

# ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

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ACCESSION NBR: 9207290003 DOC. DATE: 92/07/22 NOTARIZED: NO DOCKET #  
 FACIL: 50-315 Donald C. Cook Nuclear Power Plant, Unit 1, Indiana M 05000315  
 AUTH. NAME AUTHOR AFFILIATION  
 BEILMAN, T.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 92-005-00: on 920622, ESF actuation resulted from spurious high reading from one of two source-range neutron flux detectors. Cause unknown. Both detectors replaced, channels calibr & cables checked. W/920721 ltr.

DISTRIBUTION CODE: IE22T COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 4  
 TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

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	NRR/DST/SRXB 8E		1	1		<u>REG FILE</u> 02		1	1
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EXTERNAL:	EG&G BRYCE, J.H		2	2		L ST LOBBY WARD		1	1
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One Cook Place  
Bridgman, MI 49106  
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July 21, 1992

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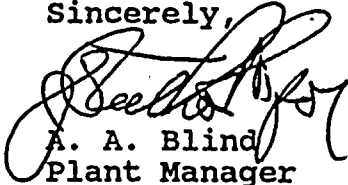
Operating Licenses DPR-58  
Docket No. 50-315

Document Control Manager:

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

92-005-00

Sincerely,



A. A. Blind  
Plant Manager

/sb

Attachment

c: D. H. Williams, Jr.  
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## LICENSEE EVENT REPORT (LER)

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 0 3

TITLE (4) Engineered Safety Feature actuation due to spurious indication from source range instrument while Unit 1 descending for refuelling outage.

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	6	2	2	9	2	9	2	0	0	5	0	0	0	1	1
0	6	2	2	9	2	9	2	0	0	0	7	2	2	9	2
OPERATING MODE (9)			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)												
3			20.402(b)			20.405(c)			<input checked="" type="checkbox"/> 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 0 0			20.405(a)(1)(ii)			50.36(c)(2)			50.73(a)(2)(vi)			OTHER (Specify in Abstract below and in Text, NRC Form 365A)			
			20.405(a)(1)(iii)			50.73(a)(2)(i)			50.73(a)(2)(vii)(A)						
			20.405(a)(1)(iv)			50.73(a)(2)(ii)			50.73(a)(2)(vii)(B)						
			20.405(a)(1)(v)			50.73(a)(2)(iii)			50.73(a)(2)(ix)						

LICENSEE CONTACT FOR THIS LER (12)

NAME

T. P. Beilman - Maintenance Superintendent

TELEPHONE NUMBER

AREA CODE

6 1 1 6 4 1 6 1 5 1 1 5 1 9 1 0 1

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	
X	I	G	D	E	T		W	1	2	0

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE)		NO		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
<input checked="" type="checkbox"/>		<input type="checkbox"/>			1	0	3
					0	3	0
						9	2

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

On June 22, 1992, at 0458 hours, an Engineered Safety Feature actuation resulted from a spurious high reading from one of two Unit 1 source range neutron flux detectors. The source range detectors energized automatically as expected in conjunction with the preplanned shutdown of the unit for refueling. At the time the trip occurred, Unit 1 was in Hot Standby (Mode 3) with three of four control rod banks fully inserted and wide range neutron detectors indicating decreasing flux levels.

All actions required by plant emergency operating procedures were implemented immediately to verify proper response of the automatic protection system and to assess plant conditions for appropriate recovery actions. Boration was initiated as a conservative measure. The remaining control rod bank and all shutdown banks fully inserted. The short term corrective actions were to replace both of the detectors. Identification of the root cause, and implementation of long term corrective actions has not taken place as of the date of this report. An update addressing these topics will be submitted at a later date.

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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 2	— 0 0 5	— 0 0	0 2	OF	0 3		

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

Conditions Prior to Occurrence

Unit One in Mode 3 (Hot Standby).

Description of Event

On June 22, 1992, at 0458 hours with Unit 1 in Mode 3 (Hot Standby) nuclear instrumentation source range neutron flux detectors (EIIS/DET) were energized as part of a planned shutdown. Once energized, one of the detectors (1-NRI-32) indicated a reading of 10 (+06) counts per second (cps). This reading was above the setpoint limit for the detector, which measures neutron activity when not at power, of 10 (+05) cps. The immediate result was a trip of the Unit 1 reactor. At the time of the trip three of four control rod banks (B, C & D) were fully inserted. Control rod bank A was within 85 steps of being fully inserted. The reactor was subcritical at the time the high neutron flux indication caused the reactor trip. As a conservative measure, Operators initiated boration of the reactor. Shutdown banks and the one remaining control rod bank fully inserted as a result of the Engineered Safety Feature (ESF) actuation. All systems and components required to function during this evolution did so with no abnormalities noted. No other structures, components or systems were inoperable at the start of, or contributed to, the event.

At the time that 1-NRI-32 gave the high neutron flux indication, Operations personnel also observed that 1-NRI-31 (the other one of two source range neutron flux detectors installed) was cycling between 10 (+2) and 10 (+05) cps. Though erratic in operation, it was determined that 1-NRI-32 caused the reactor trip. Both of the unit's wide range radiation detectors, 1-NRI-21 and 1-NRI-23 (EIIS/DET) indicated decreasing flux levels of under 10 (+05) cps at the time of the event.

Cause of Event

At this time the root cause for the failures is unknown. Detectors were replaced, channels calibrated and cables to both checked with satisfactory results. Defective units have been removed and stored for evaluation. Results will be reported by Oct. 30, 1992. The detector which caused the ESF actuation had been in service since July, 1985 and had been checked in Nov., 1990, with satisfactory results.

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OVR NO. 3150-0104

EXPIRES: 8/31/85

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 2	0 0 5	0 0	0 3	OF	0 3

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

Analysis of Event

This event is considered reportable per 10CFR50.73 (A) (2) (IV) in that the high source range indication resulted in an automatic actuation of an Engineered Safety Feature (ESF) which was not part of a planned sequence or test.

The systems responded as required to the spurious signal. It has been concluded that this event does not constitute an unreviewed safety question as defined by 10 CFR 50.59. The health and safety of the public were not affected.

Corrective Action

Corrective actions will be based on the results of the evaluation. The details of the corrective measures developed based on the root cause determination will be reported at a later date. It is the intention of the licensee to complete the followup report by Oct. 30, 1992.

Failed Component Identification

Unit 1 Nuclear Instrumentation Source Range Neutron Flux Detector

Plant Description: 1-NRI-31 and 1-NRI-32

Manufacturer: Westinghouse

Model: B10

EIIS Code: DET

Previous Similar Events

LER 316/86-021

LER 315/85-059