

LICENSEE EVENT REPORT

Update Report - Original Report dated May 27, 1983

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

0	1	S	C	H	B	R	2	0	0	0	0	0	0	0	0	0	0	0	0	3	4	1	1	1	1	4		5											
7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35											
LICENSEE CODE															LICENSE NUMBER										LICENSE TYPE										CAT 58				

CON'T

0	1	L	6	0	5	0	0	0	0	2	6	1	7	0	4	2	9	8	3	8	1	1	0	9	8	4	9												
7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35											
REPORT SOURCE										DOCKET NUMBER										EVENT DATE										REPORT DATE									

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

On April 29, 1983, at 2153 hours, with the unit at 0% power, during testing of the Pressurizer Power Operated Relief Valves (PORV), valve RC-455C failed to meet the required cycle time and on a subsequent attempt failed to open fully. This event resulted in operation in a degraded mode permitted by a limiting condition for operation as defined by Technical Specification 3.1.2.1.d and is reported pursuant to 6.9.2.b.2. The redundant PORV was operable and the unit achieved cold, depressurized conditions at 1545 hours on April 30, 1983. Therefore, there was no threat to the public health and safety.

0	9	S	H	E	B	V	A	L	V	E	X	H	B				
7	8	9	10	11	12	13	14	15	16	17	18	19	20				
SYSTEM CODE		CAUSE CODE		CAUSE SUBCODE		COMPONENT CODE						COMP. SUBCODE		VALVE SUBCODE			
17		18		19		20						21		22			
LER/RO REPORT NUMBER		EVENT YEAR		SEQUENTIAL REPORT NO.		OCCURRENCE CODE						REPORT TYPE		REVISION NO.			
8		3		0		0						3		1			
21		22		23		24						25		26			
ACTION TAKEN		FUTURE ACTION		EFFECT ON PLANT		SHUTDOWN METHOD		HOURS		ATTACHMENT SUBMITTED		NPRD-4 FORM SUB.		PRIME COMP. SUPPLIER		COMPONENT MANUFACTURER	
F		Z		Z		Z		0		Y		N		A		C	
33		34		35		36		37		40		42		43		44	
CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)																	

Inspections revealed the cause of failure to be galling of the valve plug to cage. The galling is attributed to the rubbing together of similar grades of stainless steel in a "dry" (gaseous flow) condition which is normal for the PORVs. The valve was rebuilt and returned to service May 12, 1983. Permanent corrective actions were taken to install a stem and valve plug manufactured from materials designed to reduce chances of galling and to install a stem guide bushing to improve the valve plug's ability to seat.

1	5	0	0	0	N/A	Operator Observation								
7	8	9	10	11	12	13								
FACILITY STATUS			% POWER			OTHER STATUS			METHOD OF DISCOVERY			DISCOVERY DESCRIPTION		
28			29			30			31			32		
ACTIVITY CONTENT			AMOUNT OF ACTIVITY			LOCATION OF RELEASE								
1			6			36								
Z			N/A			N/A								
7			8			9								
PERSONNEL EXPOSURES			PERSONNEL INJURIES			LOSS OF OR DAMAGE TO FACILITY			PUBLICITY					
NUMBER			NUMBER			TYPE			DESCRIPTION					
0			0			Z			N/A					
7			8			9			10					
PERSONNEL EXPOSURES			PERSONNEL INJURIES			LOSS OF OR DAMAGE TO FACILITY			PUBLICITY					
NUMBER			NUMBER			TYPE			DESCRIPTION					
0			0			Z			N/A					
7			8			9			10					
LOSS OF OR DAMAGE TO FACILITY			PUBLICITY			ISSUED			DESCRIPTION					
1			8			2			0					
Z			N/A			N/A			N/A					
7			8			9			10					
PUBLICITY			ISSUED			DESCRIPTION			N/A					
1			8			2			0					
Z			N/A			N/A			N/A					
7			8			9			10					

NAME OF PREPARER Carson L. Wright

PHONE 803-383-4524

8411200397 841109
PDR ADDCK 05000261
S PDR

NRC USE ONLY

SUPPLEMENTAL INFORMATION
FOR
LER - 83-007 REV. 1

I. Cause Description and Analysis

On April 29, 1983, at 2153 hours, with the unit at 0% power, during testing of the Pressurizer Power Operated Relief Valves (PORV), valve RC-455C failed to meet the required cycle time. The valve was subsequently retested with similar results and on a third test would not fully open. RC-455C was declared inoperable at 2200 hours on April 29, 1983.

