

# REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8707290186 DOC. DATE: 87/07/23 NOTARIZED: NO DOCKET #  
 FACIL: 50-315 Donald C. Cook Nuclear Power Plant, Unit 1, Indiana & 05000315  
 AUTH. NAME AUTHOR AFFILIATION  
 ALLARD, J. D. Indiana & Michigan Electric Co.  
 SMITH, W. G. Indiana & Michigan Electric Co.  
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 87-011-00: on 870624, main steam safety valves lift  
 setpoints found out of specification. Caused by setpoint  
 drift. Safety valves setpoints reset within specified  
 ranges. W/870724 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
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INTERNAL:	ACRS MICHELSON	1 1		ACRS MOELLER	2 2
	AEOD/DOA	1 1		AEOD/DSP/NAS	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/ILRB	1 1		NRR/PMAS/PTSB	1 1
	<u>REG FILE</u> 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) Main Steam Safety Valves Out of Specification Due to Apparent 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 NAMES				DOCKET NUMBER(S)									
0	6	2	4	8	7	8	7	0	1	1	0	0	0	7	2	3	8	7	0 5 0 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 7 8			20.402(b)				20.405(c)				60.73(a)(2)(iv)				73.71(b)							
			20.405(a)(1)(i)				60.36(c)(1)				60.73(a)(2)(v)				73.71(c)							
			20.405(a)(1)(ii)				60.36(c)(2)				60.73(a)(2)(vi)				OTHER (Specify in Abstract below and in Text, NRC Form 366A)							
			20.405(a)(1)(iii)				60.73(a)(2)(i)				60.73(a)(2)(vii)(A)											
			20.405(a)(1)(iv)				60.73(a)(2)(ii)				60.73(a)(2)(vii)(B)											
			20.405(a)(1)(v)				60.73(a)(2)(iii)				60.73(a)(2)(x)											
LICENSEE CONTACT FOR THIS LER (12)																						
NAME J. D. Allard - Maintenance Superintendent										TELEPHONE NUMBER 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												
X	S B	R V D	2 4 3	Y																		
SUPPLEMENTAL REPORT EXPECTED (14)												EXPECTED SUBMISSION DATE (15)		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) (16)

Between June 24 at 1700 hours and June 25 at 1400 hours, 1987, with the Unit 1 reactor in Mode 1 (power operation) at 78 percent thermal power, eight of the twenty Main Steam Safety Valves (MSSV) lift setpoints were found to be out of specification during surveillance testing. The MSSV lift setpoints ranged from 1 to 9 psi below the Technical Specification required range. In each case the MSSV's lift setpoints were corrected and the safety valves left operable prior to completion of the surveillance test procedure (STP).

The apparent MSSV setpoint drift could have been attributable to two factors, 1) testing method, and; 2) setpoint drift due to valve design/application. The investigation concluded that the old testing method had a high probability of contributing to the apparent MSSV setpoint drift.

The immediate corrective action, as required by the Surveillance Test Procedure, was to reset the safety valves setpoints to within their specified ranges utilizing an improved testing method. To prevent recurrence future MSSV setpoints will be tested with the improved testing method. This will more accurately reflect the MSSV setpoints.

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## 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   1   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 - 78 percent Reactor Thermal Power.

Description of Event

Between June 24 at 1700 hours and June 25 at 1400 hours, 1987, eight of the twenty Unit 1 Main Steam Safety Valves (MSSV) (EIIS/RV) lift setpoints were found out of specification during surveillance testing. The MSSV's lift setpoints ranged from 1 to 9 psi below the Technical Specification required setpoints. In each case the MSSV was declared inoperable prior to performance of the surveillance test procedure. Upon discovery of the low setpoint values the MSSV setpoint was immediately adjusted to bring the value within the Technical Specification required range. The action statement for Technical Specification 3.7.1.1 was complied with during the performance of the testing.

The main steam header of each of the four steam generators (EIIS/SG) in Unit 1 are equipped with 5 safety valves for a total of 20 valves per unit.

