | | | | | |

EXTERNAL DISTRIBUTION

| | | | | | |
|-------|----------------|--|--|--|--|
| LPDR: | Hartsville, SC | | | | |
| TIC: | | | | | |
| NSIC: | | | | | |
| | | | | | |
| | | | | | |

CONTROL NUMBER

4 771930404
JB



Carolina Power & Light Company

June 21, 1977

FILE: NG-3516 (R)

SERIAL: NG-77-710

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

Regulatory

File C7

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET 50-261
LICENSE NO. DPR-23
LICENSEE EVENT REPORT 77-9

Dear Mr. Moseley:

In accordance with Section 6.9.2.a 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 fourteen (14) days of a reportable occurrence and is in accordance with the format set forth in Regulatory Guide 1.16, Revision 4.

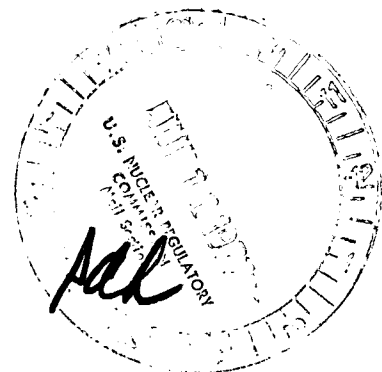
Yours very truly,

H. R. Banks
Manager
Nuclear Generation

WH:lv

Attachment

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



LICENSEE EVENT REPORT

CONTROL BLOCK: 1 2 3 4 5 6

(PLEASE PRINT ALL REQUIRED INFORMATION)

| LICENSEE NAME | | | | | | LICENSE NUMBER | | | | | | | | | | LICENSE TYPE | | | | | EVENT TYPE | | | | |
|---------------|---|---|---|---|---|----------------|----|---|---|---|---|---|---|---|---|--------------|---|----|----|---|------------|---|----|----|----|
| 01 | S | C | H | B | R | 2 | 0 | 0 | - | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 4 | 1 | 1 | 1 | 0 | 0 | 1 | |
| 7 | 8 | 9 | | | | 14 | 15 | | | | | | | | | | | 25 | 26 | | | | 30 | 31 | 32 |

| CATEGORY | | | REPORT TYPE | REPORT SOURCE | DOCKET NUMBER | | | | | | EVENT DATE | | | | | REPORT DATE | | | | | | | | |
|----------|------|--|-------------|---------------|---------------|----|----|---|---|---|------------|----|----|---|---|-------------|---|---|----|----|---|---|---|----|
| 01 | CONT | | T | L | 0 | 5 | 0 | - | 0 | 2 | 6 | 1 | 0 | 6 | 0 | 7 | 7 | 7 | 0 | 6 | 2 | 1 | 7 | 7 |
| 7 | 8 | | 57 | 58 | 59 | 60 | 61 | | | | | 68 | 69 | | | | | | 74 | 75 | | | | 80 |

EVENT DESCRIPTION

| | | |
|----|---|----|
| 02 | While operating at 100% power, a high speed alarm was received on "C" charging pump | 80 |
| 03 | and indication of decreasing pressurizer level. "B" pump was started ("A" pump was | 80 |
| 04 | out of service). Pressurizer level increased but decreased again later. "C" | 80 |
| 05 | pump was found to be air bound, taken out of service and recirculated. "B" pump | 80 |
| 06 | was also air bound and pressurizer level was falling while "C" pump was out of | 80 |
| 07 | service. This is a violation of Technical Specifications, Paragraph 3.2.2.a and | 80 |
| 08 | a Reportable Occurrence per Paragraph 6.9.2.a.2 (HBR2 R077-9). | 80 |

| SYSTEM CODE | CAUSE CODE | COMPONENT CODE | | | | | | PRIME COMPONENT SUPPLIER | COMPONENT MANUFACTURER | | | | VIOLATION | |
|-------------|------------|----------------|----|----|----|----|----|--------------------------|------------------------|----|----|----|-----------|----|
| P | C | E | P | U | M | P | X | X | N | U | 0 | 5 | 5 | Y |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |

