U.S. NUCLEAR REGULATORY COMMISSION NRC FORM 366 (7.77) LICENSEE EVENT REPORT Urdate Report - Original Report dated May 27, 1983 (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION) CONTROL BLOCK: 0 0 0 0 0 0 - 0 0 3 4 1 1 1 1 1 0 0 572 (2) 0 0 S CH B R LICENSE NUMBER LICENSEE CODE CON'T 0 5 0 0 0 2 6 1 7 0 4 2 9 8 3 8 1 1 0 9 8 4 DOCKET NUMBER 68 69 EVENT DATE 74 75 REPORT DATE 8 REPORT 0 1 L(6) SOURCE DOCKET NUMBER EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10) On April 29, 1983, at 2153 hours, with the unit at 0% power, during testing of the 0 2 Pressurizer Power Operated Relief Valves (PORV), valve RC-455C failed to meet the 0 3 required cycle time and on a subsequent attempt failed to open fully. This event 0 4 resulted in operation in a degraded mode permitted by a limiting condition for 0 5 operation as defined by Technical Specification 3.1.2.1.d and is reported pursuant 0 6 to 6.9.2.b.2. The redundant PORV was operable and the unit achieved cold, depressur-7 ized conditions at 1545 hours on April 30, 1983. Therefore, there was no threat to the public health and safety. COMP. CODE CAUSE VALVE COMPONENT CODE SUBCODE CODE SUBCODE H 15 B VALVEX (14) B (13) (16) E (12) S H (11 10 REVISION OCCURRENCE SEQUENTIAL. REPORT EVENT YEAR REPORT NO. LER RO 013 LI Г 0101 7 REPORT NUMBER COMPONENT EFFECT ON PLANT ATTACHMENT SUBMITTED NPRD-4 FORM SUB. PRIME COMP. SHUTDOWN FUTURE TAKEN HOURS (22) MANUFACTURER CIGISIS SUPPLIER N (24) 0 1 0 1 0 0 A 2 (19) 2 (21 18) (26)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. 4 86 METHOD OF DISCOVERY FACILITY OTHER STATUS DISCOVERY DESCRIPTION (32) S POWER Operator Observation (28) 0 N/A (31) 0 RÖ ACTIVITY CONTENT N/A AMOUNT OF ACTIVITY (35 OF RELEASE RELEASED Z (33) N/A 6 Z (34) 80 PERSONNEL EXPOSURES DESCRIPTION (39) NUMBER 8411200397 841 PDR ADUCK 0500 N/A 0 80 PERSONNEL INJURIES DESCRIPTION (41) S NUMBER N/A 0 80 OSS OF OR DAMAGE TO FACILITY (43) DESCRIPTION N/A (42) PUBLICITY NRC USE ONLY DESCRIPTION (45) N (44) N/A 存在 803-383-4524 Carson L. Wright PHONE . NAME OF PREPARER

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 '2RV which relieves the gas space of the pressurizer. Also, a minor valve operator diaphragm leak was discovered but is rot 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. Form 244



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,

Allora

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

CLW/ml

Enclosure

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

LICENSEE EVENT REPORT (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)](1)CONTROL BLOCK: 0 0 0 0 - 0 0 3 4(4 0 R 2) 0 0 CHB 0 1 LICENSE NUMBER co (8) (3) 5 2 7 3 [9] (7)0429 2 8 REPORT 6 011 5 0 0 0 1 (6) 01 SOURCE REPORT DATE EVENT DATE DOCKET NUMBER EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10) On April 29, 1983, at 2153 hours, with the unit at 0% power, during testing of the 0 2 Pressurizer Power Operated Relief Valves (PORV), valve RC-455C failed to meet the 03 required cycle time and on a subsequent attempt failed to open fully. This event 0 4 resulted in operation in a degraded mode permitted by a limiting condition for 0 5 operation as defined by Technical Specification 3.1.2.1.d and is reported pursuant 0 6 to 6.9.2.b.2. The redundant PORV was operable and the unit achieved cold, depressur-017 ized conditions at 1545 hours on April 30, 1983. Therefore, there was no threat to the public health and safety. 0 8 COMP VALVE SYSTEM CAUSE CAUSE SUBCODE COMPONENT CODE SUECODE E X (14 (15 B (16) VI H B (13) H E 0 9 OCCURRENCE REVISION SEQUENTIAL REPORT CODE REPORT NO. TYPE EVENT YEAR LER/RO 131 0 REPORT 0 0 0 3 NUMBER COMPONENT NPRDA PRIME COMP METHOD HOURS (22) SUBMITTED FORMSUB SUPPLIER A (25) Y (23) N (24) 6 3 | 5 (2 0 (2 0 0 0 CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27) [Inspection of RC-455C revealed the cause of failure to be galling of the valve plug to] 10 cage and is attributed to the rubbing of similar grades of stainless steel materials 1 11 This ,"dry" condition is normal for the against each other in a "dry" condition. 1 2 Igas space of the Pressurizer and the PORVs. The valve was rebuilt with new com-1 3 ponents and returned to service on May 12, 1983, during the current Steam Generator Outage. 1 4 80 METHOD OF DISCOVERY (30) DISCOVERY DESCRIPTION (32) FACILITY OTHER STATUS % POWER (31)Operator Observation 0 0 29 N/A 01 . 5 44 ACTIVITY CONTENT LOCATION OF RELEASE (36) AMOUNT OF ACTIVITY (35) RELEASED OF RELEASE N/A N/A Z (34) (33) Z 1 6 80 PERSONNEL EXPOSURES DESCRIPTION (39) NUMBER TYPE N/A (37) Z (38) 10 0 0 PERSONNEL INJURIES DESCRIPTION (41) N/A (40) 0 0 0 N LOSS OF ON DAMAGE TO FACILITY (43 DESCRIPTION N/A (42 1 NRC USE ONLY PURLICITY DESCRIPTION (45) NIA 6.8 69 RO cox Carson L. Wright Howard T. (803) 383-4524 PHONE NAME OF PREPARER

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

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 <u>supplement</u> to this report. The results of the engineering review will also be used to determine the reportability of this event under 10CFR21.

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Book

Carolina Power & Light Company H. B. ROBINSON STEAM ELECTRIC PLANT Post Office Box 790 Hartsville, South Carolina 29550

MAY 2 7 1983

83-20394

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 Stear 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)