

ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:9011260074 DOC.DATE: 90/11/14 NOTARIZED: NO DOCKET #
 FACIL:50-315 Donald C. Cook Nuclear Power Plant, Unit 1, Indiana & 05000315
 AUTH.NAME AUTHOR AFFILIATION
 CARTEAUX,P.F. Indiana Michigan Power Co. (formerly Indiana & Michigan Ele
 BLIND,A.A. Indiana Michigan Power Co. (formerly Indiana & Michigan Ele
 RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 90-012-00:on 901015,failure to comply w/Tech Spec when
 fire watch posting miscommunicated.W/901114 ltr.

DISTRIBUTION CODE: IE22T COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 8
 TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

NOTES:

	RECIPIENT		COPIES			RECIPIENT		COPIES	
	ID CODE/NAME		LTR	ENCL		ID CODE/NAME		LTR	ENCL
	PD3-1 LA		1	1		PD3-1 PD		1	1
	COLBURN,T.		1	1					
INTERNAL:	ACNW		2	2		AEOD/DOA		1	1
	AEOD/DSP/TPAB		1	1		AEOD/ROAB/DSP		2	2
	NRR/DET/ECMB 9H		1	1		NRR/DET/EMEB 7E		1	1
	NRR/DLPQ/LHFB11		1	1		NRR/DLPQ/LPEB10		1	1
	NRR/DREP/PRPB11		2	2		NRR/DST/SELB 8D		1	1
	NRR/DST/SICB 7E		1	1		NRR/DST/SPLB8D1		1	1
	NRR/DST/SRXB 8E		1	1		REG FILE 02		1	1
	RES/DSIR/EIB		1	1		RGN3 FILE 01		1	1
EXTERNAL:	EG&G BRYCE,J.H		3	3		L ST LOBBY WARD		1	1
	NRC PDR		1	1		NSIC MAYS,G		1	1
	NSIC MURPHY,G.A		1	1		NUDOCS FULL TXT		1	1

NOTE TO ALL "RIDS" RECIPIENTS:

PLEASE HELP US TO REDUCE WASTE! CONTACT THE DOCUMENT CONTROL DESK,
 ROOM P1-37 (EXT. 20079) TO ELIMINATE YOUR NAME FROM DISTRIBUTION
 LISTS FOR DOCUMENTS YOU DON'T NEED!

FULL TEXT CONVERSION REQUIRED
 TOTAL NUMBER OF COPIES REQUIRED: LTR 30 ENCL 30

Indiana Michigan
Power Company
Cook Nuclear Plant
One Cook Place
Bridgman, MI 49106
616 465 5901



November 14, 1990

United States Nuclear Regulatory Commission
Document Control Desk
Rockville, Maryland 20852

Operating Licenses 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:

90-012-00

Sincerely,

A handwritten signature in cursive script that reads 'A. Alan Blind'.

A.A. Blind
Plant Manager

AAB:clj

Attachment

cc: D.H. Williams, Jr.
A.B. Davis, Region III
M.P. Alexich
P.A. Barrett
J.E. Borggren
R.F. Kroeger
B. Walters - Ft. Wayne
NRC Resident Inspector
T. Colburn - NRC
J.G. Keppler
M.R. Padgett
G. Charnoff, Esq.
Dottie Sherman, ANI Library
D. Hahn
INPO
S.J. Brewer/B.P. Lauzau
B.A. Svensson

9011260074 901114
PDR ADOCK 05000315
S PDC

Handwritten initials 'LEP' in a stylized, slanted font, with a vertical line drawn next to them.

LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 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) D. C. Cook Nuclear Plant, Unit 1										DOCKET NUMBER (2) 0 5 0 0 0 3 1 5				PAGE (3) 1 OF 07	
TITLE (4) Failure to Comply with Plant Technical Specifications When Fire Watch Posting Requirements were Miscommunicated															
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)		
1	0	1	5	9	0	9	0	1	1	1	4	9	0	D. C. Cook, Unit 2	0 5 0 0 0 3 1 6
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)				20.406(c)				50.73(a)(2)(iv)				73.71(b)	
POWER LEVEL (10)		0 7 0				20.406(a)(1)(i)				50.73(a)(2)(v)				73.71(c)	
		20.406(a)(1)(ii)				50.36(c)(1)				50.73(a)(2)(vi)				OTHER (Specify in Abstract below and in Text, NRC Form 366A)	
		20.406(a)(1)(iii)				50.36(c)(2)				50.73(a)(2)(vii)(A)					
		20.406(a)(1)(iv)				X 50.73(a)(2)(i)				50.73(a)(2)(viii)(B)					
		20.406(a)(1)(v)				50.73(a)(2)(ii)				50.73(a)(2)(ix)					
LICENSEE CONTACT FOR THIS LER (12)															
NAME P. F. Carteaux - Safety and Assessment Superintendent										TELEPHONE NUMBER					
										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 10-15-90 between 0207 and 2210, and again on 10-20-90 between 1100 and 1200, Technical Specification required fire watch tours were missed due to a miscommunication.

