

Indiana Michigan
Power Company
Cook Nuclear Plant
One Cook Place
Bridgman, MI 49106
616 465 5901



June 30, 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 50.73 entitled Licensee Event Report System, the
following report is being submitted:

92-003-01

Sincerely,

A. A. Blind
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
NRC Resident Inspector
J. F. Stang - NRC
J. G. Keppler
M. R. Padgett
G. Charnoff, Esq.
D. Hahn
INPO
S. J. Brewer/B. P. Lauzau
B. A. Svensson

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DCD-FE22

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.

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

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. 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

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-830), 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 (8)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
D. C. COOK NUCLEAR PLANT - UNIT 2	0 5 0 0 0 3 1 6 9 2 -	0 0 3	-	0 1	0 2 OF 0 5	

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

Updated report submitted to provide additional information for the Event, Cause, and Corrective Action descriptions.

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) (EIS/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 psig. The MSSV (2-SV-1A-3) that lifted 23 psig above the upper limit was 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.

Valve 2-SV-1A was sent off-site to a test facility for additional testing and repairs. After thermal stabilization of the safety valve, the initial lift occurred at 1091 psig. Sequential lifts were at 1058 psig, 1080 psig, and 1092 psig.

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

TEXT (If more space is required, use additional NRC Form 368A's) (17)

Description of Event continued:

The test results were reviewed with the manufacturer's Service Representative present at the test. Prior to disassembly, the vendor representative suggested that the erratic lifts could be caused by some internal problems such as binding/galling of the disc holder and disc guide. However, the inspection of the valve internals did not indicate that any binding or galling occurred.

The following observations were made during valve disassembly. The upper and lower ring settings were found to be acceptable. The disc holder and disc guide were in excellent condition. The disc and nozzle seats were in good condition and the spindle run out was acceptable. All valve internal dimensions were within the recommended tolerances. All findings were normal and none of the as-found conditions were considered to have any adverse impact on valve operation.

All of the original valve parts were reused. Prior to disassembly and following re-assembly of the valve, zero leakage was exhibited when leak tested at 90 percent of the lift setpoint. The as-left lift setpoint was 1063 psig.

Although the root cause of the setpoint drift could not be determined, the refurbishment of 2-SV-1A-3 provided good maintenance information. The vendor representative recommended taking the dimensions of all internal valve parts when the safety valves are disassembled.

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 root cause of the setpoint drift could not be determined.

No abnormal findings were noted during the disassembly of Safety Valve 2-SV-1A-3, that would contribute to the excessive lift setpoint and erratic lift values observed during the as-found testing at the off-site test facility. The Plant will continue to review and trend the Main Steam Safety Valve (MSSV) data. Industry problems on MSSVs will continue to be closely monitored.

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).

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-630), 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 (8)

PAGE (3)

YEAR	SEQUENTIAL NUMBER	REVISION NUMBER
92	003	01

D. C. COOK NUCLEAR PLANT - UNIT 2

0500031692-003-0104 OF 05

TEXT (If more space is required, use additional NRC Form 368A's) (17)

Analysis of Event continued:

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, in place, to acceptable values and retested satisfactorily.

Valve 2-SV-1A-3 was sent to an off-site laboratory for testing and repair. The valve was disassembled and no anomalies were found. Following reassembly of 2-SV-1A-3, it was successfully leak tested at 90 percent of the lift setpoint and reset to lift at 1063 psig.

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 (as-found).

The Maintenance Procedure used for disassembly and repair of the MSSVs is being revised to include requirements to take dimensions of the valve internals. This procedure change will provide additional information for the MSSV trending/review activities and help ensure standardization and consistency of refurbishment work. The maintenance procedure change/revision is scheduled to be completed prior to the Unit 1 MSSV repairs.

EXPIRES: 4/30/92

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)

DOCKET NUMBER (2)

LER NUMBER (6)

PAGE (3)

D. C. COOK NUCLEAR PLANT - UNIT 2

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YEAR	SEQUENTIAL NUMBER	REVISION NUMBER
9 2	— 0 0 3	— 0 1

0 | 5 | OF | 0 | 5

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

Corrective Action continued:

A review of the previous Main Steam Safety Valve failures has indicated that most of the out-of-specification lifts were high. The Main Steam Safety Valve Surveillance Procedure, was modified to include a preferred range for the as-left lift setpoints. The preferred range is on the lower end of the Technical Specification band. This will allow for some setpoint drift and still be within the Technical Specification limits.

