

# ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

## REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9005100230      DOC. DATE: 90/05/07      NOTARIZED: NO      DOCKET #  
 FACIL: 50-400 Shearon Harris Nuclear Power Plant, Unit 1, Carolina      05000400  
 AUTH. NAME      AUTHOR AFFILIATION  
 SCHWABENBAUER      Carolina Power & Light Co.  
 RICHEY, R.B.      Carolina Power & Light Co.  
 RECIP. NAME      RECIPIENT AFFILIATION

SUBJECT: LER 90-011-00: on 900405, TS violation due to missed leakage tests on valve caused by procedural deficiencies. W/9      ltr.

DISTRIBUTION CODE: IE22T      COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 5  
 TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

NOTES: Application for permit renewal filed. 05000400

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	AEOD/DOA	1		1	AEOD/DSP/TPAB	1		1
	AEOD/ROAB/DSP	2		2	DEDRO	1		1
	NRR/DET/ECMB 9H	1		1	NRR/DET/EMEB9H3	1		1
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	NRR/DST/SPLB8D1	1		1	NRR/DST/SRXB 8E	1		1
	<del>REG-FILE 03</del>	1		1	RES/DSIR/EIB	1		1
	RGN2 FILE 01	1		1				
EXTERNAL:	EG&G STUART, V.A	4		4	L ST LOBBY WARD	1		1
	LPDR	1		1	NRC PDR	1		1
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**Carolina Power & Light Company**

P. O. Box 165 • New Hill, N. C. 27562

MAY 07 1990

R. B. RICHEY  
Manager  
Harris Nuclear Project

Letter Number: HO-900089 (0)

U.S. Nuclear Regulatory Commission  
ATTN: NRC Document Control Desk  
Washington, DC 20555

SHEARON HARRIS NUCLEAR POWER PLANT UNIT 1  
DOCKET NO. 50-400  
LICENSE NO. NPF-63  
LICENSEE EVENT REPORT 90-011-00

Gentlemen:

In accordance with Title 10 to the Code of Federal Regulations, the enclosed 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 NUREG-1022, September 1983.

Very truly yours,



R. B. Richey, Manager  
Harris Nuclear Project

RBR:dgr

Enclosure

cc: Mr. R. A. Becker (NRR)  
Mr. S. D. Ebnetter (NRC - RII)  
Mr. J. E. Tedrow (NRC - SHNPP)

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PDR ADOCK 05000400  
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1522  
11

LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) <b>SHEARON HARRIS NUCLEAR POWER PLANT UNIT 1</b>	DOCKET NUMBER (2) <b>0   5   0   0   0   4   0   0</b>	PAGE (3) <b>1   OF   0   4</b>
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TITLE (4) **TECHNICAL SPECIFICATION VIOLATION DUE TO MISSED LEAKAGE TESTS ON VALVE CAUSED BY PROCEDURAL DEFICIENCIES**

EVENT DATE (5)			LER NUMBER (6)				REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)			
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES		DOCKET NUMBER(S)		
0	4	0	9	0	0	1	1	0	0	0	5	0	0
0	4	0	5	9	0	9	0	0	0	5	0	0	0
										N/A		0   5   0   0   0	
												0   5   0   0   0	

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)

OPERATING MODE (9) <b>1</b>	20.402(b)	20.406(c)	60.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10) <b>1   0   0</b>	20.406(a)(1)(i)	60.38(c)(1)	60.73(a)(2)(v)	73.71(c)
	20.406(a)(1)(ii)	60.38(c)(2)	60.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
20.406(a)(1)(iii)	<input checked="" type="checkbox"/> 60.73(a)(2)(i)	60.73(a)(2)(viii)(A)		
20.406(a)(1)(iv)	60.73(a)(2)(ii)	60.73(a)(2)(viii)(B)		
20.406(a)(1)(v)	60.73(a)(2)(iii)	60.73(a)(2)(ix)		