The first occurrence was the incorrect positioning of a fire watch due to a misunderstanding in the establishment of the required fire watch posting when a Technical Specification sprinkler system was removed from service.

The second occurrence was the nonperformance of a required Turbine Building fire protection tour due to a misunderstanding in the establishment of the required fire watch posting.

Corrective action involved the establishment of the required fire watches and stressing to the involved personnel the importance of clear communications.

In both cases, the health and safety of the public was not at risk due to the defense-in-depth fire protection provided at the Plant.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 600 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)

D. C. Cook Nuclear Plant, Unit 1

DOCKET NUMBER (2)

0 5 0 0 0 3 1 5

LER NUMBER (6)

YEAR

SEQUENTIAL
NUMBERREVISION
NUMBER

PAGE (3)

9 0

- 0 1 2

- 0 0

0 2

OF 0 7

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

Condition Prior to Occurrence

Unit 1 in Mode 1 at 70% of Rated Thermal Power (RTP)

Unit 2 in Mode 3 (Hot Standby)

Description of Event

On 10-15-90 between 0207 and 2210, and again on 10-20-90 between 1100 and 1200, a technical specification required fire watch tour was missed as the result of a miscommunication.

On 10-15-90 at 0107 the Unit Supervisor (SRO) notified the fire watch dispatch that Operations was in the process of tagging out the isolation valve, ZFP-457, which serves the wet pipe sprinkler system (EIIS/KP-SRNC) in the Contractor's Access Control (CAC) Building (EIIS/NA), and that a continuous fire watch was required for this area. However, due to a misunderstanding, the Radiation Protection Access Control (RPAC) Building (EIIS/NA) was identified as the Plant area that required the fire watch. A continuous fire watch was posted in the RPAC Building at 0115. At 2210 it was discovered that the fire watch had been posted in the wrong area and a fire watch was correctly posted in the CAC Building. Therefore, as a result of a misunderstanding of a verbal communication, the CAC Building was in a condition where the wet pipe sprinkler system was inoperable for approximately 21 hours without a continuous fire watch.

Again on 10-20-90 between 1100 and 1200 the required technical specification fire watch tour of the Turbine Building (EIIS/NM) was not performed due to a misunderstanding of a verbal communication which assigned an individual to perform the turbine tour. The Turbine Building fire watch tour that day consisted of several inoperable fire barriers which required a roving fire watch patrol per Technical Specifications. The assigned individual does not recall the instructions to perform the turbine tour, nor based on his conversation that day with his supervisor, believes he was assigned the turbine tour. The missed tour was identified at 1200 when the fire watch assigned the tour at 1200 noticed that no one had initialed the tour sheet for the previous hour. The roving fire watch was immediately reestablished for technical specification compliance. Because of the misunderstanding of assignment, the turbine fire watch tour was not completed for one hour between 1100 and 1200.

Cause of Event

The cause of this event is personnel error. In both cases, the establishment of the required technical specification fire watch was missed as the result of personnel error in the understanding of a verbal

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH 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) D. C. Cook Nuclear Plant, Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 3 1 5	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		9 0	0 1 2	0 0	0 3	OF	0 7

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

communication. The first miscommunication resulted in the establishing of a fire watch in the wrong area, while the second resulted in the non-performance of a required tour.

Analysis of Event

The failure to correctly assign a fire watch within one hour to tour the CAC and the failure to perform the turbine fire watch tour are in violation of Technical Specifications 3.7.9.2 and 3.7.10, respectively. Because the events are a violation of Technical Specifications they are reportable under 10 CFR 50.73(a)(2)(i)(B). The 10-15-90 occurrence was the removal of the Tech Spec sprinkler system in the Contractor's Access Control Building (FZ 105) and the failure to establish a continuous fire watch in the area. The duration of the violation was approximately 21 hours. However, during the time of violation an hourly roving fire watch tour was being conducted in this area for other purposes. In addition, workers were working in the area for approximately 10 of these hours. These workers would have been able to sound an alarm at the first indication of fire.

