

# ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

## REGULATOR INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9203260170      DOC. DATE: 92/03/20      NOTARIZED: NO      DOCKET #  
 FACIL: 50-316 Donald C. Cook Nuclear Power Plant, Unit 2, Indiana M 05000316  
 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 92-003-00: on 910219, 20 & 21, 7 of 20 main steam safety valves failed to meet TS lift setpoint requirement of plus or minus 1%. Caused by setpoint drift in Dresser safety valves. Valves reset to acceptable values. W/920320 ltr.

DISTRIBUTION CODE: IE22T      COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 5  
 TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

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	NRR/DET/EMEB 7E	1 1	NRR/DLPQ/LHFB10	1 1	
	NRR/DLPQ/LPEB10	1 1	NRR/DOEA/OEAB	1 1	
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	NRR/DST/SRXB 8E	1 1	REG-FILE 02	1 1	
	RES/DSIR/EIB	1 1	RGN3 FILE 01	1 1	
EXTERNAL:	EG&G BRYCE, J.H	3 3	L ST LOBBY WARD	1 1	
	NRC PDR	1 1	NSIC MURPHY, G.A	1 1	
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Indiana Michigan  
Power Company  
Cook Nuclear Plant  
One Cook Place  
Bridgman, MI 49106  
616 465 5901



March 20, 1992

United States Nuclear Regulatory Commission  
Document Control Desk  
Rockville, Maryland 20852

Operating Licenses DPR-74  
Docket No. 50-316

Document Control Manager:

In accordance with the criteria established by  
10 CFR 50.59 entitled Licensee Event Report System, the  
following report is being submitted:

92-003-00

Sincerely,

A. A. Blind  
Plant Manager

/sb

Attachment

c: D. H. Williams, Jr.  
A. B. Davis, Region III  
E. E. Fitzpatrick  
P. A. Barrett  
B. F. Henderson  
R. F. Kroeger  
B. Walters - Ft. Wayne  
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J. G. Keppler  
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D. Hahn  
INPO  
S. J. Brewer/B. P. Lauzau  
B. A. Svensson

TE28 11

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) <b>D. C. COOK NUCLEAR PLANT - UNIT 2</b>	DOCKET NUMBER (2) <b>0 5 0 0 0 3 1 6</b>	PAGE (3) <b>1 OF 0 4</b>
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TITLE (4) **FAILURE OF THE UNIT TWO 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	1	9 9	2 9	2 0 0 3	0 0 0	0 3	2 0	9 2			0 5 0 0 0

OPERATING MODE (9) <b>1</b>	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)									
POWER LEVEL (10) <b>0 1 7 . 0</b>	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)						
	20.406(a)(1)(i)	50.38(c)(1)	50.73(a)(2)(v)	73.71(c)						
	20.405(a)(1)(ii)	50.38(c)(2)	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)						
	20.406(a)(1)(iii)	X 50.73(a)(2)(i)	50.73(a)(2)(viii)(A)							
	20.406(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)							
	20.406(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)							

LICENSEE CONTACT FOR THIS LER (12)	
NAME <b>G. A. WEBER - PLANT ENGINEERING SUPERINTENDENT</b>	TELEPHONE NUMBER AREA CODE: <b>6 1 1 6 4</b>   <b>6 1 5 1 - 5 1 9 0 1 1</b>

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	SIB	IRIV	D 2 4 3	Y						

SUPPLEMENTAL REPORT EXPECTED (14)			EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
<input checked="" type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)	<input type="checkbox"/> NO			0 6	3 0	9 2

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

On February 19, 20, and 21, 1992, with the Unit 2 Reactor in Mode 1 (power operation) at 70 percent thermal power, seven 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. The seven out-of-tolerance MSSVs were all found to lift at values which exceeded the upper tolerance (+1 percent) limit by 3 to 23 psi. The MSSV that lifted 23 psi above the upper limit is being sent to an offsite lab for additional evaluation. The other six out-of-tolerance MSSVs were reset to within their specified range.

