

# ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:8809140333 DOC.DATE: 88/09/06 NOTARIZED: NO DOCKET #  
 FACIL:50-400 Shearon Harris Nuclear Power Plant, Unit 1, Carolina 05000400  
 AUTH.NAME AUTHOR AFFILIATION  
 SCHWABENBAUER Carolina Power & Light Co.  
 WATSON,R.A. Carolina Power & Light Co.  
 RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 88-020-00:on 880806,wide range gas monitor inoperable  
 due to loss of sample flow & compensatory actions not taken.  
 W/8 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

	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
	ACRS WYLIE	1 1	AEOD/DOA	1 1
	AEOD/DSP/NAS	1 1	AEOD/DSP/ROAB	2 2
	AEOD/DSP/TPAB	1 1	ARM/DCTS/DAB	1 1
	DEDRO	1 1	NRR/DEST/ADS 7E	1 0
	NRR/DEST/CEB 8H	1 1	NRR/DEST/ESB 8D	1 1
	NRR/DEST/ICSB .7	1 1	NRR/DEST/MEB 9H	1 1
	NRR/DEST/MTB 9H	1 1	NRR/DEST/PSB 8D	1 1
	NRR/DEST/RSB 8E	1 1	NRR/DEST/SGB 8D	1 1
	NRR/DLPQ/HFB 10	1 1	NRR/DLPQ/QAB 10	1 1
	NRR/DOEA/EAB 11	1 1	NRR/DREP/RAB 10	1 1
	NRR/DREP/RPB 10	2 2	NRR/DRTS/SIB 9A	1 1
	NUDOCS-ABSTRACT	1 1	<del>REG-FILE</del> 02	1 1
	RES TELFORD,J	1 1	RES/DSIR DEPY	1 1
	RES/DSIR/EIB	1 1	RGN2 FILE 01	1 1
EXTERNAL:	EG&G WILLIAMS,S	4 4	FORD BLDG HOY,A	1 1
	H ST LOBBY WARD	1 1	LPDR	1 1
	NRC PDR	1 1	NSIC HARRIS,J	1 1
	NSIC MAYS,G	1 1		

## 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   OF   0   4				PAGE (3) 1 OF 0   4		
TITLE (4) WIDE RANGE GAS MONITOR INOPERABLE DUE TO LOSS OF SAMPLE FLOW AND COMPENSATORY ACTIONS NOT TAKEN DUE TO PERSONNEL ERROR.																
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   8   0   6   8   8	8   8	8   8	8   8	0   2   0	0   0	0   9   0   6   8   8								0   5   0   0   0		
OPERATING MODE (9) 5		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)														
POWER LEVEL (10) 0   0   0		20.402(b)				20.405(c)				50.73(a)(2)(iv)				73.71(b)		
		20.405(a)(1)(i)				50.36(c)(1)				50.73(a)(2)(v)				73.71(c)		
		20.405(a)(1)(ii)				50.36(c)(2)				50.73(a)(2)(vii)				OTHER (Specify in Abstract below and in Text, NRC Form 366A)		
		20.405(a)(1)(iii)				X 50.73(a)(2)(i)				50.73(a)(2)(viii)(A)						
		20.405(a)(1)(iv)				50.73(a)(2)(ii)				50.73(a)(2)(viii)(B)						
		20.405(a)(1)(v)				50.73(a)(2)(iii)				50.73(a)(2)(x)						
LICENSEE CONTACT FOR THIS LER (12)																
NAME R. SCHWABENBAUER - REGULATORY COMPLIANCE TECHNICIAN										TELEPHONE NUMBER 9   1   9   3   6   1   2   1 - 1   2   6   6   9						
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 (15)		MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE) X NO																
ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)																
ABSTRACT: The plant was in Mode 5, Cold Shutdown, at 0 percent reactor power on August 6, 1988. Technical Specifications 3.3.3.11 requires the plant vent stack effluent be continuously monitored for noble gases and continuously sampled for particulates and iodines. The plant vent stack Wide Range Gas Monitor (WRGM) which does this is powered by the 1A-SA Safety Bus. Operations personnel were in the process of performing Operations Surveillance Test (OST)-1823, 1A-SA Emergency Diesel Generator (EDG) 18 Month Operability Test. Part of the test calls for the dropping of the 1A-SA Safety Bus to simulate a loss-of-power to ensure the EDG starts and assumes 1A-SA safety train power loads. At 0346 hours operations personnel dropped the 1A-SA Safety Bus. The 1A-SA EDG started as required and restored power to the 1A-SA safety-related equipment. Power was restored to the WRGM; however, the sample pump, which draws the air through the WRGM, does not automatically restart once power is lost. The sample pump has to be manually restarted from the control console and personnel at the consoles did not recognize that the sample pump was not running. At 1843 hours, approximately 15 hours later, personnel discovered the sample pump was not running as required and restarted it to restore sample flow to the WRGM. The cause of the event was personnel error as it was not noticed that sample flow had been lost to the WRGM. Corrective actions include: procedure revision for additional checks on monitors and additional training for personnel. There were no safety consequences as a result of this event and is being reported in accordance with 10CFR50.73(a)(2)(i)(B) as a violation of Technical Specifications.																

