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ACCESSION NBR: 9403160088 DOC. DATE: 94/03/07 NOTARIZED: NO DOCKET #
 FACIL: 50-315 Donald C. Cook Nuclear Power Plant, Unit 1, Indiana M 05000315
 AUTH. NAME AUTHOR AFFILIATION
 WEBER, G.A. 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 94-001-00: on 940203, 04 & 05, thirteen of twenty MSSVs
 lift settings found, during surveillance testing, to be
 outside of TS limit. Cause of event under investigation. Subj
 MSSVs retested satisfactorily. W/940307 ltr.

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

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



March 7, 1994

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 Report System, the
following report is being submitted:

94-001-00

Sincerely,

A. A. Blind
A. A. Blind
Plant Manager

/sb

Attachment

c: J. B. Martin, Region III
E. E. Fitzpatrick
P. A. Barrett
R. F. Kroeger
M. A. Bailey - Ft. Wayne
NRC Resident Inspector
J. B. Hickman - NRC
J. R. Padgett
G. Charnoff, Esq.
D. Hahn
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S. J. Brewer

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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 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 1										PAGE (3) 1 OF 0 4				
TITLE (4) FAILURE OF THE UNIT ONE MAIN STEAM SAFETY VALVES TO MEET TECHNICAL SPECIFICATION LIFT SETPOINT REQUIREMENTS																								
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 2	0 5	9 4	9 4	0 0 1	0 0	0 3	0 7	9 4							0 5 0 0 0									
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)					20.405(c)					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 6 2		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)(ii)					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)(ix)												
LICENSEE CONTACT FOR THIS LER (12)																								
NAME										TELEPHONE NUMBER														
G. A. WEBER - PLANT ENGINEERING SUPERINTENDENT										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 NPDs		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDs														
X	S B	R V	D 2 4 3	Y																				
SUPPLEMENTAL REPORT EXPECTED (14)																								
X YES (If yes, complete EXPECTED SUBMISSION DATE)										NO										EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR
																						0 5	2 3	9 4

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

On February 3, 4, and 5, 1994, with the Unit 1 Reactor in Mode 1 (power operation) at 62 percent Thermal Power, thirteen of the twenty Main Steam Safety Valves' (MSSVs) lift settings were found, during Surveillance testing, to be outside of the +/- one percent limit established in technical Specifications. Three MSSVs lifted between 1 and 3 percent high. Nine of the MSSVs lifted between 3 and 6.9 percent high. One MSSV had a lift pressure greater than 9.8 percent high (1180 psig). The exact lift pressure could not be determined, as the maximum lift capacity of the test equipment was reached. Based on a preliminary Safety Evaluation for this event, the MSSV as-found setpoints would not have resulted in exceeding the design pressure rating of the steam generators. A final Safety Evaluation will include a review of the recent Westinghouse Nuclear Safety Advisory Letter 94-001, (Operation at Reduced Power Levels with Inoperable MSSVs). This evaluation will be completed prior to paralleling Unit 1 after the current Refueling Outage.

The MSSVs at Cook are Dresser Model 3707RA Safety Valves. The cause of this event has not been determined. A Troubleshooting Team has been developed to determine the cause for the MSSV initial Lift Setpoint problems. This is an interim report. An updated report will be submitted by May 27, 1994 to provide additional information obtained from the MSSV repair/evaluation activities and the final Safety Evaluation.

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 4	- 0 0 1	- 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 One - Mode 1 (power operation) at 62 percent Reactor Thermal Power

Description of Event:

On February 3, 4, and 5, 1994 thirteen of the twenty Main Steam Safety Valves (MSSVs) (EIIS/SB-RV) lift settings were found outside of the +/- one percent tolerance limits established in Unit 1 Technical Specification 3.7.1.1. Three of the MSSVs lifted between 1 and 3 percent high. Nine MSSVs lifted between 3 and 6.9 percent high. One MSSV had a lift pressure greater than 9.8 percent high (1180 psig). This is the maximum lifting pressure obtainable by the test equipment.

The MSSVs at Cook are Dresser Model 3707RA Safety Valves. Based on operating experience and vendor input, the valve lift setpoints cannot be consistently maintained within +/- one percent tolerance limits.