Fire Zone 105 is part of a larger fire area containing FZ's 33, 33A and 33B at elevation 612' of the Auxiliary Building. Fire Zone 105 is adjacent to FZ 33A on the south side. It is adjacent to the yard on the north, east and west sides.

Fire Zone 105 has a combustible loading value of 17,400 BTU/sq. ft. for an equivalent fire severity of less than 1/2 hour. Primary fire suppression in this area is the automatic wet-pipe sprinkler system. Backup manual fire suppression in the form of portable fire extinguishers in the zone, hose stations in adjacent FZ 33A, outside fire hydrants and the Plant fire truck are available for fire fighting.

Fire Zones 33, 33A and 33B also have combustible loading values of under 16,200 BTU/sq. ft. for equivalent fire severities of less than 1/2 hour. These zones are provided with an automatic fire detection system consisting of ionization smoke and infrared flame detectors. Manual fire suppression in the form of portable fire extinguishers and hose stations within the zones, outside fire hydrants and the Plant fire truck are available for fire fighting.

A fire in any of the above fire zones would most likely be a Class "A" type fire involving ordinary combustibles such as wood, paper, cloth, plastics, etc. A fire of this type can go through a prolonged pre-burning (incipient) stage in which invisible products of combustion are produced and a smoldering stage in which visible smoke is produced before flaming combustion begins.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-830), 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)	LER NUMBER (6)			PAGE (3)		
D. C. Cook Nuclear Plant, Unit 1		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		0 5 0 0 0 3 1 5 9 0 -	0 1 2 -	0 0	0 4	OF	0 7

TEXT (If more space is required, use additional NRC Form 365A's) (17)

A fire in FZ 105 during the times when occupied by the workers or during the roving fire watch tour would have been quickly detected and reported to the Control Room. Upon notification, the Control Room would initiate manual fire fighting activities. The fire brigade would extinguish the fire in this area by utilizing the available manual fire fighting equipment.

Had a fire started in FZ 105 during the times when the area was not occupied, the smoke and hot gases would have built up in the area until exiting the building or migrating over into FZ 33A. At this point, the fire may have been detected by Plant workers in the yard or by the fire detection system in FZ 33A. Notification of the fire to the Control Room would result in initiation of manual fire fighting activities.

The impact of a fire throughout the fire area containing FZ's 33, 33A, 33B and 105 has been previously analyzed under the Appendix R analysis as documented in the SSCA. Fire Zone 105 contains no safe shutdown components or cables and, therefore, will not prevent safe shutdown of the Plant. Fire Zones 33, 33A and 33B contain safe shutdown equipment and cables for Unit 1. Fire Zones 33, 33A and 33B each use Appendix R Section III.G.3 compliance strategy. This compliance method is based on the existence of alternate or dedicated safe shutdown capability outside of these fire zones. Therefore, loss of one or all of these fire zones will not prevent safe shutdown of the Plant. Likewise, propagation of a fire from FZ 105 into FZ 33A and possibly FZ's 33 and 33B will not prevent safe shutdown of the Plant.

Based on the above, the lack of continuous fire watch in FZ 105 when the sprinkler system for that area was taken out of service would not have resulted in a situation where safe shutdown of the Plant could not be achieved. This assessment is based on: 1) the existence of the 1/2 hour fire watch patrol, 2) existence of workers in the area for approximately half the violation time, 3) the presence of an operable fire detection system in FZ's 33, 33A and 33B, 4) the availability of manual fire suppression equipment, 5) the low combustible loading within each of the fire zones, 6) the absence of safe shutdown components in FZ 105, 7) the use of Appendix R Section III.G.3 compliance strategy in FZ's 33, 33A and 33B, and 8) the impact of a fire throughout the fire area containing FZ's 33, 33A, 33B and 105 has been previously analyzed under Appendix R as documented in the SSCA.

The 10-20-90 occurrence was the Turbine Building fire protection tour not being conducted during the hours of 1100 and 1200 on October 20, 1990. Tech Spec equipment that required these roving fire watch tours include the following:

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATIONESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS
INFORMATION COLLECTION REQUEST: 500 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) D. C. Cook Nuclear Plant, Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 3 1 5	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		9 0	— 0 1 2	— 0 0	0 5	OF	0 7

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

- o ESW TSI Material
Reason for Inoperability: Holes, cracks, water damage
Fire Zone 29G
- o Aux Feed Pump TSI Material
Reason for Inoperability: Holes, cracks, water damage
Fire Zone 17C
- o Fire Door No. 417
Reason for Inoperability: Smoke damper in door will not work
Fire Zone 54/144
- o Fire Door No. 392
Reason for Inoperability: Door is damaged
Fire Zone 43/91
- o Fire Door No. 393
Reason for Inoperability: Door is damaged
Fire Zone 43/91

