

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8806010189 DOC. DATE: 88/05/19 NOTARIZED: NO DOCKET #
 FACIL: 50-400 Shearon Harris Nuclear Power Plant, Unit 1, Carolina 05000400
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 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 88-009-00: on 880419, during test of A trian, plant response would not meet Tech Specs requirement. caused by personnel error. Addl operator training & procedures revised. W/880519 ltr.

DISTRIBUTION CODE: IE22D COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 5
 TITLE: 50.73 Licensee Event Report (LER), Incident Rpt, etc.

NOTES: Application for permit renewal filed. 05000400

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	AEOD/DOA	1 1	AEOD/DSP/NAS	1 1
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	NRR/DRIS/SIB 9A	1 1	NRR/PMAS/ILRB12	1 1
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EXTERNAL:	EG&G WILLIAMS, S	4 4	FORD BLDG HOY, A	1 1
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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) SHEARON HARRIS NUCLEAR POWER PLANT UNIT 1	DOCKET NUMBER (2) 0 5 0 0 0 4 0 0 1	PAGE (3) 1 OF 0 4
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TITLE (4) **TECHNICAL SPECIFICATION VIOLATION WHILE TESTING THE SOLID STATE PROTECTION SYSTEM**

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	1988	88	0	0	0	5	1988			0 5 0 0 0

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

LICENSEE CONTACT FOR THIS LER (12)		TELEPHONE NUMBER	
NAME JOSEPH R. JOHNSON SENIOR SPECIALIST - REGULATORY COMPLIANCE	AREA CODE 9 1 9	NUMBER 3 1 6 2 1 - 2 1 0 8 1 3	

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)											
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDPS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDPS		

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> NO	MONTH	DAY

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

ABSTRACT:

On April 19, 1988, at 1310, the plant was operating in Mode 1 at 100% power. Train "A" of the Solid State Protection System (SSPS) was placed in test from 1310 until 1426, preventing automatic actuation of the "A" train engineered safeguards components. At the same time, some "B" train components were inoperable for testing or preventive maintenance. Consequently, Technical Specification 3.0.3 applied for 1 hour and 16 minutes while the Train "A" SSPS was in test. This situation was not recognized by operations personnel, and neither the Technical Specifications nor plant procedures explicitly prohibited the configuration. The problem was discovered on April 22, 1988 during review of Equipment Inoperable Records (EIRs).

This event was caused by an error made by the Operations personnel in the Clearance Center and the Main Control Room, coupled with a situation which was not adequately covered by Technical Specifications or applicable operations procedures.

Corrective actions will include additional operator training, and revisions to plant procedures.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

DESCRIPTION:

On April 19, 1988, at 1310, the plant was operating in Mode 1 at 100% power. Train "A" of the Solid State Protection System (SSPS) (EIIS:JG) was placed in test for routine, required surveillance from 1310 until 1426. The plant Technical Specifications allow an SSPS channel to be in test for up to two hours if the other channel is operable, however, several components of the "B" train had been previously declared inoperable at various times during the day for preventive maintenance and testing. The "B" train components which had been declared inoperable included the "B" Motor Driven Auxiliary Feed Water (AFW) Pump, the "B" Emergency Service Water (ESW) Pump, the "B" Control Room Emergency Filtration unit, and the "B" Reactor Auxiliary Building (RAB) Emergency Exhaust. The actual status of these components are discussed more thoroughly in the "Analysis of Event" section of this report.

The conflict between the "B" train inoperable equipment and the "A" train SSPS test was not recognized by operations personnel at the time, consequently, Technical Specification 3.0.3 applied for 1 hour and 16 minutes while the train "A" SSPS was in test. This situation was discovered on April 22, 1988 during review of Equipment Inoperable Records (EIRs).