The required relief pressure setpoint ranges and the as-found setpoints for the MSSVs found out of specification are listed below:

Date	Valve I.D. No.	Stm. Gen.	T/S Setpoint	Allowable Range (PSIG)	As Found (PSIG)	Percent Deviation
02-04-94	1-SV-1A-1	1	1065	1054-1076	1103	3.6
02-04-94	1-SV-1B-1	1	1065	1054-1076	1099	3.2
02-05-94	1-SV-2B-1	1	1075	1064-1086	>1180	>9.8
02-04-94	1-SV-1A-2	2	1065	1054-1076	1135	6.6
02-04-94	1-SV-2A-2	2	1075	1064-1086	1116	3.8
02-04-94	1-SV-2B-2	2	1075	1064-1086	1101	2.4
02-04-94	1-SV-3-2	2	1085	1074-1096	1145	5.5
02-03-94	1-SV-1B-3	3	1065	1054-1076	1123	5.4
02-03-94	1-SV-3-3	3	1085	1074-1096	1117	2.9
02-05-94	1-SV-1A-4	4	1065	1054-1076	1085	1.9
02-05-94	1-SV-1B-4	4	1065	1054-1076	1125	5.6
02-05-94	1-SV-2A-4	4	1075	1064-1086	1127	4.8
02-05-94	1-SV-2B-4	4	1075	1064-1086	1149	6.9

Retests were performed on the MSSVs to make necessary setpoint adjustments and ensure as-left lift setpoints were acceptable. The subsequent MSSV tests revealed that sticking was experienced on the initial lifts and was not indicative of the actual setpoint values. Ten of the MSSVs were found to be set correctly and required no adjustment. Two of the MSSVs had lift setpoints that were slightly below acceptable values and adjustments were needed to raise the lift setpoints to meet the Technical Specification Acceptance Criteria.

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-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 (8)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
D. C. COOK NUCLEAR PLANT - UNIT 1	0 5 0 0 0 3 1 5 9 4 -	0 0 1 -	0 0	0 3	OF	0 4	

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

Description of Event continued:

With the poor performance of the Unit 1 MSSVs, testing was performed on the Unit 2 MSSVs. Nine Unit 2 MSSVs were found to exceed the +/- one percent Technical Specification Acceptance Criteria. However, all nine of the Unit 2 MSSVs were within three percent of the Technical Specification Setpoint.

There were no other inoperable structures, systems, or components that contributed to this event.

On February 5, 1994, at 1600 Hours, this event was reported as a One Hour Report to the U. S. Nuclear Regulatory Commission Operations Center, per 10CFR 50.72(b)(ii)(B). The One Hour Report was submitted since the as-found condition of the MSSVs may have been a condition that was outside the design basis of the plant.

Cause of Event:

The root cause for the MSSV as-found lift setpoints remains under investigation. Current plans are to bring the Vendor Representative to the Plant for MSSV repairs/evaluations.

An updated report will be submitted by May 27, 1994, to provide additional information obtained from the MSSV repair/evaluation activities.

Analysis of Event:

This event is reportable via the provisions of 10CFR50.73(a)(2)(i)(B) as an operation prohibited by Plant Technical Specification 3.7.1.1. The Technical Specification 3.7.1.1 requires that the Main Steam Safety Valves be operable in Modes 1 through 3. Operability requires that all twenty Main Steam Safety Valves lift within +/- 1 percent of the Technical Specification Setpoints.

The preliminary Safety Evaluation revealed that the MSSV as-found lift setpoints would not have resulted in exceeding the design rating of the steam generators. After the initial lift pressure was obtained, the MSSVs would have went full open. Full flow would have been obtained instantly. The MSSVs would not require an additional three percent pressure to reach a full flow condition.

A final Safety Evaluation will be performed with consideration to a recent Westinghouse Nuclear Safety Advisory Letter (NSAL-94-001, Operation at Reduced Power Levels with Inoperable MSSVs). This evaluation will be completed prior to paralleling Unit 1 after the current Refueling Outage and included in the updated LER.

Corrective Action:

Ten of the MSSVs with lift setpoints outside the acceptable setpoint ranges retested satisfactorily and did not require any adjustments. Two MSSVs required adjustment to return the setpoint to acceptable values. MSSV 1-SV-2B-1 will be repaired/evaluated to determine the cause for this failure. A Task Force has been developed to determine the cause for the MSSV Lift Setpoint problems.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATIONESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS
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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 9 4 - 0 0 1 - 0 0 0 4 OF 0 4

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

Failed Component Identification:

Main Steam Safety Valve

Manufacturer: Dresser Consolidated Valves

Model: 3707RA-RT22

EIIIS Code: SB-RV

Previous Similar Events:

50-315/92-06

50-316/92-03

50-315/90-13

50-316/90-06

50-315/89-02

50-316/88-04

50-315/87-11

50-315/86-20