

# ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

## REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:9101030267 DOC.DATE: 90/12/28 NOTARIZED: NO DOCKET #  
 FACIL:50-315 Donald C. Cook Nuclear Power Plant, Unit 1, Indiana & 05000315  
 AUTH.NAME AUTHOR AFFILIATION  
 DROSTE,J.B. 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 90-013-01:on 901017,18 & 19,11 of 20 main steam safety  
 valve lift setpoints out of TS specified range.Caused by  
 setpoint drift.Valves reset to acceptable values & retested  
 satisfactorily.W/901228 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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	PD3-1 LA	1 1	PD3-1 PD	1 1
	COLBURN,T.	1 1		
INTERNAL:	ACNW	2 2	AEOD/DOA	1 1
	AEOD/DSP/TPAB	1 1	AEOD/ROAB/DSP	2 2
	NRR/DET/ECMB 9H	1 1	NRR/DET/EMEB 7E	1 1
	NRR/DLPQ/LHFB11	1 1	NRR/DLPQ/LPEB10	1 1
	NRR/DOEA/OEAB	1 1	NRR/DREP/PRPB11	2 2
	NRR/DST/SELB 8D	1 1	NRR/DST/SICB 7E	1 1
	NRR/DST/SPLB8D1	1 1	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 MAYS,G	1 1
	NSIC MURPHY,G.A	1 1	NUDOCS FULL TXT	1 1

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December 28, 1990

United States Nuclear Regulatory Commission  
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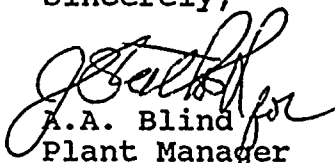
Operating Licenses DPR-58  
Docket No. 50-315

Document Control Manager:

In accordance with the criteria established by  
10 CFR 50.73 entitled Licensee Event Reporting System,  
the following report is being submitted:

90-013-01

Sincerely,

  
A.A. Blind  
Plant Manager

AAB:sb

Attachment

c: D.H. Williams, Jr.  
A.B. Davis, Region III  
M.P. Alexich  
P.A. Barrett  
J.E. Borggren  
R.F. Kroeger  
B. Walters - Ft. Wayne  
NRC Resident Inspector  
T. Colburn - NRC  
J.G. Keppler  
M.R. Padgett  
G. Charnoff, Esq.  
Dottie Sherman, ANI Library  
D. Hahn  
INPO  
S.J. Brewer/B.P. Lauzau  
B.A. Svensson

Handwritten initials, possibly 'IBP' or 'JBP', with a vertical line through them.

## LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 60.0 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 OF 0 4

PAGE (3)

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)															
1	0	1	7	9	0	9	0	0	0	1	3	0	1	1	2	2	8	9	0	0	5	0	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																									
POWER LEVEL (10)		0 6 8																							
		20.402(b)																							
		20.405(c)																							
		50.73(a)(2)(iv)																							
		73.71(b)																							
		20.406(a)(1)(i)																							
		50.36(c)(1)																							
		50.73(a)(2)(v)																							
		73.71(c)																							
		20.406(a)(1)(ii)																							
		50.36(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)(ix)																							

## LICENSEE CONTACT FOR THIS LER (12)

NAME

J. B. Droste - Plant Engineering

TELEPHONE NUMBER

AREA CODE

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 NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC
X	S	B	R	V	D	2	4	3	Y

## SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE)	NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
X	NO				

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

This Supplemental Report is being submitted to provide additional information regarding the Main Steam Safety Valve Lift Setpoint testing initially reported on November 14, 1990.

On October 17, 18, and 19, 1990, with the Unit 1 Reactor in Mode 1 (power operation) at 68 percent thermal power, eleven of the twenty Main Steam Safety Valves' (MSSV) lift setpoints were outside of the Technical Specification specified range. One MSSV lift setpoint was 5 psi below the specified range. Ten MSSV lift setpoints ranged from 4 psi to 34 psi above the required range. One Safety Valve had a lift setpoint that could not be determined in-place. It was removed, tested off-site, and found to have a lift setpoint of 1130 psig. The out of range safety valves were reset to within their specified range.