CAUSE DESCRIPTION

| | | |
|----|--|----|
| 08 | Union Pump Company charging pumps, type TX-150, became air bound due to accumulation | 80 |
| 09 | of air at suction of the pumps. Pumps were recirculated and vented to alleviate | 80 |
| 10 | condition. | 80 |

| FACILITY STATUS | % POWER | OTHER STATUS | | METHOD OF DISCOVERY | DISCOVERY DESCRIPTION | |
|-----------------|---------|--------------|----|---------------------|-----------------------|----|
| E | 100 | N/A | | A | N/A | |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 |

| FORM OF ACTIVITY RELEASED | CONTENT OF RELEASE | AMOUNT OF ACTIVITY | LOCATION OF RELEASE |
|---------------------------|--------------------|--------------------|---------------------|
| Z | Z | N/A | N/A |
| 7 | 8 | 9 | 10 |

PERSONNEL EXPOSURES

| NUMBER | TYPE | DESCRIPTION |
|--------|------|-------------|
| 000 | Z | N/A |
| 7 | 8 | 9 |

PERSONNEL INJURIES

| NUMBER | DESCRIPTION |
|--------|-------------|
| 000 | N/A |
| 7 | 8 |

OFFSITE CONSEQUENCES

| | | |
|----|-----|----|
| 15 | N/A | 80 |
|----|-----|----|

LOSS OR DAMAGE TO FACILITY

| TYPE | DESCRIPTION |
|------|-------------|
| Z | N/A |
| 7 | 8 |

PUBLICITY

| | | |
|----|-----|----|
| 17 | N/A | 80 |
|----|-----|----|

ADDITIONAL FACTORS

| | | |
|----|--|----|
| 18 | | 80 |
|----|--|----|

| | | |
|----|--|----|
| 19 | | 80 |
|----|--|----|

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

Supplementary Information for
Reportable Occurrence 77-9

1. Report No. 50-261/77-9
- 2a. Report Date: June 13, 1977
- 2b. Occurrence Date: June 7, 1977
3. Facility: H. B. Robinson Unit No. 2, Hartsville, South Carolina 29550
4. Identification of Occurrence: At 0115 hours on June 7, 1977, "C" charging pump was removed from service while "A" pump was out of service and "B" pump was operating but was incapable of supplying sufficient charging flow due to its being air bound. This is a violation of Technical Specification 3.2.2.a and constitutes a Reportable Occurrence in accordance with Technical Specification 6.9.2.a.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: On June 7, 1977 while operating at 100% power at 0051 hours, a charging pump high speed alarm was received and a decrease in pressurizer level was noted. A second charging pump was started and no unusual conditions could be found at the time. The pressurizer level was restored to normal. At 0115 hours, pressurizer level began decreasing again and "C" charging pump was removed from service for venting. "B" charging pump which was operating did not hold pressurizer level and was determined to be "gas bound" also. "C" charging pump was placed back in service at 0124 hours and pressurizer level returned to normal. "B" charging pump was then removed from service and vented. It was then returned to service and both pumps operated satisfactorily. Due to "A" charging pump being out of service for repairs, "C" charging pump out of service for venting, and "B" charging pump unable to maintain normal pressurizer level, all charging pumps were technically out of service; and this constitutes a violation of Technical Specification 3.2.2.a.
7. Designation of Apparent Cause of the Occurrence: The cause of the occurrence is attributed to air binding of the charging pumps.
8. Analysis of Occurrence: Two reasons for the occurrence were determined to be the most probable:
 1. Low level on the Volume Control Tank allowing gas to pass from this tank through a vortex into the suction piping of the charging pumps.
 2. Air leakage into the charging pump suction piping through a ruptured diaphragm in an air operated valve.

The Volume Control Tank was checked to determine if its level detectors were in proper calibration. This check revealed no abnormalities. Valves 113B and

Supplementary Information for
Reportable Occurrence 77-9
Page 2

114B (in piping on the suction side of the charging pumps) were checked to determine if their diaphragms were ruptured and thus allowing valve operating air to enter the charging pump suction piping. This check revealed a ruptured diaphragm on valve 113B. Valve 113B was subsequently repaired. It is suspected that this is the source of air that created air binding in the charging pumps.

9. Corrective Action: Since it is permissible to operate for 24 hours with only one charging pump in service, operators will be instructed to immediately switch to operation of other charging pumps and initiate venting operations on the pump suspected to have air binding. When venting is completed, this pump should be subsequently returned to service.
10. Occurrence History: There have been no previous Reportable Occurrences relating to "gas binding" of charging pumps.