CAUSE:

This event was caused by an error made by the Operations personnel in the Clearance Center and the Main Control Room, coupled with a situation which was not adequately covered by Technical Specifications or applicable operations procedures. Neither the plant Technical Specifications nor the operating procedures explicitly addressed mechanical equipment associated with instrument channels. Each of the EIRs were done at a different time, and the interrelationship was not noticed by the preparers or reviewers. The oversight was identified during a subsequent review of a group of EIRs.

ANALYSIS OF EVENT:

The Operations unit uses EIRs to track the status of equipment covered by Technical Specifications and to track completion of applicable compensatory actions and LCO actions. EIRs are used when equipment is voluntarily removed from service as well as when equipment is found to be inoperable. The "B" train components listed above were voluntarily removed from service to perform testing. During the event, the status of each component was as follows:

The "B" AFW Pump had been declared inoperable to change a setpoint on a blowdown isolation signal but would have still responded to all manual or automatic signals as needed. The ESW Pump breaker was racked out to prevent a start during calibration of the discharge pressure transmitter but could have been returned to service very quickly if needed. The air handling unit



LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

ANALYSIS OF EVENT: (continued)

breakers were racked out for heater testing, but their failure to start would have little short term effect on plant response to an accident. They could have been easily restored to service if needed. The surveillance test on the "A" SSPS involved testing of the actuation logic. During the test, the "A" SSPS train was not capable of actuating "A" train equipment when valid signals with the minimum coincidence were input to the logic train.

The impact of this equipment configuration is presented below:

1. Train "A" components were always available by manual control from the Main Control Room.
2. If there had been a loss of off-site power, the "A" train components controlled by the loss of off-site power sequencer would have been started. These components are similar to the loads required by a Safety Injection signal. However, a Safety Injection signal from the "A" SSPS is required to automatically start the "A" Residual Heat Removal pump and align the valves to put Safety Injection equipment into the proper configuration. Plant Emergency Operating Procedures require confirmation of proper equipment alignment by the control operators after an indication of the need for Safety Injection or Reactor Trip.
3. In the event of a demand from the "B" SSPS, concurrent with off-site power available, all "B" train components, except two air handling units and the ESW pump would have responded properly. A Safety Injection signal would cause Emergency Service Water to isolate from the Normal Service Water system. However, in this scenario the Emergency Diesel Generator (EDG) would not be loaded and could run at no load for a period of time without damage. Emergency Service Water flow to the "B" train could have been established from the Main Control Room after the Safety Injection signal was reset.
4. In the event of a demand from the "B" SSPS concurrent with loss of off-site power, Emergency Service Water would not be available for operation of the "B" Emergency Diesel Generator. Manual operator action would be required to detect the loss of "B" train ESW and shut down the "B" EDG pending restoration of the breaker for the "B" ESW pump.

In summary, during the test of the "A" train SSPS, the plant response would not meet the minimum equipment capability required for a design basis accident. As stated above operator action would compensate for starting "A" train components, but would not meet the response time required to mitigate design basis accidents.

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

ANALYSIS OF EVENT: (continued)

A thorough review was conducted of EIRs that were in effect during performance of monthly SSPS tests during the previous 12 months. It was discovered that a similar event occurred on August 18, 1987. At that time, Train "A" of the SSPS was placed in test for 1 hour and 25 minutes while the "B" ESW Screen Wash Pump and the RAB Exhaust Damper (D-61) were inoperable. This event was not recognized at the time, and consequently, was never reported.

CORRECTIVE ACTIONS:

1. The relevant operating procedures will be revised to highlight the need to consider the operability of all equipment on the other train when performing testing of the solid state protection system.
2. The "Operator Prerequisite Summary Sheet" in the SSPS Actuation Logic and Master Relay tests will be revised to remind operators that opposite train equipment must be evaluated before permitting these tests to be run (MSTI-0001 and MSTI-0320).
3. Training on this event will be provided to active licensed personnel.



Carolina Power & Light Company

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

MAY 19 1988

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Letter Number: HO-880113 (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 88-009-00

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

JRJ:acm

Enclosure

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

MEM/LER-88-009/1/OS1

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