The required relief pressure setpoint ranges and their as-found conditions for MSSV's are listed below for the valves found out of specification:

<u>Date</u>	<u>Valve Serial No.</u>	<u>Valve Identification No.</u>	<u>Steam Generator</u>	<u>Technical Specification Required Range (psig)</u>	<u>As-Found Setpoint (psig)</u>
6/24/87	BN#6321	SV-3-2	2	1074-1096	1069
6/24/87	BN#6306	SV-1B-2	2	1054-1076	1045
6/24/87	BN#6311	SV-1A-2	2	1054-1076	1050
6/24/87	BN#6307	SV-1A-3	3	1054-1076	1050
6/25/87	BN#6305	SV-1B-1	1	1054-1076	1051
6/25/87	BN#6308	SV-1A-1	1	1054-1076	1053
6/25/87	BN#6310	SV-1A-4	4	1054-1076	1049
6/25/87	BN#6309	SV-1B-4	4	1054-1076	1048

With the exception of the MSSV's there were no inoperative structures, components, or systems that contributed to this event.

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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D.C. Cook Nuclear Plant, Unit 1	0   5   0   0   0   3   1   5	8   7	—   0   1   1	—   0   0	0   3	OF	0   4

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

Cause of Event

The apparent MSSV setpoint drift could have been attributed to two factors, 1) testing method, and; 2) setpoint drift due to valve design/application. The investigation concluded that the old testing method was inherently less accurate and had a high probability of contributing to the apparent MSSV setpoint drift.

Analysis of Event

The safety valve setpoints discovered in this event were found to be out of compliance with the Technical Specification (T/S) 3.7.1.1 requirements and therefore reportable per 10 CFR 50.73 (a) (2) (i) (B).

The following FSAR Chapter 14 accident analyses consider secondary-side pressure relief:

1. Loss of External Electrical Load (Appendix 14C.3.6)
2. Loss of Normal Feedwater (Appendix 14C.3.7)
3. Loss of All A.C. Power to the Station Auxiliaries
4. Steam Generator Tube Rupture (14.2.4)
5. Loss of Reactor Coolant from Small Ruptured Pipes or from Cracks in Large Pipes which Actuates the ECCS (Appendix 14E.1)

The low as-found setpoints would not have affected the capacity to relieve the Steam Generator pressures during any analyzed event. Since the low "as-found" lift setpoints would have resulted in the early opening of the MSSV's, and the deviation from the T/S setpoints was small, this situation would not have adversely affected plant safety. The lowest "as-found" lift setpoint found during this event was 1045 psig. This value is higher than the lowest as-found lift setpoint found during a similar event on November 2, 1985 in Units 1 and 2 and is bounded by the safety analysis submitted for that event (LER 50-315/86-020-00). The only foreseeable ramification (of the low setpoint deviation) would be a potential actuation of the safety valve prior to the actuation of the steam generator power relief valve which is set to actuate at 1025 psig. This foreseeable ramification should not have occurred in the present case, since the lowest lift setpoint found was 1045 psig.

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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D. C. Cook Nuclear Plant - Unit 1	0500031587	0	11	00	04	OF	04

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

Corrective Actions

The immediate corrective action, as required by the Surveillance Test Procedure, was to reset the safety valves setpoints to within their specified ranges. The lift setpoint were adjusted and tested utilizing the improved testing method. To prevent recurrence future MSSV setpoints will be tested with the improved testing method. This will provide a more accurate determination of the MSSV setpoints.

Failed Component Identification

Main Steam Safety Valve

Plant Designation: SV-1A-1, 2, 3 & 4; SV-1B-1, 2 & 4; SV-3-2

Manufacturer: Dresser Consolidated Valves

Model: 3707RA-RT21

EIIS Code: RV

Previous Similar Events

LER 50-315/86-020-00 "Main Steam Safety Valves out of specification due to setpoint drift".

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**INDIANA & MICHIGAN ELECTRIC COMPANY**

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

July 24, 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:

87-011-00

Sincerely,

W. G. Smith, Jr.  
Plant Manager

/afh

Attachment

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