

# ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8808160053 DOC. DATE: 88/08/08 NOTARIZED: NO DOCKET #  
 FACIL: 50-250 Turkey Point Plant, Unit 3, Florida Power and Light C 05000250  
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 CONWAY, W.F. Florida Power & Light Co.  
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 88-013-00: on 880707, functional test of post-accident hydrogen monitor did not test alarm function.

W/8 1tr.

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

## NOTES:

RECIPIENT ID CODE/NAME	COPIES LTTR ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR ENCL
PD2-2 LA	1 1	PD2-2 PD	1 1
EDISON, G	1 1		
INTERNAL: ACRS MICHELSON	1 1	ACRS MOELLER	2 2
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/DREP/SIB 9A	1 1	NUDOCS-ABSTRACT	1 1
REG FILE 02	1 1	RES TELFORD, J	1 1
RES/DSIR DEPY	1 1	RES/DSIR/EIB	1 1
RES/DSR DEPY	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) Turkey Point Unit 3										DOCKET NUMBER (2) 0 5 0 0 0 2 5 0										PAGE (3) 1 OF 0 14	
TITLE (4) Functional Test of Post Accident Hydrogen Monitor Did not Test Alarm Function 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 7	0 7	8 8	8 8	0 1 3	0 0	0 8	0 8	8 8	Turkey Point Unit 4						0 5 0 0 0 2 5 1						
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 0		20.402(b)				20.406(e)				50.73(a)(2)(iv)				73.71(b)							
		20.406(a)(1)(i)				50.38(a)(1)				50.73(a)(2)(v)				73.71(c)							
		20.406(a)(1)(ii)				50.38(a)(2)				50.73(a)(2)(vi)				OTHER (Specify in Abstract below and in Text, NRC Form 366A)							
		20.406(a)(1)(iii)				50.73(a)(2)(i)				50.73(a)(2)(vii)(A)											
		20.406(a)(1)(iv)				50.73(a)(2)(ii)				50.73(a)(2)(vii)(B)											
		20.406(a)(1)(v)				50.73(a)(2)(iii)				50.73(a)(2)(ix)											
LICENSEE CONTACT FOR THIS LER (12)																					
NAME Karl W. Gross, Compliance Engineer										TELEPHONE NUMBER											
										AREA CODE 3 0 5		2 4 6 - 6 7 4 9									
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																					
CAUSE	SYSTEM	COMPONENT	MANUFAC- TURER	REPORTABLE TO NPROS		CAUSE	SYSTEM	COMPONENT	MANUFAC- TURER	REPORTABLE TO NPROS											
A	I P	4 5	C 4 9 9	N																	
SUPPLEMENTAL REPORT EXPECTED (14)												EXPECTED SUBMISSION DATE (15)		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)

On July 7, 1988, with Turkey Point Units 3 and 4 operating at 100% power, it was noted that the monthly Channel Functional Test surveillance procedure for the Post Accident Hydrogen Monitor (PAHM) system did not check the system alarm. The control room annunciator for the PAHM provides indication of high hydrogen concentration and system status, and remains lit during normal operations. This design does not include reflash and prevents its function from being verified when indication is already present. The surveillance requirement had been removed because it could not be performed. The root cause of this event was personnel error in removal of the alarm check from the channel functional test surveillance procedure. A contributory cause was the system design which allows the control room annunciator to remain lit during normal operations. An alternate method of verifying alarm function has been identified and the surveillance procedure was corrected and properly performed later that day. The change was permanently incorporated. Other corrective actions include review of the event with operating crews and sampling of other surveillance procedures to verify channel functional procedures verify alarm function. An evaluation of possible annunciator system changes is also being performed.

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## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

Event Description

On July 7, 1988, with Turkey Point Units 3 and 4 operating at 100% power, the quarterly Channel Calibration of the Post Accident Hydrogen Monitors (PAHM, EIIS code 45) was being performed on Unit 4. A Quality Assurance (QA) inspector (non-licensed contract employee) performing routine control room observation noted that the monthly Channel Functional Test surveillance did not test the alarm function of the system as required by Technical Specification (TS) 1.7, Channel Functional Test.

Because of the Channel Functional Test deficiency, both Unit 3 PAHMs were declared out of service, requiring the unit to comply with the 72 hour action statement of TS Table 3.5-5, Action 7. The status of the Unit 4 PAHMs was not immediately affected because one train (A) was already out of service for performance of its quarterly calibration and the other train (B) PAHM had been calibrated within the previous 30 days including verification of alarm function.