The fixed combustible loadings and equivalent fire severities for the above-mentioned fire zones are as follows:

<u>Fire Zone</u>	<u>Combustible Loading</u>	<u>Fire Severity</u>
29G	11,820 BTU/sq. ft.	9 minutes
17C	6,699 BTU/sq. ft.	5 minutes
54	30,070 BTU/sq. ft.	23 minutes
144	0 BTU/sq. ft.	0 minutes
43	76,525 BTU/sq. ft.	56 minutes
91	25,876 BTU/sq. ft.	20 minutes

Primary fire suppression/detection for the affected fire zones is as follows:

<u>Fire Zone</u>	<u>Suppression/Detection</u>
29G	Detection, manual fire suppression equipment
17C	Automatic sprinklers, detection, manual fire suppression equipment
54	Detection, manual fire suppression equipment
144	Detection, manual fire suppression equipment
43	Detection, manual fire suppression equipment
91	Automatic sprinklers, manual fire suppression equipment

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH 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)

LER NUMBER (6)

PAGE (3)

D. C. Cook Nuclear Plant, Unit 1

0 5 0 0 0 3 1 5

YEAR SEQUENTIAL NUMBER REVISION NUMBER

9 0 — 0 1 2 — 0 0

0 6 OF 0 7

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

A fire in any of the above fire zones would most likely be a Class "A" type fire involving ordinary combustibles such as wood, paper, cloth, plastics, etc. A fire of this type can go through a prolonger pre-burning (incipient) stage in which invisible products of combustion are produced and a smoldering stage in which visible smoke is produced before flaming combustion begins. The hot gases and smoke produced during the incipient stage would set off the early warning detection and/or suppression systems in the area while the fire is small. The early warning detection system (water flow would alarm in the case of Fire Zone 91) would alert the Control Room and initiate manual fire fighting activities. The fire brigade would extinguish any postulated fires in these areas by utilizing the available manual fire fighting equipment.

We feel that a fire would not propagate out of the above-mentioned areas due to:

- o The combustible loading in all areas is low (less than 1 hour).
- o Any fire in the above-mentioned fire zones would be detected by the available fire suppression/detection equipment while the fire is small.
- o Manual fire fighting equipment is available for fire brigade use.
- o While the installed cable trays being protected by TSI wrap (within Fire Zones 17C and 29G) represent a moderate combustible loading, cable jacketing in itself does not represent an ignition source. The cables installed within these trays are nearly completely enclosed by TSI wrap which makes fire spread even less likely.
- o Procedures do not allow for both electrical trains (A and B) to be run in the same cable trays. Incipient stage cable fires are slowspreading fires which are not likely to spread much beyond their origins. In this case, it is even less likely since the combustible cables are installed within nearly enclosed (by TSI wrap) cable trays.
- o The affected fire doors and dampers are located in areas which are low in combustible loadings. Fire spread through these inoperable devices is highly unlikely due to the lack of combustibles on either side of the door/damper.
- o Automatic sprinkler systems exist within Fire Zones 17C and 91.

Therefore, it is concluded that the defense-in-depth fire protection provided in these areas adequately protected the fire safety of the Plant.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH 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)	LER NUMBER (6)			PAGE (3)		
D. C. Cook Nuclear Plant, Unit 1		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
	0 5 0 0 0 3 1 5	9 0	0 1 2	0 0	0 7	OF	0 7

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

Safe Shutdown Components

TSI material is installed when two or more redundant strains of safe shutdown equipment are located in the same fire area and violate the Appendix R separation criteria. Therefore, significant breaches in the TSI barriers could mean that redundant trains of Appendix R equipment could have been lost. However, the small cracks and holes found in our cases represent insignificant breaches. This, coupled with the fire protection conclusion above, indicates that a fire in these areas would not have been significant enough to damage these redundant trains.

Corrective Action

1. Upon discovery of the inappropriate action, the correct action was taken. In the 10-15-90 occurrence, the fire watch tour was discontinued in the incorrect area and established in the correct location, CAC. In the 10-20-90 occurrence, a turbine fire watch tour was immediately conducted.
2. The importance of clear and concise verbal communication was stressed to all parties involved.
3. The contractor involved took appropriate administrative action and conducted pre-shift briefings dealing with the importance of performing tours and communications

Failed Component Identification

None

Previous Similar Events

LER's 315/88-005-00
315/88-006-00
316/88-008-00
315/89-015-00
315/90-002-00
315/90-003-00