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FACIL:50-316 Donald C. Cook Nuclear Power Plant, Unit 2, Indiana & 05000316
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SUBJECT: LER 87-015-00:on 871120,facility entered Tech Spec 3.0.3 due to corrective maint.

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 2	0 5 0 0 0 3 1 6	1 OF 0 4

TITLE (4)
ENTRY INTO TECHNICAL SPECIFICATION 3.0.3 DUE TO CORRECTIVE MAINTENANCE

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
1 1	2 0	8 7	8 7	0 1 5	0 0	0 1	1 4	8 8		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)	0 8 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
T. P. BEILMAN INSTRUMENTATION AND CONTROL 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)

This event was determined to be reportable per 10CFR 50.73 on December 29, 1987 during routine evaluation of the event.

On November 20, 1987, Unit Two entered Technical Specification paragraph 3.0.3 for a period of seventeen (17) minutes due to a corrective maintenance evolution which exceeded the associated action statement.

Following a routine calibration of Power Range Nuclear Instrumentation Channel N-43, at approximately eight (8) hours into the associated twelve (12) hour action statement, the B detector high voltage cable connector separated from the cable. The repair and subsequent channel functional test exceeded the associated action statement twelve hour time limit calculated from the start of the original calibration. This required Unit Two to enter Technical Specification 3.0.3 for seventeen minutes until channel N-43 could be declared operable. During the entire calibration and repair evolution (12 hours and 17 minutes), the bistables associated with channel N-43 remained in the tripped condition.

The Technical Specification involved with channel N-43 is paragraph 3.3.1.1, table 3.3-1 item Numbers 2, 3 and 4 and associated action statement Number 2.

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FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
D. C. COOK NUCLEAR PLANT - UNIT 2	0 5 0 0 0 3 1 6	8 7	— 0 1 5	— 0 0	0 2 OF 0 4

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

Conditions Prior To Occurrence

Unit Two in Mode 1 (80 percent power).

Description of Event

This event was determined to be reportable per 10CFR 50.73 on December 29, 1987 during routine evaluation of the event.

On November 19, 1987 at 1748 hours, Instrumentation and Control (I&C) personnel began procedure 2 THP 6030 IMP.231, "Power Range Nuclear Instrumentation Calibration on Power Range Nuclear Instrumentation" on channel N-43 (EIIS/JIC).

As part of the test evolution, the bistables (EIIS/JC-JC) associated with the channel are placed in the tripped condition and Technical Specification (T.S.) table 3.3-1 Action 2 is entered which provides the following options:

> With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:
>
> a. The inoperable channel is placed in the tripped condition within 1 hour.
>
> b. The Minimum Channels OPERABLE requirement is met; however, the inoperable channel may be bypassed for up to 2 hours for surveillance testing of the other channels.
>
> c. Either, THERMAL POWER is restricted to ≤ 75% of RATED THERMAL POWER and the Power Range, Neutron Flux trip setpoint is reduced to ≤ 85% of RATED THERMAL POWER within 4 hours; or, the QUADRANT POWER TILT RATIO is monitored at least once per 12 hours.

The test evolution takes approximately eight (8) hours and therefore the provisions of Action item 2, paragraphs B and C are normally not a factor.

Following a routine calibration of Power Range Nuclear Instrumentation Channel N-43, at approximately eight (8) hours into the associated twelve (12) hour action statement, the B detector high voltage cable connector separated from the cable.

It was unknown at the time the connector failed (approximately 0200 on November 20, 1987, approximately eight hours into the Action Statement) whether or not I&C would be able to complete repairs and perform the required surveillance test within the time remaining in the 12 hour time period (began at 1748 hours on November 19, 1987) which would be expended at 0548 hours. Nuclear Section personnel were therefore called in to perform a flux map even though it was realized that it may not be completed in time due to the time involved in calling personnel in, setting up to perform the flux map, and the time needed to run the map and analyze the data.

Nuclear Section personnel began the flux map at 0458 hours.

I&C personnel finished repairs to the high voltage power cable (EIIS/IQ-CBL) on N-43 and completed the calibration procedure at 0538. At 0539, they began the surveillance procedure STP.129 which was completed at 0605.

Unit Two entered T.S. 3.0.3 at 0548 and exited at 0605 when N-43 was declared operable.

No other Components, Systems or Structures were inoperable which contributed to this event.

Cause of the Event

The cause of the event was cable connector (EIIS/IG-CON) breakage due to frequent use. When the technician tried to reconnect the detector cable, it was discovered that the connector was only attached to the cable by a few strands of wire. The tardiness of the LER was caused by our additional review and evaluation of the event's reportability.

Analysis of Event

This event is reportable under 10CFR50.73(a)(2)(i)(B) as operation prohibited by the plant's T.S. 3.3.1.1, Action Statement 2.C of table 3.3-1.

Unit Two entered T.S. 3.0.3 for approximately 17 minutes during which time the surveillance test was being performed on N-43. During the period in question the remaining channels provided indication of core power. In addition, other indication was available to the operators for assessing any power distribution deviations, had any occurred (e.g. Reactor Coolant temperature, rod position, etc.). Based on the time period that the unit was in T.S. 3.0.3, and the availability of other indications, the safety of the plant was not affected. The bistables of the affected channel were in the trip (safe) condition throughout the event.

Corrective Action

The high voltage power cable connector was replaced and N-43 was made operable following performance of the surveillance test. Operations personnel performed a manual quadrant power tilt ratio and a thermal power determination to ensure power distribution within the core was within required limits.

Due to the high frequency of use this connector normally receives, occasional breakage can be expected. Failures of this equipment are trended and preventive measures will be taken if an increased failure rate is experienced in the future.

Failed Component Identification

Plant Description:	2-N-43, B Detector, Triax Cable Plug Connector
Manufacturer:	Amphenol
Manufacturer ID Number:	53175-1053
EIIS Code:	IG-CON

Previous Similar Events

There have been no previous occurrences of broken NI connectors resulting in our exceeding T.S. Action Statements.

Indiana Michigan
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Cook Nuclear Plant
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Bridgman, MI 49106
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INDIANA
MICHIGAN
POWER

January 14, 1988

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

Operating License DPR-74
Docket No. 50-316

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:

87-015-00

Sincerely,

A. Alan Blind per

W. G. Smith, Jr.
Plant Manager

WGS:afh

Attachment

cc: J. E. Dolan
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