NRC FORM 366 (7-77)

Supplemental Report - Original Report Dated May 06, 1983

U. S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT

CONTROL BLOCK: | | | | | | | (1) (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

0 1	LICENSEE CODE: S C H B R 2 (2) LICENSE NUMBER: 0 0 - 0 0 0 0 0 - 0 0 (3) LICENSE TYPE: 4 1 1 1 1 (4) CAT: (5)
CON'T 0 1	REPORT SOURCE: L (6) DOCKET NUMBER: 0 5 0 0 0 2 6 1 (7) EVENT DATE: 0 4 2 4 8 3 (8) REPORT DATE: 0 6 1 4 8 4 (9)

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

0 2 On April 24, 1983, at 0710 hours, with the Unit at 80% power, "B" Service Water

0 3 Booster Pump (SWBP) was declared inoperable due to loss of bearing oil. At 1407 hours

0 4 on April 24, 1983, and again at 1501 hours, "A" SWBP failed apparently due to blown

0 5 control power fuses. A unit shutdown was then commenced with hot shutdown conditions

0 6 being achieved at 1759 hours. These events resulted in operation less conservative

0 7 than the least conservative aspect of a limiting condition for operation as defined

0 8 by Technical Specification 3.3.4.2 and is reported pursuant to 6.9.2.a.2.

	SYSTEM CODE	CAUSE CODE	CAUSE SUBCODE	COMPONENT CODE	COMP. SUBCODE	VALVE SUBCODE
0 9	W A (11)	E (12)	A (13)	C K T B R K (14)	X (15)	Z (16)

(17) LER/RO REPORT NUMBER	EVENT YEAR		SEQUENTIAL REPORT NO.		OCCURRENCE CODE	REPORT TYPE		REVISION NO.
	8 3	—	0 0 5	/	0 1	T	—	1

ACTION TAKEN	FUTURE ACTION	EFFECT ON PLANT	SHUTDOWN METHOD	HOURS (22)	ATTACHMENT SUBMITTED	NPRD-4 FORM SUB.	PRIME COMP. SUPPLIER	COMPONENT MANUFACTURER
A (18)	Z (19)	A (20)	A (21)	0 0 1 0	Y (23)	N (24)	A (25)	W 1 2 (26)

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

1 0 "B" SWBP failure was due to the bearing oil slinger being positioned near the vent hole

1 1 causing loss of bearing oil. "B" SWBP was inspected, oil replenished and declared

1 2 operable at 1925 hours on April 24, 1983. To prevent oil loss, st ndpipes were

1 3 installed on each pump's vent hole. "A" SWBP failure is attributed to a loose connection internal to the motor contactor. The motor contactor was replaced and "A"

1 4 SWBP was returned to service at 2105 hours on April 25, 1983.

	FACILITY STATUS	% POWER	OTHER STATUS (30)	METHOD OF DISCOVERY	DISCOVERY DESCRIPTION (32)
1 5	E (28)	0 8 0 (29)	N/A	A (31)	Operator Observation

	ACTIVITY RELEASED	CONTENT OF RELEASE	AMOUNT OF ACTIVITY (35)	LOCATION OF RELEASE (36)
1 6	Z (33)	Z (34)	N/A	N/A

PERSONNEL EXPOSURES

	NUMBER	TYPE	DESCRIPTION (39)
1 7	0 0 0 (37)	Z (38)	N/A

PERSONNEL INJURIES

	NUMBER	DESCRIPTION (41)
1 8	0 0 0 (40)	N/A

LOSS OF OR DAMAGE TO FACILITY (43)

	TYPE	DESCRIPTION
1 9	Z (42)	

