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RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 90-006-00:on 900625,failure of facility main steam safety valves to meet Tech Spec lift setpoint requirements.
W/9 ltr.

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July 18, 1990

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Operating Licenses DPR-75
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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:

90-006-00

Sincerely,

for A.A. Blind
Plant Manager

AAB:clj

Attachment

cc: D.H. Williams, Jr.
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NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/88

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
D. C. Cook Nuclear Plant - Unit 2	0 5 0 0 0 3 1 6	1 OF 0 4

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 5 0 0 0
0 6	2 5	9 0	9 0	0 0 6	0 0	0 7	1 9	9 0		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) 0 7 5	20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
	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)(i)	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)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
J. B. Droste - Plant Engineering	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
	S B	R V	D 2 4 3	Y					

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)	X NO				

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

Between June 25, 1990 and June 27, 1990, with the Unit 2 Reactor in Mode 1 (power operation) at 75 percent thermal power, eight of the twenty Main Steam Safety Valves (MSSV) lift setpoints were outside of criteria required by plant Technical Specifications. The MSSV lift setpoints ranged from 2 psi to 24 psi above the Technical Specification required range. The safety valves' setpoints were immediately 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 obtain a change to Technical Specification 3.7.1.1.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
D. C. Cook Nuclear Plant-Unit 2	0 5 0 0 0 3 1 6	9 0	— 0 0 6	— 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 Two - 75 Percent Reactor Thermal Power.

Description of Event

Between June 25, 1990 and June 27, 1990 eight of the twenty Unit 2 Main Steam Safety Valves (MSSV) (EIIS/SB-RV) lift setpoints were outside of criteria required by plant Technical Specifications. The MSSV's lift setpoints ranged from 2 psi to 24 psi above 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 high 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/SB-SG) in Unit 2 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:

Date	Valve I.D. No.	Steam Gen.	T/S Range (PSIG)	As Found (PSIG)
6-25-90	2-SV-1B-3	3	1054-1076	1096
6-26-90	2-SV-2A-2	2	1064-1086	1096
6-26-90	2-SV-2B-2	2	1064-1086	1110
6-26-90	2-SV-3-2	2	1074-1096	1098
6-27-90	2-SV-1A-1	1	1054-1076	1078
6-27-90	2-SV-1B-1	1	1054-1076	1088
6-27-90	2-SV-2B-1	1	1064-1086	1092
6-27-90	2-SV-3-1	1	1074-1096	1098

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

Cause of Event

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 1110 psig versus 1086 psig acceptable), potential consequences are that the pressure on the secondary side would reach a value of 1143 psig (the high point set pressure plus the 3 percent above set pressure code allowable for a valve to attain rated lift.) The consequence of the largest deviation noted would not have resulted in over pressurization of the system beyond its design criteria of 1356 psig.

Corrective Action

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 setpoints were then tested satisfactorily.

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

Failed Component Identification

Main Steam Safety Valve
Manufacturer: Dresser Consolidated Valves
Model: 3707RA-RT22
EIIS Code: SB-RV

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

Previous Similar Events

LER 50-315/86-020-00

LER 50-315/87-011-00

LER 50-316/88-004-00

LER 50-315/89-002-00

LER 50-315/89-002-01

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