

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8707150003 DOC. DATE: 87/07/07 NOTARIZED: NO DOCKET #
 FACIL: 50-315 Donald C. Cook Nuclear Power Plant, Unit 1, Indiana & 05000315
 AUTH. NAME AUTHOR AFFILIATION
 BLIND, A. A. Indiana & Michigan Electric Co.
 SMITH, W. G. Indiana & Michigan Electric Co.
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 87-009-00: on 870604, ESF actuation signal generated.
 Caused by excessive leakage of MSIV in conjunction w/
 moisture separator reheater tube leakage. Hand tightening of
 leaking MSIV to reduce leakage. W/870707 ltr.

DISTRIBUTION CODE: IE22D COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 5
 TITLE: 50.73 Licensee Event Report (LER); Incident Rpt, etc.

NOTES:

	RECIPIENT ID CODE/NAME	COPIES LTTR ENCL		RECIPIENT ID CODE/NAME	COPIES LTTR ENCL
	PD3-3 LA	1 1		PD3-3 PD	1 1
	WIGGINGTON, D	1 1			
INTERNAL:	ACRS MICHELSON	1 1		ACRS MOELLER	2 2
	AEOD/DOA	1 1		AEOD/DSP/ROAB	2 2
	AEOD/DSP/TPAB	1 1		DEDRO	1 1
	NRR/DEST/ADE	1 0		NRR/DEST/ADS	1 0
	NRR/DEST/CEB	1 1		NRR/DEST/ELB	1 1
	NRR/DEST/ICSB	1 1		NRR/DEST/MEB	1 1
	NRR/DEST/MTB	1 1		NRR/DEST/PSB	1 1
	NRR/DEST/RSB	1 1		NRR/DEST/SGB	1 1
	NRR/DLPQ/HFB	1 1		NRR/DLPQ/QAB	1 1
	NRR/DOEA/EAB	1 1		NRR/DREP/RAB	1 1
	NRR/DREP/RPB	2 2		NRR/PMAS/TLRB	1 1
	NRR/PMAS/PTSB	1 1		REG FILE 02	1 1
	RES DEPY GI	1 1		RES TELFORD, J	1 1
	RES/DE/EIB	1 1		RGN3 FILE 01	1 1
EXTERNAL:	EG&G GROH, M	5 5		H ST LOBBY WARD	1 1
	LPDR	1 1		NRC PDR	1 1
	NSIC HARRIS, J	1 1		NSIC MAYS, G	1 1

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 4										
TITLE (4) ESF Actuation (Reactor Trip Signal) Due to High Turbine Exhaust Pressure as a Result of Excessive Isolation Valve Leakage																									
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	0	4	8	7	8	7	0	0	9	0	0	0	7	0	7	8	7	0	5	0	0	0		
OPERATING MODE (9) 3			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)																						
POWER LEVEL (10) 0 0 0			20.402(b)				20.405(c)				<input checked="" type="checkbox"/> 50.73(a)(2)(iv)				73.71(b)										
			20.405(a)(1)(i)				50.38(c)(1)				<input type="checkbox"/> 50.73(a)(2)(v)				73.71(c)										
			20.405(a)(1)(ii)				50.38(c)(2)				<input type="checkbox"/> 50.73(a)(2)(vi)				OTHER (Specify in Abstract below and in Text, NRC Form 366A)										
			20.405(a)(1)(iii)				50.73(a)(2)(i)				<input type="checkbox"/> 50.73(a)(2)(vii)(A)														
			20.405(a)(1)(iv)				50.73(a)(2)(ii)				<input type="checkbox"/> 50.73(a)(2)(vii)(B)														
			20.405(a)(1)(v)				50.73(a)(2)(iii)				<input type="checkbox"/> 50.73(a)(2)(ix)														
LICENSEE CONTACT FOR THIS LER (12)																									
NAME A. A. Blind - Assistant Plant Manager										TELEPHONE NUMBER 6 1 6 4 6 5 1 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															
X	S	B	I	S	V	R	3	4	0	Y															
SUPPLEMENTAL REPORT EXPECTED (14)												EXPECTED SUBMISSION DATE (16)		MONTH	DAY	YEAR									
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)												<input checked="" type="checkbox"/> NO													

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (18)

At 2105 hours, June 4, 1987, with the reactor trip breakers open and the turbine tripped, an Engineered Safety Features Actuation signal (Reactor Trip) was generated as a result of one of two turbine first stage shell pressure instruments reaching the 10 percent setpoint which deenergized the P-7 permissive enabling the "four of four turbine stop valves closed" reactor trip signal. The pressurization of the high pressure turbine first stage was the result of isolation valve 1-MMO-402 [main steam to left Moisture Separator Reheater (MSR)] leakage which in turn pressurized the high pressure turbine via MSR tube leaks.

No equipment actuations occurred as a result of this event.