LICENSEE CONTACT FOR THIS LER (12)

NAME <b>RICHARD SCHWABENBAUER - REGULATORY COMPLIANCE TECHNICIAN</b>	TELEPHONE NUMBER
	AREA CODE: <b>9   1   9</b> NUMBER: <b>3   6   2   2   6   6   9</b>

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)

<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO	EXPECTED SUBMISSION DATE (15) MONTH:    DAY:    YEAR:
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ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

**Abstract:**

The plant was operating in Mode 1, POWER OPERATION, at 100 percent reactor power on April 5, 1990. Technical Specifications (TS) 4.4.6.2.2.d requires that Reactor Coolant System Pressure Isolation valves specified in Table 3.4-1 shall be demonstrated operable by verifying leakage to be within its limit within 24 hours following valve actuation due to automatic or manual action or flow through the valve.

During a review of a quarterly surveillance test by plant personnel, it was discovered that the test stroked valve ISI-359, but no leak test was performed. At 1300 hours the valve was declared inoperable due to the missed leakage test. The valve was then leak tested using the appropriate procedure and declared operable at 1630 hours.

The cause of the event is procedural deficiency. The requirement to leak test the valve was not included in the surveillance procedures that stroked the valve.

Corrective actions for the event include appropriate procedure revisions and training of plant personnel. In addition, a change to TS Table 3.4-1 to exclude valve ISI-359 from quarterly leak testing will be submitted.

There were no safety consequences as a result of this event as subsequent leak testing demonstrated that leakage was within the TS acceptance criteria.

This event is being reported in accordance with 10CFR50.73 (a) (2) (i) (B) as a Technical Specification violation.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)  SHEARON HARRIS NUCLEAR POWER PLANT UNIT 1	DOCKET NUMBER (2)  0 5 0 0 0 4 0 0	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		9 0	0 1 1	0 0	0 2	OF	0 4

TEXT (If more space is required, use additional NRC Form 368A's) (17)

Description:

The plant was operating in Mode 1, POWER OPERATION, at 100 percent reactor power on April 5, 1990. Technical Specification (TS) 4.4.6.2.2.d requires that Reactor Coolant System Pressure Isolation Valves specified in Table 3.4-1 shall be demonstrated operable by verifying leakage to be within its limit within 24 hours following valve actuation due to automatic or manual action or flow through the valves. A motor operated Safety Injection Valve ISI-359, Hot Leg Recirculation Valve, is included in this table.

On February 13, 1990, Operations Surveillance Test (OST)-1008, 1A-SA Residual Heat Removal (RHR) Pump Operability Quarterly Interval, was performed. This test stroked valve ISI-359 along with several other valves. The valve cycling in OST-1008 is required by Inservice Inspection Program (ISI)-203, ASME Section XI Pump and Valve Program Plan. On April 5, 1990, during an Inservice Inspection review of the stroke times for the RHR valves, it was discovered that valve ISI-359 was required to be leak tested following the stroke time testing. However, OST-1008 did not identify the requirement for leak testing. At 1300 hours the valve was declared inoperable, and the plant entered Limiting Condition of Operation (LCO) action 3.4.6.2.c. The valve was then leak tested utilizing OST-1506, Reactor Coolant System Isolation Valve Leak Test. OST-1506 was completed satisfactorily and the valve declared operable at 1630 hours.

A review of previously performed OSTs has been completed and revealed that valve ISI-359 has never been leak tested following the performance of OST-1008, or OST-1108, RHR Pump Operability Quarterly Interval, as required by TSs. However, the valve has been successfully leak tested previously on December 16, 1989, and October 10, 1988, to satisfy the requirements of Surveillance 4.4.6.2.2.b.

