

CATEGORY 1

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:9604080144 DOC.DATE: 96/04/01 NOTARIZED: NO DOCKET #
 FACIL:50-316 Donald C. Cook Nuclear Power Plant, Unit 2, Indiana M 05000316
 AUTH.NAME AUTHOR AFFILIATION
 SCHOEPPF,P. 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 96-002-01:on 960120,train A containment RM caused two
 spurious isolation signals.Caused by Faulty computer board.
 C/A:CVI signal reset.W/960401 ltr.

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 TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

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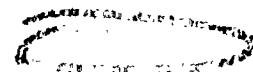
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American Electric Power
Cook Nuclear Plant
One Cook Place
Bridgman, MI 49106
616 465 5901



April 1, 1996

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

Operating Licenses DPR-74
Docket No. 50-316

Document Control Manager:

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

96-002-01

Sincerely,

A handwritten signature in dark ink, appearing to read 'A. A. Blind', is written over the typed name.

A. A. Blind
Site Vice President

/clc

Attachment

080041

c: H. J. Miller, Region III
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P. A. Barrett
R. F. Kroeger
M. A. Bailey - Ft. Wayne
S. J. Brewer
M. R. Padgett
G. Charnoff, Esq.
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Records Center, INPO
NRC Resident Inspector

9604080144 960401
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LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)
Donald C. Cook Nuclear Plant - Unit 2DOCKET NUMBER (2)
95000 316

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TITLE (4)

Train A Containment Radiation Monitor Causes Two Spurious Isolation Signals Due to Faulty Computer Board

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 NAME	DOCKET NUMBER
01	20	96	96	-- 002 --	01	04	01	96	FACILITY NAME	DOCKET NUMBER
OPERATING MODE (9)		1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR II: (Check one or more) (11)							
POWER LEVEL (10)		100	20.2201(b)		20.2203(a)(3)(i)		50.73(a)(2)(iii)		73.71(b)	
			20.2203(a)(1)		20.2203(a)(3)(ii)		X 50.73(a)(2)(iv)		73.71	
			20.2203(a)(2)(i)		20.2203(a)(4)		50.73(a)(2)(v)		OTHER	
			20.2203(a)(2)(ii)		50.36(c)(1)		50.73(a)(2)(vii)		(Specify in Abstract below and in Text, NRC Form 366A)	
			20.2203(a)(2)(iii)		50.36(c)(2)		50.73(a)(2)(viii)(A)			
			20.2203(a)(2)(iv)		50.73(a)(2)(i)		50.73(a)(2)(viii)(B)			
			20.2203(a)(2)(v)		50.73(a)(2)(ii)		50.73(a)(2)(x)			

LICENSEE CONTACT FOR THIS LER (12)

NAME

TELEPHONE NUMBER (Include Area Code)

Paul Schoepf, Plant Engineering Superintendent

616/465-5901, x2408

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

X

NO

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On January 20, 1996 at 0414 hours with Unit 2 in Mode 1 at 100 percent Rated Thermal Power, a spurious Train A Containment Ventilation Isolation (CVI) signal was received during a routine containment pressure relief. The CVI signal automatically closed Containment Isolation Valve 2-VCR-107 and terminated the pressure relief. After determining no high radiation alarms or abnormal radiation conditions existed, the Train A CVI signal was reset and the pressure relief was restarted and successfully completed. On February 10, 1996 at 0225 hours with Unit 2 in Mode 1 at 100 percent Rated Thermal Power, another spurious Train A CVI signal was received. The Train A CVI signal was discovered at 0819 hours when 2-VCR-107 would not open while attempting to perform a containment pressure relief. No cause could be determined, and no actual high radiation alarms or abnormal radiation conditions existed. The CVI signal was reset, allowing the containment pressure relief to be performed.

In both events, routine source checks actuated the CVI signal. The problem originated from the Containment Lower Compartment Train A Radiation Monitor, 2-ERS-2300. Actions have been taken to ensure that source checks are performed with the 2-ERS-2300 CVI switch in the block position to prevent spurious CVI signals. On February 13, 1996, troubleshooting revealed a faulty computer board had created a spurious high alarm, causing the Train A CVI signal. The board was replaced, eliminating the problem. An Interim LER was submitted on February 20, 1996. This is the final report concerning this event.