The cause of this event has been determined to be the excessive leakage of the main steam isolation valve in conjunction with MSR tube leakage. The repair of both the subject isolation valve and the MSR tube leakage will be completed before the conclusion of the current refueling outage (tentatively scheduled for August 24, 1987).

8707150003 870707
PDR ADDCK 05000315
S PDR

IF22
111

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
D.C. Cook Nuclear Plant, Unit 1	0 5 0 0 0 3 1 5	8 7	— 0 0 9	— 0 0	0 2	OF	0 4

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

Conditions Prior to Occurrence

Unit 1 in Mode 3 (Hot Standby) preparing for Unit startup, Reactor Coolant system temperature at 547 degrees F, main steam header pressure at 1005 psig, turbine tripped, reactor trip breakers open, all reactor control rods fully inserted.

Description of Event

At approximately 2050 hours, June 4, 1987, the drains on the high pressure turbine exhaust lines to the right moisture separator reheater (MSR) (EIIS/SB) were isolated to allow work on the downstream piping. At 2105 hours, an Engineered Safety Features actuation signal (Reactor Trip) was generated as a result of one of two turbine first stage shell pressure instruments (EIIS/TP) reaching the ten percent setpoint which deenergized the P-7 permissive enabling the "four of four turbine stop valves closed" reactor trip signal. The pressurization of the high pressure turbine first stage (EIIS/TA) was the result of isolation valve 1-MMO-402 (Main Steam to left MSR) (EIIS/ISV) leakage which in turn pressurized the high pressure turbine via MSR tube leaks.

Under normal circumstances the closure of the subject drain path would not have resulted in the pressurization since several other drain paths are available. However, it has been concluded that the leakage flow through MMO-402 was relatively large and exceeded the capacity of remaining drain paths.

No equipment actuations occurred as a result of this event, however, Operations personnel immediately implemented special Emergency Operating Procedure 1-OHP-4023.E-0 to verify proper response of the automatic protection system (EIIS/JC) and to assess plant conditions for initiating appropriate recovery action.

The NRC was notified of the event via the ENS at 2255 hours, June 4, 1987.

With the exception of the leakage of both the main steam isolation valve and the MSR tubes there were no inoperative structures, components, or systems that contributed to this event.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
D.C. Cook Nuclear Plant, Unit 1	0 5 0 0 0 3 1 5	8 7	— 0 0 9	— 0 0	0 3	OF	0 4

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

Cause of Event

The cause of this event has been determined to be the excessive leakage of the main steam isolation valve in conjunction with MSR tube leakage.

Analysis of Event

This Engineered Safety Features Actuation, which resulted in a reactor trip signal, is reportable pursuant to 10 CFR 50.73 (a) (2) (iv).

The Engineered Safety Features actuation signal was generated as a result of one of two first stage shell pressure instruments reaching the 10 percent setpoint which deenergized the P-7 permissive enabling the "four of four turbine stop valve closed" reactor trip signal.

Based on the fact that no equipment actuated as a result of ESF signal (the reactor trip breakers were open and all reactor control rods were fully inserted prior to the event) 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 Actions

Immediate corrective action involved the hand tightening of the leaking main steam isolation valve to reduce the leakage and allow depressurization of the high pressure turbine. Operations personnel implemented plant procedures to verify proper response of the automatic protection system and to assess plant conditions for initiating appropriate recovery actions. The repair of both the subject isolation valve and the MSR tube leakage will be completed before the conclusion of the current refueling outage (tentatively scheduled for August 24, 1987).

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
D.C. Cook Nuclear Plant, Unit 1	0 5 0 0 0 3 1 5	8 7	— 0 0 9	— 0 0	0 4	OF	0 4

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

Failed Component Identification

Isolation Valve - main steam to left MSR

Plant Designation: 1-MMO-402

Manufacturer: Rockwell Edward

Model: A617MY, 14 inch

EIIIS Code: ISV

Previous Similar Events

None.



INDIANA & MICHIGAN ELECTRIC COMPANY

Donald C. Cook Nuclear Plant
P.O. Box 458, Bridgman, Michigan 49106

July 7, 1987

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

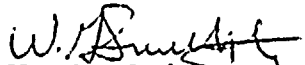
Operating License DPR-58
Docket No. 50-315

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:

87-009-00

Sincerely,


W. G. Smith, Jr.
Plant Manager

WGS:afh

Attachment

cc: A. B. Davis, Region III
J. E. Dolan
D. L. Wigginton, NRC
R. C. Callen, MPSC
D. Hahn, MDPH
G. Charnoff, Esq.
Dottie Sherman, ANI Library
INPO
M. P. Alexich
R. F. Kroeger
H. B. Brugger
R. W. Jurgensen
NRC Resident Inspector
PNSRC
J. G. Feinstein/B. P. Lauzau
A. A. Blind
File

IE22
1/1