An On The Spot Change (OTSC) was initiated to modify the surveillance procedure (OP-0204.2) to include verification of alarm function. This OTSC was implemented, and the Unit 3 A and B, and the Unit 4 B PAHMs successfully tested to verify alarm function by 2045 on July 7, 1988. The Unit 4 A PAHM was successfully tested following completion of its calibration. The OTSC was incorporated as a permanent change to the procedure on July 14, 1988.

Units 3 and 4 have operated at various power levels and in all modes during the period this deficiency existed.

Cause of Event

Following PAHM installation, the procedure used for the Channel Functional Test surveillance included verification of the alarm function at the control room. The control room annunciator (EIIS Code IB) for the PAHM provides indication of high hydrogen concentration and system status.

Because of this design, the control room annunciator that indicates high hydrogen concentration remains lit during normal operations. This, coupled with the design of the annunciator which does not include reflash of the window upon receipt of additional input signals, prevents its function from being verified when indication is already present.

A review of old revisions to the governing surveillance procedure was performed. The review also examined the monthly surveillances which had been performed in the past. They indicated that procedure OP-0204.2 contained the requirement for alarm verification until February 25, 1985 when the procedure was revised by OTSC removing the requirement to test the alarm function. It was apparently removed because the alarm verification was not being performed due to the already lit annunciator. Previous performances had noted the discrepancy, however they did not address actions to allow alarm verification.

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

The root cause of this condition was cognizant personnel error by the operating staff (licensed utility employees) in the removal of the alarm check from the channel functional test.

A contributing cause was the system design with a single indication for high hydrogen concentration, which also alarms for routine system signals. The installation and use of this design led to the inability to properly verify alarm function, and its eventual removal from the channel functional test surveillance procedure. The presence of a continuous indication at the annunciator precluded testing of its function, however verification of the alarm can be accomplished at the control room control panel for the PAHMs. This control panel provides visual alarm indication, independent of the status of the control room annunciator.

### Analysis of Event

Based on the above, the health and safety of the public was not affected. The quarterly calibration of the PAHMs included verification of alarm function at the control panel. The deficiency identified in this report was limited to extension of the alarm verification interval from once per month as required by the TS, to quarterly when the PAHM calibration was performed, including verification of alarm function. This condition has existed since installation of the PAHM system.

Additionally, the function of the PAHM is to monitor hydrogen concentration in the containment following postulated design basis events. A buildup of hydrogen would be gradual. Monitoring of the concentration can be reasonably assumed, and this would be tracked and responded to. A postulated hydrogen buildup during normal operation is not reasonable because there is no source of the large amount of hydrogen needed to effect the volume of the containment.

### Corrective Actions

- 1) Procedure OP-0204.2 was promptly revised by OTSC to allow testing of the PAHM alarm function as required by TS. This change was permanently incorporated on July 14, 1988.
- 2) The circumstances which led and contributed to this event will be reviewed at shift briefings with all operating crews by August 31, 1988.
- 3) Since the date of the OTSC which removed the requirement for verification of the alarm from the channel functional surveillance, the review process for OTSCs has been enhanced to improve assurance of compliance with Technical Specification requirements. These enhancements include Procedure Upgrade Program review of OTSC's and incorporation of a Change-of-Intent checklist to prompt the originator to review for this type of issue.
- 4) The causes of the PAHM common alarm are being investigated. The design of the annunciator system is being reviewed as described in an annunciator study and committed to in the Detailed Control Room Design Review submittal for Turkey Point. This will be completed in accordance with the Integrated Schedule.

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

- 5) A check of a sample of 12 other channel functional tests will be conducted to verify compliance with TS 1.7. This check will be completed by August 31, 1988.

Additional Information

The Turkey Point PAHM system was manufactured by Comsip, Inc., model number K-III.

A somewhat similar event was reported in LER 250-86-027.



AUGUST 8 1988

L-88-337  
10 CFR 50.73

U. S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, D. C. 20555

Gentlemen:

Re: Turkey Point Units 3 and 4  
Docket Nos. 50-250 and 50-251  
Reportable Event: 250-88-13  
Date of Event: July 7, 1988  
Functional Test of Post Accident Hydrogen Monitor  
Did Not Test Alarm Function Due to Personnel Error

The attached Licensee Event Report (LER) is being submitted pursuant to the requirements of 10 CFR 50.73 to provide notification of the subject event.

Very truly yours,

for W. F. Conway  
Senior Vice President - Nuclear

WFC/SDF/gp

Attachment

cc: Dr. J. Nelson Grace, Regional Administrator,  
Region II, USNRC  
Senior Resident Inspector, USNRC, Turkey Point Plant

SDF3.LER

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