This condition was the result of the incompatibility of the required one percent Technical Specification setpoint tolerance and the setpoint repeatability inherent to the Dresser 3707 RA safety valves which are installed. Based on ANSI OM-1 Committee Safety Valve Test Requirements which allow a three percent tolerance, steps are currently being taken to request a change to Technical Specification 3.7.1.1.

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)  D. C. COOK NUCLEAR PLANT-UNIT 1	DOCKET NUMBER (2)  0 5 0 0 0 3 1 5	LER NUMBER (6)			PAGE (3)		
		YEAR 9 0	SEQUENTIAL NUMBER 0 1 3	REVISION NUMBER 0 1			

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

This Supplemental Report is being submitted to provide additional information regarding the Main Steam Safety Valve Lift Setpoint testing initially reported on November 14, 1990.

Conditions Prior to Occurrence

Unit One - 68 Percent Reactor Thermal Power.

Description of Event

On October 17, 18, and 19, 1990, eleven of the twenty Unit 1 Main Steam Safety Valves (MSSV) (EIIS/SB-RV) lift setpoints were outside of the criteria required by plant Technical Specifications. One of the MSSV's lift setpoints was 5 psi below the Technical Specification setpoint. Ten MSSV lift setpoints ranged from 4 psi to 34 psi above the Technical Specification required setpoints. In each case the MSSV was declared inoperable prior to performance of the Surveillance Test Procedure. One safety valve had a lift setpoint that could not be determined in-place. In the original LER, the lift setpoint of 1-SV-3-2 was reported as being in excess of 1144 psig. An additional review of the test data revealed that the initial testing actually applied an opening force of 1135 psig. 1-SV-3-2 was removed, tested off-site, and found to have a lift setpoint of 1130 psig. The out of range safety valves were reset within their specified 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/SB-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 the as-found setpoints for MSSVs found out of specification are listed below:

<u>Date</u>	<u>Valve I.D. No.</u>	<u>Steam Gen.</u>	<u>T/S Range (PSIG)</u>	<u>As Found (PSIG)</u>	
10-17-90	1-SV-1B-4	4	1054-1076	1049	-5
10-17-90	1-SV-1A-1	1	1054-1076	1080	+4
10-17-90	1-SV-1B-1	1	1054-1076	1080	+4
10-18-90	1-SV-2A-1	1	1064-1086	1093	+7
10-18-90	1-SV-2B-1	1	1064-1086	1091	+5
10-18-90	1-SV-3-1	1	1075-1096	1115	+19
10-18-90	1-SV-1B-2	2	1054-1076	1083	+7
10-18-90	1-SV-2A-2	2	1064-1086	1117	+31
10-19-90	1-SV-3-3	3	1074-1096	1108	+14
10-19-90	1-SV-2B-2	2	1064-1086	1091	+5
10-19-90	1-SV-3-2	2	1074-1096	1130	+34

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

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 60.0 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 9 0	SEQUENTIAL NUMBER 0 1 3	REVISION NUMBER 0 1	0 3 OF 0 4	

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

Cause of Event

The safety valves did not meet the Technical Specification lift setpoint acceptance criteria due to setpoint drift. This condition is the result of the incompatibility of the required Technical Specification setpoint tolerance and the setpoint repeatability inherent to the valve's design.

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 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 1130 psig versus 1096 psig acceptable), would have resulted in the secondary side pressure reaching a value of 1164 psig (the high point set pressure plus the 3 percent above set pressure code allowable for a valve to attain rated lift.) The Secondary System is designed for 1065 psig plus 10 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.

Corrective Action

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.

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)	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	9 0	0 1 3	0 1	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-RT21

EIIS Code: SB-RV

Previous Similar Events

50-315/89-02

50-316/90-06

50-315/87-11

50-316/88-04

50-315/86-20