8406210064 840614
PDR ADOCK 05000261
S PDR

IE22 1/1

PUBLICITY

	ISSUED	DESCRIPTION (45)	NRC USE ONLY
2 0	N (44)	N/A	

NAME OF PREPARER Carson L. Wright PHONE: (803) 383-4524

SUPPLEMENTAL INFORMATION TO

LER 83-005

I. Cause Description and Analysis

On April 24, 1983, at 0710 hours, with the Unit at 80% power, "B" Service Water Booster Pump (SWBP) was declared inoperable following pump startup due to loss of bearing oil and imminent bearing failure. Maintenance efforts were immediately initiated. At 1407 hours, the redundant "A" SWBP tripped, and Plant shutdown was commenced in accordance with Technical Specification 3.3.4.2. Investigation by Operations Personnel into this second event led to the control power fuses being replaced, and "A" SWBP was restarted. The Plant shutdown was terminated at approximately 1424 hours. At 1501 hours, "A" SWBP tripped again, and the Plant shutdown was recommenced. The control power fuses were again replaced, and the pump was restarted; however, Plant shutdown continued pending further investigation of these failures. Hot shutdown conditions were achieved at 1759 hours on April 24, 1983.

Investigation of the "B" SWBP failure revealed that the bearing oil slinger had apparently moved on the shaft to a position near the vent/oiler supply hole. This movement of the oil slinger is not prevented by the pump design. When the pump was started, bearing oil was thrown out the hole by the slinger. There was no apparent damage to the bearing due to stopping the pump immediately after the loss of oil was detected.

The failure of "A" SWBP was discovered to be the result of a loose connection between a wire terminal and a stationary contact in the motor contactor. This connection is an internal screw connection which allows the stationary contact to be replaced. The loose connection resulted in burning of the stationary contact/terminal lug assembly on one phase, apparently causing an overcurrent condition in the other two phases which tripped the motor breaker. The motor breaker tripping also causes a loss of control power which led operations personnel to initially replacing the control power fuses.

This event resulted in operation less conservative than the least conservative aspect of the limiting condition for operation as defined by Technical Specification 3.3.4.2 and is reported pursuant to 6.9.2.a.2. Throughout this event, the four service water pumps were operable, and the Unit was shut down in a safe, orderly manner. Therefore, there was no threat to the public health and safety.

II Corrective Action

"B" SWBP was disassembled and inspected, and there was no apparent damage to the bearing. "B" SWBP was reassembled, tested and declared operable at 1925 hours on April 24, 1983. The motor contactor for "A" SWBP was replaced with a new unit, and the pump was returned to service at 2105 hours on April 24, 1983.

III. Corrective Action to Prevent Recurrence

As a result of the failure of "B" SWBP, standpipes were installed on "A" and "B" SWBP vent holes to help prevent oil release. In addition, the probability of a recurrence of this event is believed to be remote, and the current lubrication frequency is considered adequate to detect abnormal bearing oil level. Since the installation of the standpipes, no significant oil loss of this nature has occurred.

The failure of "A" SWBP was determined to be the result of a loose connection internal to the motor contactor. A visual inspection of circuit breakers and motor contactors on Motor Control Centers containing safety related equipment has been conducted. The discrepancies noted from this inspection have been entered into the Work Order Tracking System to monitor completion.

The Preventative Maintenance Program has been upgraded to improve early detection of problems. This, coupled with the installation of standpipes on the pumps vent hole, should prevent further recurrence.

CP&L
Carolina Power & Light Company

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HARTSVILLE, SOUTH CAROLINA 29550

JUN 14 1984

Robinson File No: 13510C Serial: RSEP/84-417

United States Nuclear Regulatory Commission
Document Control Desk
Washington, D. C. 20555

H. B. Robinson Steam Electric Plant, Unit No. 2
Docket No. 50-261
License No. DPR-23
Licensee Event Report 83-005 Revision 1

Dear Sir:

In accordance with Section 6.9.2 of the Technical Specifications for the H. B. Robinson Steam Electric Plant, Unit 2, the enclosed Licensee Event Report is submitted. The original report, dated May 06, 1983, described the failure of both Service Water Booster Pumps. This revision contains a complete description of the event in addition to current corrective actions and should replace all existing copies of the original report. (The supplemental information has been barred for your convenience.)

Very truly yours,

R. E. Morgan
General Manager
H. B. Robinson SEG Plant

CLW/js

Enclosure

cc: J. P. O'Reilly
S. P. Weise
INPO

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