The MSSVs at Cook are Dresser Model 3707RA Safety Valves. The cause of this event is attributed to setpoint drift which limits the ability of the MSSVs to consistently meet the established setpoint tolerance of +/- 1 percent. The cause of this drift is still under investigation with the vendor. A Technical Specification change request is currently being pursued to increase the tolerance limits to +/- three percent. This change will minimize the number of MSSV failures and is consistent with revised testing standards developed by ANSI OM-1 Committee.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		

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

Conditions Prior to Occurrence:

Unit Two - 70 Percent Reactor Thermal Power

Description of Event:

On February 19, 20, and 21, 1992, seven 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 2 Technical Specification 3.7.1.1. The seven out-of-tolerance MSSVs were all found to lift at values which exceeded the upper tolerance (+1 percent) limit by 3 to 23 psi. The MSSV (2-SV-1A-3) that lifted 23 psi above the upper limit will be sent to an offsite lab for additional evaluation. The other six out-of-tolerance MSSVs were reset to within their specified range. The Action Statement requirements for Technical Specification 3.7.1.1 were met during the Surveillance Testing. The unit is currently shutdown for refueling.

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. A Technical Specification change request is currently being pursued to increase the tolerance limits to +/- three percent. This Technical Specification change will minimize the number of MSSV failures and is consistent with revised testing standards developed by ANSI OM-1 Committee.

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

Date	Valve I.D. No.	Stm. Gen.	T/S Setpoint	Allowable Range (PSIG)	As Found (PSIG)
02-19-92	2-SV-1A-2	2	1065	1054-1076	1089
02-19-92	2-SV-2B-2	2	1075	1064-1086	1100
02-20-92	2-SV-1A-3	3	1065	1054-1076	1099
02-20-92	2-SV-2B-1	1	1075	1064-1086	1090
02-21-92	2-SV-2A-4	4	1075	1064-1086	1089
02-21-92	2-SV-2B-4	4	1075	1064-1086	1105
02-21-92	2-SV-3-4	4	1085	1074-1096	1101

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

An updated report will be submitted by June 30, 1992 to provide any information obtained from the additional evaluation of the valve that was sent offsite (2-SV-1A-3).



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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		9 2	— 0 0 3	— 0 0	0 3	OF 0	4

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

Cause of Event:

The cause of this event is attributed to setpoint drift which limits the ability of the MSSVs to consistently meet the established setpoint tolerance of +/- 1 percent. The cause of the setpoint drift is still under investigation with the vendor.

Analysis of Event:

The safety valve lift setpoints reported here were found to be out of compliance with the Technical Specification (T/S) 3.7.1.1 requirements and therefore reportable per 10CFR50.73(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 (14.2.3).
5. Loss of Reactor Coolant from small ruptured pipes or from cracks in large pipes which actuates the ECCS (Appendix 14E.1).

The high setpoint deviations (worst case 1099 psig versus 1076 psig acceptable), would have resulted in the Secondary Side pressure reaching a value of 1132 psig (the high point set pressure plus the three percent above set pressure code allowable for the valve to attain full lift). The Secondary System is designed for 1065 psig plus ten percent accumulation, or 1172 psig. In addition, the system was hydro tested to 1356 psig. The consequence of the largest deviation noted would not have resulted in over pressurization of the Main Steam System.

The as-found MSSV setpoints would not have an adverse impact on the Reactor Coolant System (RCS) overpressure protection or Departure from Nucleate Boiling (DNB) ratio. The RCS is protected from overpressure conditions by the Pressurizer Safety Valves and Power Operated Relief Valves. In addition, the Steam Generator Power Operated Relief Valves can be used for RCS heat removal. The out-of-tolerance MSSVs all had setpoints above the Technical Specification allowed values.

Corrective Action:

With the exception of 2-SV-1A-3, the Safety Valves found with lift setpoints outside the acceptable setpoint ranges were reset to acceptable values and retested satisfactorily.

Based on ANSI OM-1 Committee Safety Valve Test Requirements, steps are currently being taken to request a change to Technical Specification 3.7.1.1 MSSV lift setpoint tolerance from one percent to three percent.

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		9 2	0 0 3	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  
 EIIS Code: SB-RV

Previous Similar Events:

50-315/90-13	50-316/90-06
50-315/89-02	50-316/88-04
50-315/87-11	
50-315/86-20	