8809140333 880906  
PDR ADDCK 05000400  
S PNUJE22  
11.

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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 8 8	SEQUENTIAL NUMBER 0 2 0	REVISION NUMBER 0 0			
					0 2	OF	0 4

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

DESCRIPTION:

The plant was in Mode 5, Cold Shutdown, at 0 percent reactor power on August 6, 1988. Plant Technical Specifications (TS) 3.3.3.11 and table 3.3.13 require the plant vent stack (EIIS:VL) effluent be continuously monitored for noble gases and continuously sampled for particulates and iodines. The minimum required channels for each function is one. With less than the minimum required channels operable, a noble gas grab sample must be taken every 12 hours and particulates and iodines must be sampled continuously through the use of a portable monitor. There are two separate monitors on the plant vent stack, a particulate iodine and gas monitor (PIG) and a wide range gas monitor (WRGM) RM-21AV-3509-1SA (EIIS:IL). These monitors are powered by the 1A-SA Safety Bus (EIIS:EA).

Operations personnel were in the process of performing Operations Surveillance Test (OST)-1823, 1A-SA Emergency Diesel Generator (EDG)(EIIS:EK) 18 Month Operability Test Modes 5 and 6. A portion of OST-1823 requires the dropping of the 1A-SA Safety Bus, which simulates a loss of power, to verify the 1A-SA EDG starts and assumes 1A-SA safety train loads.

At 0346 hours power was dropped to the 1A-SA Safety Bus causing a momentary loss of power to the A train safety related equipment. The 1A-SA EDG started as required and restored power to the A train safety related equipment.

Power was restored to the WRGM; however, the sample pump does not restart automatically and needs to be manually started by personnel. At this point the WRGM was without sample flow. This loss of sample flow condition was not noticed by the Radiation Control (RC) Technician at the Radiation Monitor (RM)-11 console. Also, the loss sample flow visual indication on the RM-11 or the RM-23 in the Main Control Room (MCR) was not noticed by operations personnel.

At 1843 hours the night shift RC Technician at the RM-11 console noticed that the plant vent stack WRGM was in an operate failure condition and called up the status screen for that monitor. The screen indicated that the monitor was in a loss of sample flow condition. The technician then called the MCR to see if there was any testing or work being performed on this monitor. The MCR personnel indicated no work or testing was being performed so the RC Technician then started the sample pump from the RM-11 console in the Radiation Work Permit (RWP) office. The technician then checked the alarm history for that monitor and notified the MCR the sample pump had been off for the previous 15 hours.

