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SUBJECT: LER 88-005-00:on 880705,isolation of CO2 fire protection sys,w/o compensatory action.Due to personnel error.
W/8 ltr.

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TITLE: 50.73 Licensee Event Report (LER), Incident Rpt, etc.

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NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/88

LICENSEE EVENT REPORT (LER)

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) Isolation of CO2 Fire Protection System, Without Compensatory Action Due To Personnel Error/Procedural NonCompliance

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 5 0 0 0
0 7	0 5	8 8	8 8	— 0 0 5	— 0 0	0 8	0 4	8 8		0 5 0 0 0

OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)				
1		20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)	
POWER LEVEL (10)		20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)	
0 9 0		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
J.R. Sampson Safety and Assessment Department Superintendent	AREA CODE 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	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)

On July 5, 1988 during isolation/normalization of the Cardox CO2 Fire Protection System for Quadrants (Quads) 3 and 4 of the Reactor Cable Tunnel, personnel error/procedural noncompliance resulted in the isolation of two of the CO2 protected areas (one area for 1 hour and 51 minutes and the other for 2 hours and 33 minutes) without compensatory action as required by Technical Specification 3.7.9.3, action a.

It has been concluded that in the unlikely event of a fire (in either of the areas involved), personnel would have been promptly aware of its presence and been able to control and extinguish the fire without significant propagation or equipment damage.

To prevent recurrence; 1) appropriate administrative actions were taken concerning the individuals involved, 2) all security officers attended compensatory training stressing control of the Cardox CO2 isolation switches, and 3) Security Post Order SPO.016 was revised to place additional emphasis on the necessity to log the repositioning of each switch used to isolate a CO2 protected area. Based on the results of the investigation of a similar event (which occurred on 8/3/88) additional administrative controls may be adopted. If preventive measures are revised, a supplemental report will be submitted.

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Conditions Prior To Occurrence

Unit 1 operating at 90 percent reactor thermal power.

Description of Event

On July 5, 1988, during isolation/normalization of the Cardox CO2 fire protection system (EIIS/KQ) for Quadrants (Quads) 3 and 4 of the Reactor Cable Tunnel (RCT), personnel error/procedural noncompliance resulted in the isolation of two of the CO2 protected areas (one area for 1 hour and 51 minutes and the other for 2 hours and 33 minutes) without compensatory action as required by Technical Specification 3.7.9.3, action a.

The sequence of events were as follows. At approximately 0740 hours, a plant security officer was dispatched to isolate the Cardox CO2 system for Quad 4 of the RCT to facilitate routine Maintenance activities. [Note - This isolation is normally accomplished by: 1) isolating the master "normal/isolation" switch (EIIS/KQ-HS) for Quads 3 and 4 (access to Quad 4 requires travelling through a portion of Quad 3, consequently both are isolated); 2) initiating fire watch patrols of both Quads at a frequency of once every 30 minutes, and; 3) logging the isolation of all switches involved on the "Cardox switch tracking sheet"]. At 0750 hours, the security officer attempted to isolate the master switch but noted it was inoperable. This required the officer to isolate 4 individual switches (EIIS/KQ-HS) (designated "4" for Quad 4 and "3N", 3M", and 3S" for Quad 3). Following the isolation, the officer logged "Unit 1 RCT" on the Cardox switch tracking sheet. While the proper switches were isolated, and compensatory fire watch coverage initiated, his action was in violation of Security Post Order SPO.016 (Cardox Switch Control) in that he should have logged all four individual switches repositioned on the tracking sheet.

At 1100 hours, following the completion of the Maintenance activities in the area, security was requested to normalize the Cardox System. Since security officer post rotations had taken place a different security officer responded to the request. Upon arrival at the RCT the second officer referred to the Cardox switch tracking sheet to determine which switch(es) had been isolated. The officer noted one entry ("Unit 1 RCT") and normalized one switch (3M). The fire watch individual then informed the security officer that he had noted that another switch had been isolated, they then located/normalized an additional switch (3N) and left the area (at 1110 hours) without normalizing switches 4 and 3S.

At 1301 hours a third security officer, responding to an unrelated request, took action to isolate switches 4, 3M, 3N for an inspection in the area. It was then discovered that switch 4 had been left isolated, without required compensatory action, from 1110 hours to 1301 hours (duration of 1 hour and 51 minutes). At 1309 hours, switches 4, 3M, and 3N were normalized following completion of the inspection. Since the isolation of switch 3S was not required for access to the area of the inspection, it was not noted that it was also in the isolated position.

At 1343 hours, an operator and a fourth security officer entered the RCT area and found switch 3S in the isolated position. They remained in the area until 1347 hours, at which time they exited, verifying that all switches (4, 3N, 3M and 3S) were normalized. Consequently, switch 3S remained isolated, without compensatory action, from 1110 hours to 1343 hours (duration of 2 hours and 33 minutes).

Cause of Event

This event was the result of: 1) failure to comply with approved procedure - security officer initially isolating the Cardox CO2 System for the entry into Quad 4 failed to log the isolation of each of the individual switches involved (as required by Security Post Order SPO.016), and; 2) personnel error - security officer dispatched to normalize the Cardox CO2 System (at 1100 hours) left the area with 2 of the individual isolation switches in the isolated position (officer should have been aware that normalization of the Cardox CO2 System in the subject area, utilizing the individual switches, required the repositioning of 4 switches).

Analysis of Event

The isolation of Quad 4 and a portion of Quad 3 in the RCT, without compensatory fire watch coverage, was in violation of Technical Specification 3.7.9.3, action a, and is reportable under 10CFR50.73(a)(2)(i)(B).

It has been concluded that in the unlikely event of a fire (in either of the involved areas) personnel would have been promptly aware of its presence and been able to control and extinguish the fire without significant propagation or equipment damage. This conclusion is based on the following: 1) the relatively low fixed combustible load within the areas involved (26,341 BTU's per square foot for a fire duration of 33 minutes for the applicable portion of Quad 3 and 30,843 BTU's per square foot for a fire duration of 39 minutes for Quad 4); 2) the physical and administrative limits on the introduction of transient combustible loads (only a neglible amount of transient combustibles were present, in either of the involved areas, for the duration of the event); 3) operable early warning fire detection systems (consisting of both ionization and infrared detectors), and 4) the existence of a trained, on-shift fire brigade.

Analysis of Event cont.

Based on the above, this event is not considered to have created any significant safety concern and did not constitute an unreviewed safety question as defined 10CFR50.59, nor did it create a significant hazard to the health and safety of the general public.

Corrective Action

To prevent recurrence; 1) appropriate administrative actions were taken concerning the individuals involved, 2) all security officers were briefed as to the importance of proper control of the Cardox CO2 Isolation Switches, and 3) Security Post Order SPO.016 was revised to place additional emphasis on the necessity to log the repositioning of each switch used to isolate a CO2 protected area.

Based on the results of the investigation of a similar event (which occurred on 8/3/88) additional administrative controls may be adopted. If preventive measures are revised, a supplemental report will be submitted.

Failing Component Identification

Not applicable - No components failed during the course of this event.

Previous Similar Events

50-315/85-008,-020
50/316/84-009,-022,-027
50-316/83-048,-060
50-315/83-022,-028,-034,-094,-114
50-316/82-054,-058,-062,-076,-084
50-315/82-037,-044,-045,-049,-068,-081,-082,-108

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POWER

August 4, 1988

United States Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555

Operating License DPR-58
Docket No. 50-315

Document Control Manager:

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

88-005-00

Sincerely,

A. Alan Blind for

W. G. Smith, Jr.
Plant Manager

WGS:clw

Attachment

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