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SUBJECT: LER 90-003-00:on 900410,pyralarm fire detection zone inoperable w/o required roving fire watch.

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May 7, 1990

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In accordance with the criteria established by 10 CFR 50.73 entitled Licensee Event Reporting System, the following report is being submitted:

90-003-00

Sincerely,

for A.A. Blind
Plant Manager

AAB:clw

Attachment

cc: D.H. Williams, Jr.
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NRC FORM 366 (6-89)

U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (LER)

APPROVED OMB NO. 3150-0104
EXPIRES: 4/30/92

ESTIMATED BURDEN PER RESPONSE TO COMPLY WTH 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)	DOCKET NUMBER (2)	PAGE (3)
D. C. Cook Nuclear Plant, Unit 1	0 5 0 0 0 3 1 5	1 OF 0 4

TITLE (4) Pyralarm Fire Detection Zone Inoperable Without Required Roving Fire Watch 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 4	1 0	9 0	9 0	0 0 3	0 0	0 5	1 0	9 0		0 5 0 0 0
										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 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	TELEPHONE NUMBER
	AREA CODE
J. R. Sampson, Operations Department Superintendent	6 1 6 4 6 5 - 5 9 0 1

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

CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	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)

On 04-10-90 at about 1310, a pyralarm fire detection zone was rendered inoperable when the detection control panel was permeated by steam and water from a steam generator blowdown system safety valve. The Unit Supervisor failed to declare the zone inoperable and post a roving fire watch. At about 1645, the error was noted. The zone was declared inoperable and a roving fire watch was posted to satisfy the Technical Specification Action Statement. The zone was inoperable without the required roving fire watch for 3 hours 35 minutes.

This event was reviewed with the involved personnel and an Operations Standing Order was written to provide guidelines for the posting of fire watches.

Conditions Prior to Occurrence

Unit 1 (U-1) in Mode 1 operating at 100%.

Unit 2 (U-2) in Mode 2 operating at 100%.

Description of Event

On 04-10-90 at about 1310, the pyralarm fire detection (EIIS/IC-DET) zone for the Auxiliary Building East Valve Enclosure Non-Essential Service Water Area (EFR ZN 28) was rendered inoperable when the Fire Detection Panel (EIIS/IC-PL) was permeated by steam and water from a steam generator blowdown system safety valve (EIIC-WI/RV). With EFR ZN 28 inoperable, the Unit Supervisor failed to post a roving fire watch patrol to tour the inoperable fire detection zone per Technical Specification (TS) 3.3.3.7 (Fire Detection Instrumentation). The following is a review of the events associated with this finding.

On 04-10-90 at about 1222, the U-1 Steam Generator Blowdown System was placed on the Normal Blowdown Flash Tank (EIIC-WI/TK) per 1-OHP 4021.025.001 (Operation of Steam Generator Blowdown System). This blowdown lineup required 1-DRV-350 (Steam Generator Blowdown Tanks Drain Valve) control switch (EIIC-WI/HC) to be placed in auto.

At about 1300, U-1 Annunciator Pyralarm Abnormal for Fire Alarm (EIIC-IB/ALM) for EFR ZN 1 (573' Elevation Auxiliary Building), EFR ZN 28 and EFR ZN 4 (633' Elevation Auxiliary Building) came in. An operator was dispatched to each Auxiliary Building zone area to investigate. The operator touring EFR ZN 4 area noted that the Steam Generator Blowdown Tank Safety was lifting. Following a report to the Control Room, the Control Room closed the Blowdown Isolation Valves (EIIC-WI/ISV). It was subsequently found that 1-DRV-350 was in the closed position due to its control switch not being fully in the automatic position.

The 1-DRV-350 control switch was placed in auto and the U-1 Steam Generator Blowdown System was restored to normal.

Within about 10 minutes of receiving the three fire detection zone alarms, EFR ZN 1 and EFR ZN 4 cleared. The Unit Supervisor (US), believing that the zone alarms were caused by steam, felt that the EFR ZN 28 would also clear within a short time. The US decided to observe the EFR ZN 28 alarm for a short time before declaring the zone inoperable. The US, however, became involved with other items and forgot about the need to post a fire watch if the alarm did not promptly clear.

At about 1420, the involved US was relieved. The Steam Generator Blowdown event was discussed during the turnover. As the second US prepared to turnover to the next shift, he noted that EFR ZN 28 had not been declared inoperable. The US declared EFR ZN 28 inoperable per TS 3.3.3.7 and notified the fire watch to patrol the area protected by EFR ZN 28.

Cause Of Event

The cause of this event was personnel error. The involved US failed to declare the EFR ZN 28 fire detection zone inoperable and post a roving fire watch per TS 3.3.3.8.

Contributing to this event was a mind set developed by the US set following the clearing of EFR ZN 1 and EFR ZN 4 alarm within about 10 minutes. It was believed that the EFR ZN 28 alarm would also clear within a period of time which would satisfy the TS 3.3.3.7 action statement.

Analysis of Event

The failure to assign a fire watch patrol within one hour to tour the inoperable fire detection area was a violation of TS 3.3.3.7 and therefore, reportable under 10 CFR 50.73(a)(2)(i)(b).

The EFR ZN 28 pyralarm detection system was inoperable from about 1310 to 1645, 3 hours 35 minutes, without a roving fire watch assigned to patrol the area.

Following a review of this event, the analysis of this event concludes that in the unlikely event of a fire, personnel would have been promptly alerted and would have been able to control and extinguish the fire without significant spreading of the fire or equipment damage. This conclusion is based on the following.

Although a roving fire watch was not assigned specifically to tour the area protected by EFR ZN 28 fire detection, a trained fire watch was assigned to monitor two non-Technical Specification fire doors located within the detection zone each 30 minutes. The location of the two doors required the roving fire watch to pass through a major part of the area protected by EFR ZN 28. Had a fire occurred within a portion of the EFR ZN 28 being toured by the fire watch, the fire would have been noted by the roving fire watch and corrective action would have been taken. Had a fire occurred within

the portion of EFR ZN 28 not being patrolled, smoke would have passed through open deck grating and stairs to alert the fire watch touring the area. Following the observance of a fire by smoke and/or smell of smoke, corrective actions would have been taken.

Based on this analysis, this event is not considered to have created a significant safety concern, nor did it create a significant hazard to the health and safety of the general public.

Corrective Action

1. When the US recognized that EFR ZN 28 had not been declared inoperable and that a roving fire watch had not been posted, EFR ZN 28 was declared inoperable and a roving fire watch was posted.

2. This event was discussed with the involved personnel by their Shift Supervisor. The personnel are fully aware of the TS 3.3.3.7 requirements for inoperable fire detection instrumentation.

3. The involved US was counselled by his Shift Supervisor. The US is fully aware of his responsibility to promptly declare TS equipment inoperable and to promptly take action to satisfy the applicable TS action statement.

4. An Operations Standing Order for the posting of continuous and roving fire watches was written to provide a guidance for posting continuous and roving fire watches.

5. A training memo was sent to Operations personnel to review the Operations Standing Order.

6. A job order was written to inspect and repair the detection control panel.

Previous Similar Events

LER 89-015
LER 90-001