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/88

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

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

CAUSE:

The dropping of the 1A-SA Safety Bus caused the WRGM to lose sample flow. When the 1A-SA EDG started and assumed safety train loads power was restored to the plant vent stack WRGM. The monitor sensed a loss of sample flow due to the sample pump not starting and generated a loss of sample flow alarm. This alarm message was sent to the RM-11 computers that are primary and secondary to that monitor.

Once an RM-11 computer receives an alarm message it does several things with that message. The RM-11 computer sends that message to the other three RM-11 computers. Then each of the four RM-11 computers forward the message to their respective printers and terminals. Each terminal receives the message and generates both audible and visual alarms. When the 1A-SA Safety Bus was dropped each RM-11 terminal and printer received 18 alarm messages in approximately one minute. With this many alarms coming in at one time, associating the audible alarm with any particular monitor channel problem is impossible. Therefore, when many alarms are received, the visual message is the key to verifying which monitors are in alarm.

When a visual alarm message is received at an RM-11 terminal it causes the block representing that channel on the grid screen to change colors and start flashing. The grid block will continue to flash until the alarm for that channel is acknowledged on each RM-11. A loss of sample flow alarm would have caused the low range gas channel to change from green to dark blue. Even if the alarm had been acknowledged the grid block would have remained dark blue until sample flow had been restored. However, the personnel who acknowledged the alarms at the RM-11s did not recognize what actions were needed if the WRGM did not clear (i.e., the color didn't change back to green).

Neither the control room operators nor the RC Technicians manning the RWP office RM-11 terminal between 0346 hours and 1843 hours noticed any off-normal conditions for the plant vent stack WRGM. The cause of this occurrence was personnel error in that neither the RC Technicians nor the control room personnel noticed the loss of sample flow alarm.

It must be noted that there are other conditions that probably contributed to this loss of sample flow condition being missed. The flow indicator light on the RM-23 display for the plant vent stack was burned out. This could have led to some confusion as to whether or not the WRGM had sample flow. The radiation monitoring system has been having loop communication problems, which can mask other alarms for short periods of time.

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/88

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			
		8 8	— 0 2 0	— 0 0	0 4	OF	0 4

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

CAUSE (continued)

There is no printer at the RM-11 terminal in the RWP office which would provide a listing of alarms on the system. Consequently, if the radiation monitoring system RC Technician is out of the office for other duties, information is not readily available to him/her as to what alarms occurred during that time if they were acknowledged by other personnel in the office.

ANALYSIS:

There were no safety consequences as a result of this event.

The plant vent stack was an unmonitored release path for approximately 15 hours. Even though the PIG was inoperable, due to a problem with the iodine detector, it was still capable of monitoring noble gases. The alarm history printouts for August 6, 1988 indicate the plant vent stack PIG monitor did not go into alert or high alarm at any time. In addition, routine air samples taken during this time frame did not indicate any airborne contamination problems in the plant.

The event is being reported in accordance with 10CFR50.73(a)(2)(i)(B) as a violation of Technical Specifications 3.3-13 Actions 47 and 49.

There have been no previous similar events reported.

CORRECTIVE ACTIONS/ACTION TO PREVENT RECURRENCE:

1. Health Physics Procedure (HPP) 501, Routine Surveillance of Radiation Monitoring System, will be revised so that the trend checks of Technical Specification radiation monitors will be performed once a shift, rather than daily as currently required. A form on which to document this trend check will be added to the procedure.
2. Appropriate personnel will receive additional training on the alarm functions and displays of both the RM-23 and RM-11 terminals.



Carolina Power & Light Company

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

SEP 06 1988

File Number: SHF/10-13510C  
Letter Number: HO-880180 (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 88-020-00

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

RJS:dj

Enclosure

cc: Dr. J. Nelson Grace (NRC - RII)  
Mr. B. Buckley (NRR)  
Mr. W. H. Bradford (NRC-SHNPP)

1622  
1/1