

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8706040120 DOC. DATE: 87/05/26 NOTARIZED: NO DOCKET #
 FACIL: 50-400 Shearon Harris Nuclear Power Plant, Unit 1, Carolina 05000400
 AUTH. NAME AUTHOR AFFILIATION
 HUDSON, O. N. Carolina Power & Light Co.
 WATSON, R. A. Carolina Power & Light Co.
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 87-026-00: on 870423 & 24, main feedwater pump tripped & actuated motor-driven auxiliary feedwater pumps. Caused by trip of condensate booster pump. Main feedwater restored & pumps secured. Control logic under evaluation. W/870526 ltr.

DISTRIBUTION CODE: IE22D COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 4
 TITLE: 50.73 Licensee Event Report (LER), Incident Rpt, etc.

NOTES: Application for permit renewal filed. 05000400

	RECIPIENT ID CODE/NAME	COPIES LTTR ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR ENCL
	PD2-1 LA	1 1	PD2-1 PD	1 1
	BUCKLEY, B	1 1		
INTERNAL:	ACRS MICHELSON	1 1	ACRS MOELLER	2 2
	AEOO/DOA	1 1	AEOO/DSP/ROAB	2 2
	AEOO/DSP/TPAB	1 1	DEORO	1 1
	NRR/DEST/ADE	1 0	NRR/DEST/ADS	1 0
	NRR/DEST/CEB	1 1	NRR/DEST/ELB	1 1
	NRR/DEST/ICSB	1 1	NRR/DEST/MEB	1 1
	NRR/DEST/MTB	1 1	NRR/DEST/PSB	1 1
	NRR/DEST/RSB	1 1	NRR/DEST/SGB	1 1
	NRR/DLPQ/HFB	1 1	NRR/DLPQ/QAB	1 1
	NRR/DOEA/EAB	1 1	NRR/DREP/RAB	1 1
	NRR/DREP/RPB	2 2	NRR/PMAS/ILRB	1 1
	NRR/PMAS/PTSB	1 1	<u>REG FILE</u> 02	1 1
	RES DEPY GI	1 1	RON2 FILE 01	1 1
EXTERNAL:	EG&G GROH, M	5 5	H ST LOBBY WARD	1 1
	LPDR	1 1	NRC PDR	1 1
	NSIC HARRIS, J	1 1	NSIC MAYS, G	1 1

TOTAL NUMBER OF COPIES REQUIRED: LTIR 42 ENCL 40



Faint vertical text along the left edge of the page, possibly bleed-through from the reverse side.

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) SHEARON HARRIS, UNIT 1	DOCKET NUMBER (2) 0 5 0 0 0 4 0 0	PAGE (3) 1 OF 0 3
--	---	-----------------------------

TITLE (4)
AFW ACTUATION

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	23	8	7	0	0	5	26			0 5 0 0 0
											0 5 0 0 0

OPERATING MODE (9) 2	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)									
POWER LEVEL (10) 0 0 3	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(c)	<input checked="" type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)						
	<input type="checkbox"/> 20.405(a)(1)(i)	<input type="checkbox"/> 50.36(e)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 73.71(c)						
	<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 50.36(e)(2)	<input type="checkbox"/> 50.73(a)(2)(vi)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)						
	<input type="checkbox"/> 20.405(a)(1)(iii)	<input type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(vii)(A)							
	<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)							
	<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)							

LICENSEE CONTACT FOR THIS LER (12)		TELEPHONE NUMBER	
NAME O. N. HUDSON SENIOR ENGINEER - REGULATORY COMPLIANCE	AREA CODE 9 1 9	3 6 1 2 - 1 2 3 6 3	

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)		EXPECTED SUBMISSION DATE (16)	MONTH	DAY	YEAR
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> NO				

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

ABSTRACT:

On April 23, 1987, while the Shearon Harris Nuclear Power Plant was operating in Mode 3, the Condensate Booster Pump tripped. This tripped the running Main Feedwater Pump. The trip of the Main Feedwater pump actuated the motor driven Auxiliary Feedwater (AFW) Pumps. On April 24, with the plant in Mode 2 at 3% power, the same Condensate Booster Pump tripped again, causing a loss of main feedwater, and AFW actuation. In both cases, AFW actuated as designed, Main Feedwater was subsequently restored and AFW was secured.