Disassembly and inspection of the valve revealed that the valve internals had experienced galling which caused the valve plug to bind on the cage. This galling is attributed to the valve internals being made of similar grades of stainless steel materials and rubbing against each other in "dry" conditions. This "dry" condition is normal for the PORV which relieves the gas space of the pressurizer. Also, a minor valve operator diaphragm leak was discovered but is not believed to have contributed to the slow cycle times.

This event resulted in operation in a degraded mode permitted by a limiting condition for operation as defined by Technical Specification 3.1.2.1.d and is reported pursuant to 6.9.2.b.2. The redundant PORV was operable during this event and the unit achieved cold shutdown conditions and was depressurized at 1545 hours on April 30, 1983. Therefore, there was no threat to the public health and safety.

II. Corrective Action

RC-455C was disassembled and all damaged components were replaced with new parts from stock. Special attention was directed to cleanliness during valve reassembly to preclude introduction of any debris into the valve plug/cage area. This was done in an effort to reduce the potential for developing a gall. The cause of valve failure is attributed to dry operation of the PORV. RC-455C was returned to service on May 12, 1983, during the current Steam Generator Outage.

The redundant PORV was also disassembled and inspected. No galling of the valve internals was observed; however, due to minor seating cuts from normal operational wear, the valve internals were renewed.

III. Corrective Action to Prevent Recurrence

A modification has been developed and implemented which replaced the existing stem and valve plug with ones manufactured from materials designed to reduce the chances of galling. The modification also installed a stem guide bushing to improve the valve plug's ability to seat properly.



Carolina Power & Light Company

Company Correspondence

ROBINSON NUCLEAR PROJECT DEPARTMENT
POST OFFICE BOX 790
HARTSVILLE, SOUTH CAROLINA 29550

NOV 9 1984

Robinson File No: 13510C

Serial: RSEP/84-856

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

ROBINSON NUCLEAR PROJECT DEPARTMENT, UNIT NO. 2
DOCKET NO. 50-261
LICENSE NO. DPR-23
LICENSEE EVENT REPORT 83-007 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 27, 1983, described the failure of a Power Operated Relief Valve (PORV), valve RC-455C to meet the required cycle time during testing. 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/ml

Enclosure

cc: INPO
H. E. P. Krug
J. P. O'Reilly

IE22
11

LICENSEE EVENT REPORT

CONTROL BLOCK: 1

(PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

0 1 | S | C | H | B | R | 2 | 2 | 0 | 0 | - | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 3 | 4 | 1 | 1 | 1 | 1 | 4 | 5
 8 9 14 15 25 26 30 31 32 33 34 35 57 CAT 58

REPORT SOURCE: L 6 | 0 | 5 | 0 | 0 | 0 | 2 | 6 | 1 | 7 | 0 | 4 | 2 | 9 | 8 | 3 | 8 | 0 | 5 | 2 | 7 | 8 | 3 | 9
 60 61 68 69 74 75 80 81

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES 10

0 2 | On April 29, 1983, at 2153 hours, with the unit at 0% power, during testing of the
 0 3 | Pressurizer Power Operated Relief Valves (PORV), valve RC-455C failed to meet the
 0 4 | required cycle time and on a subsequent attempt failed to open fully. This event
 0 5 | resulted in operation in a degraded mode permitted by a limiting condition for
 0 6 | operation as defined by Technical Specification 3.1.2.1.d and is reported pursuant
 0 7 | to 6.9.2.b.2. The redundant PORV was operable and the unit achieved cold, depressur-
 0 8 | ized conditions at 1545 hours on April 30, 1983. Therefore, there was no threat to
 the public health and safety.

0 9 | S | H | 11 | E | 12 | B | 13 | V | A | L | V | E | X | 14 | H | 15 | B | 16
 9 10 11 12 13 14 15 16 17 18 19 20

17 | LER/RO REPORT NUMBER | 8 | 3 | 21 22
 18 | EVENT YEAR | 8 | 3 | 21 22
 19 | SHUTDOWN METHOD | Z | 20 | 35 36
 20 | HOURS | 0 | 0 | 0 | 0 | 37 38
 21 | ATTACHMENT SUBMITTED | Y | 23 | 41 42
 22 | NPD-4 FORM SUB. | N | 24 | 43 44
 23 | PRIME COMP. SUPPLIER | A | 25 | 45 46
 24 | COMPONENT MANUFACTURER | C | 6 | 3 | 5 | 2 | 47 48

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS 27

1 0 | Inspection of RC-455C revealed the cause of failure to be galling of the valve plug to
 1 1 | cage and is attributed to the rubbing of similar grades of stainless steel materials
 1 2 | against each other in a "dry" condition. This "dry" condition is normal for the
 1 3 | gas space of the Pressurizer and the PORVs. The valve was rebuilt with new com-
 1 4 | ponents and returned to service on May 12, 1983, during the current Steam Generator
 Outage.