Cause:

The cause of the event is inadequate procedural controls for identifying when the particular surveillance was required. When the initial Inservice Testing Program for Pumps and Valves was developed, the procedure (ISI-203) did not require the cycling of this valve during routine plant operations. An ASME Section XI Cold Shutdown justification was used to require valve cycling only when the plant was in Cold Shutdown if the test had not been completed in the previous quarter. This approach was approved by the NRC in the acceptance of the original version of the Inservice Valve Testing program. Notwithstanding this, OST-1008 and OST-1108 included the steps for cycling ISI-359. Subsequently, in March 1989, ISI-203 was revised to require quarterly testing.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)  SHEARON HARRIS NUCLEAR POWER PLANT UNIT 1	DOCKET NUMBER (2)  0 5   0   0   0   4   0   0	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		9   0	-   0   1   1	-   0   0	0   3	OF	0   4

TEXT (If more space is required, use additional NRC Form 368A's) (17)

In the development of the specific OSTs, it was not recognized that the cycling of ISI-359 would lead to the requirement for a specific leak test. The need for the leak test was also part of a separate plant matrix covering "event related" surveillances. This matrix listed "event related" surveillances, the procedures which would identify and trigger the performance of the surveillance and the procedure implementing the surveillance. This matrix shows that the need for the leak test surveillance would be initiated only by actuation of the Safety Injection System. The matrix did not recognize that cycling of valve ISI-359 would occur on a routine basis.

Analysis:

There were no safety consequences as a result of this event. Valve ISI-359 is a motor operated gate valve which is opened during post-Loss of Coolant Accident (LOCA) long term recirculation to provide a means of injecting low head safety injection flow into the RCS hot legs. In addition to ISI-359, there are two in-series check valves which protect the RHR system from the higher pressures in the RCS. Technical Specifications include the requirement to leak test at least two of the valves in the interface between the RCS and the RHR system. For check valves and for ISI-359 there is a requirement to perform the leak test following cycling of the valve or flow through the valve. For the other motor operated valves in Table 3.4-1, the requirement for the leak test following valve cycling is not required.

The purpose of the leak test is to verify that each applicable valve is actually closed and that an imminent inter-system LOCA hazard does not exist. During the development of the Technical Specifications, valve position indication was accepted as a means to provide sufficient assurance that the valve was shut. Therefore, leak testing could be done at a reduced frequency. The plant applied this exception to the RHR suction isolation valves but did not apply this exception to valve ISI-359. Based on that exception it is concluded that the closed position indication for ISI-359 and a reduced (18 month) testing frequency provided adequate assurance of isolation of the RHR system from the RCS. The subsequent leak test demonstrated that the valve's leakage was within acceptable amounts.

This event is being reported in accordance with 10CFR50.73 (a) (2) (i) (B) as a Technical Specification violation.

There have been no similar events reported.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) SHEARON HARRIS NUCLEAR POWER PLANT UNIT 1	DOCKET NUMBER (2) 0   5   0   0   0   4   0   0	LER NUMBER (8)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		9   0	-   0   1   1	-   0   0	0   4	OF 0   4

TEXT (If more space is required, use additional NRC Form 368A's) (17)

Corrective Action/Action to Prevent Recurrence:

1. OST-1008 and OST-1108 are being revised to delete the stroke testing of valve ISI-359 on a quarterly basis.
2. The stroke testing of valve ISI-359 will be included in OST-1088, Low Head SI Check Valves ISI TEST Quarterly Interval Mode 5. Leak testing will be done prior to entry into Mode 2.
3. Appropriate personnel will be trained on this event.
4. ISI-203 was revised in April 1990, to change the test frequency of valve ISI-359 to COLD SHUTDOWN, quarterly interval, instead of during plant operation.
5. A change to TS Table 3.4-1 will be submitted to the NRC to change the testing frequency of valve ISI-359.
6. The "event related" TS surveillance matrix will be reviewed for any similar problems.

EIIS Code Information:

Reactor Coolant System	AB
Residual Heat Removal	BP
Valve ISI-359	BP
Safety Injection	BQ