

CATEGORY 1

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9704090128 DOC. DATE: 97/04/02 NOTARIZED: NO DOCKET #
 FACIL: 50-315 Donald C. Cook Nuclear Power Plant, Unit 1, Indiana M 05000315
 AUTH. NAME AUTHOR AFFILIATION
 PISARSKY, F. Indiana Michigan Power Co.
 BLIND, A.A. Indiana Michigan Power Co.
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 97-004-00: on 970228, main steam safety valve exceeds allowable lift setpoint. Caused by setpoint drift. Valve was reset to proper setpoint. W/970402 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
Cock Nuclear Plant
One Cook Place
Bridgman, MI 49106



April 2, 1997

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:

97-004-00

Sincerely,

Robert H. Hilligsi

A. A. Blind
Site Vice President

/mbd

Attachment

c: A. B. Beach, Region III
E. E. Fitzpatrick
P. A. Barrett
S. J. Brewer
J. R. Padgett
D. Hahn
Records Center, INPO
NRC Resident Inspector

9704090128 970402
PDR ADDCK 05000315
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090006



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 (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.

FACILITY NAME (1)
Donald C. Cook Nuclear Plant - Unit 1DOCKET NUMBER (2)
50-315

Page 1 of 3

TITLE (4)

Main Steam Safety Valve Exceeds Allowable Lift Setpoint Due to Setpoint Drift

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
02	28	97	97	- 004 -	00	04	02	97	FACILITY NAME	DOCKET NUMBER
OPERATING MODE (9)		1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 50.73(a)(2)(i)-(viii) (Check one or more) (11)							
POWER LEVEL (10)		55	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)			50.73(a)(2)(iv)	73.71(c)
			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)		X	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

Frank Pisarsky, Mechanical Component Engineering Supervisor

TELEPHONE NUMBER (Include Area Code)

616/465-5901, x2607

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPD		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPD

SUPPLEMENTAL REPORT EXPECTED (14)

YES	X	NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
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ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On February 28, 1997 with Unit 1 in Mode 1 at 55 percent Rated Thermal Power, one Main Steam Safety Valve (MSSV) was found to exceed its allowable setpoint as defined in Technical Specification 3.7.1.1. 1-SV-2A-3 was found to lift at 1112 psig, 5 psi above the maximum allowed by the Technical Specification. This event is therefore reportable under the provisions of 10CFR50.73(a)(2)(i)(B), as operation prohibited by plant Technical Specifications.

The cause of the event is attributed to setpoint drift. The valve was removed and disassembled for inspection. The inspection did not reveal any evidence of a different cause. The setpoint for the valve was adjusted to within Technical Specification limits prior to completion of testing.

The Steam Generator system has a total of 20 MSSVs, with 5 valves per Steam Generator. Even though the setpoint for one valve was out of tolerance, the valve was capable of fully opening, and the overpressure protection capability was maintained. Therefore, there was no hazard to the health and safety of the public.

LICENSEE EVENT CONTINUATION

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FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
Cook Nuclear Plant - Unit 1	50-315	YEAR	SEQUENTIAL	REVISION	2 OF 3
		97	-- 004 --	00	

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

Conditions Prior to Occurrence

Unit 1 in Mode 1 at 55 percent Rated Thermal Power.

Description of Event

On February 28, 1997, during surveillance testing of the Unit 1 Main Steam Safety Valves (MSSVs), the lift pressure for 1-SV-2A-3 was determined to be 1112 psig. This exceeds the Technical Specification 3.7.1.1 allowable value by 5 psi. The allowable value is based on the setpoint, 1075 psig, plus or minus 3 percent, for an allowable maximum of 1107 psig. No additional valves were found to be outside of the Technical Specification limits.

Cause of the Event

The cause of the event is setpoint drift, which has been a recurring industry concern. The results of the three consecutive lifts performed on this valve were consistent with setpoint drift. All three lifts occurred at roughly the same pressure, as opposed to a stuck valve, which would lift at pressures which would be noticeably lower with each successive attempt to lift the valve.

The valve was removed from service, disassembled, and examined. No evidence was found to suggest any other cause for the event.

The MSSVs used at Cook are manufactured by Dresser Consolidated Valves, model #3707RA-RT22.

Analysis of Event

This event is reportable under the provisions of 10CFR50.73(a)(2)(i)(B) as an operation prohibited by plant Technical Specifications 3.7.1.1. Technical Specification 3.7.1.1 requires that the MSSVs be operable in Modes 1 through 3, and that the valves lift within plus or minus 3 percent of the setpoints listed in Technical Specification Table 4.7-1.

Each of the Unit 1 Steam Generators (SGs) have five safety valves with the following lift points:

<u>Valve Number</u>	<u>Setpoint</u>
SV-1A and SV-1B	1065 psig
SV-2A and SV-2B	1075 psig
SV-3	1085 psig

The valve with the discrepant setting is one of eight valves, two per SG, which are set at 1075 psig. The observed 1112 psig lift point for valve 1-SV-2A-3, although it exceeded the allowable range, remained below the maximum allowable setpoint of the MSSV with the highest setting, 1-SV-3. 1-SV-3 has a maximum lift setpoint of 1117 psig, which is 1085 psig plus 3 percent tolerance. Thus, all twenty MSSVs were capable of fully opening and providing the required flow to prevent overpressurization.

It is therefore concluded that this event did not represent a hazard to the health or safety of the public.

LICENSEE EVENT CONTINUATION

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Cook Nuclear Plant - Unit 1	50-315	YEAR	SEQUENTIAL	REVISION	3 OF 3
		97	- 004 -	00	

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

Corrective Action

Following discovery, the valve was reset to the proper setpoint.

As a preventive measure to address the valve sticking problem previously identified in LER 315/94-001-01, the valve was reassembled after inspection with a disk made from Inconel X750, which has been heat treated and preoxidized in a steam bath environment. The replacement disk has a thermal expansion coefficient similar to that of the valve nozzle material, and the preoxidizing provides a protective coating. This action is being taken with all safety valves which are being refurbished, and it is expected that the disk replacement will reduce the potential for sticking.

Failed Component Identification

N/A

Previous Similar Events

315/94-001-00	316/92-003-00
315/92-006-00	316/90-006-00
315/90-013-00	316/88-004-00
315/89-002-00	
315/87-011-00	
315/86-020-00	