1 5 | FACILITY STATUS | 28 | 0 | 0 | 0 | 29 | OTHER STATUS | 30 | N/A | 44 45
 1 6 | ACTIVITY CONTENT RELEASED OF RELEASE | Z | 33 | Z | 34 | AMOUNT OF ACTIVITY | 35 | N/A | 44 45
 1 7 | PERSONNEL EXPOSURES NUMBER | 0 | 0 | 0 | 37 | Z | 38 | DESCRIPTION | 39 | N/A | 46 47
 1 8 | PERSONNEL INJURIES NUMBER | 0 | 0 | 0 | 40 | DESCRIPTION | 41 | N/A | 46 47
 1 9 | LOSS OF OR DAMAGE TO FACILITY TYPE | Z | 42 | DESCRIPTION | 43 | N/A | 46 47
 2 0 | FACILITY ISSUED | N | 44 | DESCRIPTION | 45 | N/A | 46 47

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

SUPPLEMENTAL INFORMATION

FOR

LER - 83-007

I. Case Description and Analysis

On April 29, 1983, at 2153 hours, with the unit at 0% power, during testing of the Pressurizer Power Operated Relief Valves (PORV), valve RC-455C failed to meet the required cycle time. The valve was subsequently retested with similar results and on a third test would not fully open. RC-455C was declared inoperable at 2200 hours on April 29, 1983.

Disassembly and inspection of the valve revealed that the valve internals had experienced galling which caused the valve plug to bind on the cage. This galling is attributed to the valve internals being made of similar grades of stainless steel materials and rubbing against each other in "dry" conditions. This "dry" condition is normal for the PORV which relieves the gas space of the pressurizer. Also, a minor valve operator diaphragm leak was discovered but is not believed to have contributed to the slow cycle times.

This event resulted in operation in a degraded mode permitted by a limiting condition for operation as defined by Technical Specification 3.1.2.1.d and is reported pursuant to 6.9.2.b.2. The redundant PORV was operable during this event and the unit achieved cold shutdown conditions and was depressurized at 1545 hours on April 30, 1983. Therefore, there was no threat to the public health and safety.

II. Corrective Action

RC-455C was disassembled and all damaged components were replaced with new parts from stock. Special attention was directed to cleanliness during valve reassembly to preclude introduction of any debris into the valve plug/cage area. This was done in an effort to reduce the potential for developing a gall. The cause of valve failure is attributed to dry operation of the PORV. RC-455C was returned to service on May 12, 1983, during the current Steam Generator Outage.

The redundant PORV was also disassembled and inspected. No galling of the valve internals was observed; however, due to minor seating cuts from normal operational wear, the valve internals were renewed.

III. Corrective Action to Prevent Recurrence

An engineering review has been initiated to investigate the appropriateness of the materials used for the PORV internals and to determine if an improvement can be made to prevent the observed galling. Any corrective actions deemed necessary as a result of this review will be implemented and provided as a supplement to this report. The results of the engineering review will also be used to determine the reportability of this event under 10CFR21.



Carolina Power & Light Company

H. B. ROBINSON STEAM ELECTRIC PLANT

Post Office Box 790
Hartsville, South Carolina 29550

MAY 27 1983

Book

83-R 0394

Robinson File No: 13510C

Serial: RSEF/83-675

Mr. James P. O'Reilly
Regional Administrator
U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, Suite 3100
Atlanta, Georgia 30303

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET NO. 50-261
LICENSE NO. DPR-23
LICENSEE EVENT REPORT 83-007

Dear Mr. O'Reilly:

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. This report fulfills the requirements for a written report within thirty (30) days of a reportable occurrence and is in accordance with the format set forth in NUREG-0161, July, 1977.

Very truly yours,

R. B. Starkey, Jr.
General Manager
H. B. Robinson SEG Plant

HTC:FMG:JMC:CWC/th

Enclosure

cc: R. C. DeYoung (30)
R. A. Hartfield (3)