8706040120 870526
PDR ADDCK 05000400
S PDR

IE22
111

FACILITY NAME (1) SHEARON HARRIS UNIT 1	DOCKET NUMBER (2) 0 5 0 0 0 4 0 0	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		8 7	- 0 2 6	- 0 0	0 2	OF	0 3

TEXT (If more space is required, use additional NRC Form 366A's) (17)

DESCRIPTION OF EVENT:

On April 23, 1987, the Shearon Harris Nuclear Power Plant was operating in Mode 3 at normal temperature and pressure. Train 'A' of main feedwater (Main Feedwater, Condensate Booster, and Condensate Pumps) was in operation. At approximately 1528, a low lube oil pressure signal caused the trip of the Condensate Booster Pump. This, in turn, caused a trip of Main Feedwater Pump 'A' and the consequent loss of all main feedwater. The trip of the Main Feedwater (MFW) Pump completed the logic for actuation of the motor driven Auxiliary Feedwater (AFW) Pumps. Both motor driven AFW pumps started to provide feed flow to the steam generators. Main feedwater flow was reestablished; auxiliary feedwater was secured at 1624.

On April 24, 1987, the plant was operating in Mode 2 at 3% reactor power at normal temperature and pressure. Main Feedwater Pump 'B' and Condensate Booster Pump 'A' were in operation. At 0228, a low lube oil pressure signal caused the trip of the Condensate Booster Pump. This caused the trip of the running MFW Pump and the loss of all main feedwater. The loss of all main feedwater resulted again in the actuation of the AFW system. Feedwater was restored through MFW Train 'B'; and AFW was secured.

CAUSE:

The cause of both of the AFW actuations was loss of main feedwater due to Condensate Booster Pump 'A' trip on low lube oil pressure. The cause of the low lube oil pressure trip was investigated. This investigation included:

1. The shell side (service water) of the lube oil cooler was disassembled and inspected. A small amount of debris was found. However, no significant change in service water or lube oil temperatures were noted.
2. The oil filters were removed and inspected. No significant debris was found.
3. Lube oil pressure switches were checked, with good results: trip pressure switch, auxiliary pump start pressure switch, and low oil pressure alarm pressure switch.
4. The flow control valve was disassembled and inspected. No discrepancies were found.
5. The lube oil flow controller was adjusted to provide more flow.

In summary, no specific cause was identified. However, after this work was done, the lube oil pressure observed was slightly higher. To date, the pump has run without a similar trip.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) SHEARON HARRIS UNIT 1	DOCKET NUMBER (2) 0 5 0 0 0 4 0 0	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		8 7	— 0 2 6	— 0 0	0 3	OF	0 3

TEXT (If more space is required, use additional NRC Form 366A's) (17)

ANALYSIS:

This event is reportable per 10CFR50.73 (a) (2) (iv) due to automatic actuation of the AFW system.

There are no safety consequences as a result of this event. The AFW system started as required upon loss of main feedwater. With the exception of the Condensate Booster Pump, systems and equipment responded as expected.

CORRECTIVE ACTIONS:

As mentioned above, no specific faults were found. However, an evaluation will be conducted to determine if improvements are possible in the control logic for the Condensate Booster Pump Auxiliary Oil Pump to reduce the possibility of spurious trips.



Carolina Power & Light Company

HARRIS NUCLEAR PROJECT
P.O. Box 165
New Hill, NC 27562

MAY 26 1987

File Number: SHF/10-13510C
Letter Number: HO-870442 (O)

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 87-026-00

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. A. Watson
Vice President
Harris Nuclear Project

RAW:skm

Enclosure

cc: Dr. J. Nelson Grace (NRC - RII)
Mr. B. Buckley (NRR)
Mr. G. Maxwell (NRC - SHNPP)