LICENSEE EVENT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

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Cook Nuclear Plant - Unit 2	0500 316	YEAR	SEQUENTIAL	REVISION	2 OF 3
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TEXT (if more space is required, use additional NRC Form 366A's) (17)

Conditions Prior to Occurrence:

Unit 2 in Mode 1 (Power Operation) at 100 percent Rated Thermal Power

Description of Event:

On January 20, 1996 at 0414 hours with Unit 2 in Mode 1 at 100 percent Rated Thermal Power, a spurious Train A Containment Ventilation Isolation (CVI) signal was received during a routine containment pressure relief. The CVI signal automatically closed Containment Isolation Valve 2-VCR-107 (EIS/JM-ISV) and terminated the pressure relief.

After discovery of the Train A CVI signal, the Train B Containment Pressure Relief Fan, 2-HV-CPR-1 (EIS/JM-FAN), was manually stopped and the Train B Containment Isolation Valve, 2-VCR-207 (EIS/JM-ISV), was manually closed. Actions were taken to determine if any high radiation alarms had been received by the Radiation Monitoring System. No evidence of any high radiation alarms were identified. Subsequently, the Train A CVI signal was reset and the containment pressure relief was restarted and completed successfully. Troubleshooting performed at the time did not reveal the cause of the false signal.

On February 10, 1996 at 0225 hours with Unit 2 in Mode 1 at 100 percent Rated Thermal Power, another spurious Train A CVI signal was received. The Train A CVI signal was discovered at 0819 hours when 2-VCR-107 would not open while attempting to perform a containment pressure relief. No cause was determined at this time, and no actual high radiation alarms or abnormal radiation conditions existed. The Train A CVI signal was reset, allowing the containment pressure relief to be performed.

Cause of Event:

The root cause of these events is attributed to a faulty detector input/output card located in 2-ERS-2300. Channel 2-ERS-2301 (EIS/IL-DET) of Radiation Monitor ERS-2300 caused the high alarm to actuate immediately upon initiation of a check source request. This is not per system design, which is to block radiation alarms until the completion of the check source sequence.

Analysis of Event:

This event is being reported per 10CFR50.73(a)(2)(iv) as an event that resulted in automatic actuation of the Containment Ventilation Isolation System, an Engineered Safety Feature.

A CVI signal is generated whenever a high radiation alarm is received from containment radiation monitors 2-VRS-2100, 2-VRS-2200, 2-ERS-2300, or 2-ERS-2400. In this case, a spurious Train A CVI signal occurred due to the malfunction of radiation monitor 2-ERS-2300. During check source activities, all other alarm conditions are to be masked until the completion of the check source cycle. A computer failure of 2-ERS-2300 caused the check source to be briefly misread as true process counts. 2-ERS-2300 then performed its design function to isolate the containment pressure relief. Immediately after the actuation, the radiation monitor returned to proper operation.

This was not a valid CVI signal. No actual high radiation condition existed. Therefore, the event had no actual or potential adverse impact on the health or safety of the public.

LICENSEE EVENT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (HNB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

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

Corrective Action:

In both events, it was determined that routine source checks actuated the Train A CVI signal. The problem originated from the Containment Lower Compartment Train A Radiation Monitor, 2-ERS-2300 (EIS/IL-MON). On February 13, 1996, troubleshooting determined that the Containment Lower Compartment Train A Radiation Monitor 2-ERS-2300 Particulate Filter Beta Radiation Detector, Channel 2-ERS-2301 (EIS/IL-DET) was causing an intermittent high alarm to occur immediately upon initiation of a check source request. A faulty computer board was found to be creating the spurious high alarms, resulting in the actuation of the Train A CVI signals.

Interim actions were taken to ensure that source checks are performed with the 2-ERS-2300 CVI switch in the block position to prevent spurious CVI signals. The defective board was subsequently replaced, and satisfactory operation of 2-ERS-2300 was verified. There have been no recurrences since the board was replaced on February 13, 1996.

Failed Component Identification:

Component Name: Containment Lower Compartment Train A Radiation Monitor 2-ERS-2300 Particulate Filter Beta Radiation Detector - Channel 2-ERS-2301

Manufacturer: Eberline Instrument Corporation

Model: RDA-3X

EIS Code: IL-DET

Component Name: Containment Lower Compartment Train A Radiation Monitor - 2-ERS-2300

Manufacturer: Eberline Instrument Corporation

Model: SPING-4

EIS Code: IL-MON

Previous Similar Events:

None