Example: The safety valves, with a Technical Specification lift setpoint range of 1075 +/- one percent (1064-1086 psig), have a preferred as-left setpoint range of 1064-1070 psig.

Failed Component Identification:

Main Steam Safety Valve
Manufacturer: Dresser Consolidated Valves
Model: 3707RA-RT22
EIIIS 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	

ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9207070325 DOC. DATE: 92/06/30 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 92-003-01: on 920219, 20 & 21, 7 of 20 main steam safety
 valve lift setting found outside of TS established limites.
 Caused by setpoint drift. Setpoint ranges reset & maint
 procedure for valve repair revised. W/920630 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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	STANG, J	1 1		
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	AEOD/DSP/TPAB	1 1	AEOD/ROAB/DSP	2 2
	NRR/DET/EMEB 7E	1 1	NRR/DLPQ/LHFB10	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/SICB8H3	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 MURPHY, G.A	1 1
	NSIC POORE, W.	1 1	NUDOCS FULL TXT	1 1

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Indiana Michigan
Power Company
Cook Nuclear Plant
One Cook Place
Bridgman, MI 49106
616 465 5901



June 30, 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 50.73 entitled Licensee Event Report System, the
following report is being submitted:

92-003-01

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
NRC Resident Inspector
J. F. Stang - NRC
J. G. Keppler
M. R. Padgett
G. Charnoff, Esq.
D. Hahn
INPO
S. J. Brewer/B. P. Lauzau
B. A. Svensson

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PDR ADDCK 05000316
S PDR

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-630), 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 2										DOCKET NUMBER (2) 0 5 0 0 0 3 1 6 1				PAGE (3) OF 0 5		
TITLE (4) FAILURE OF THE UNIT TWO MAIN STEAM VALVES TO MEET TECHNICAL SPECIFICATION LIFT SETPOINT REQUIREMENTS 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 NAMES				DOCKET NUMBER(S)			
0 2	1 9	9 2	2 9	2 0 0 3	0 1	0 6	3 0	9 2					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)		20.405(a)(1)(i)				50.38(e)(1)				50.73(a)(2)(v)				73.71(c)		
0 7 1 0		20.405(a)(1)(ii)				50.38(e)(2)				50.73(a)(2)(vi)				OTHER (Specify in Abstract below and in Text, NRC Form 368A)		
		20.405(a)(1)(iii)				X 50.73(a)(2)(i)				50.73(a)(2)(vii)(A)						
		20.405(a)(1)(iv)				50.73(a)(2)(ii)				50.73(a)(2)(vii)(B)						
		20.405(a)(1)(v)				50.73(a)(2)(iii)				50.73(a)(2)(x)						
LICENSEE CONTACT FOR THIS LER (12)																
NAME G. A. WEBER - PLANT ENGINEERING SUPERINTENDENT										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 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
YES (If yes, complete EXPECTED SUBMISSION DATE)												X NO				
ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)																

Updated report submitted to provide additional information for the Event, Cause, and Corrective Action descriptions.

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 psig. The MSSV that lifted 23 psig above the upper limit was sent to an offsite lab for additional evaluation by a vendor representative. No adverse condition was found during the valve disassembly and the cause for the excessive lift setpoint could not be determined. 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. 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

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

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

Updated report submitted to provide additional information for the Event, Cause, and Corrective Action descriptions.

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 psig. The MSSV (2-SV-1A-3) that lifted 23 psig above the upper limit was 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.

Valve 2-SV-1A was sent off-site to a test facility for additional testing and repairs. After thermal stabilization of the safety valve, the initial lift occurred at 1091 psig. Sequential lifts were at 1058 psig, 1080 psig, and 1092 psig.

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

TEXT (If more space is required, use additional NRC Form 368A's) (17)

Description of Event continued:

The test results were reviewed with the manufacturer's Service Representative present at the test. Prior to disassembly, the vendor representative suggested that the erratic lifts could be caused by some internal problems such as binding/galling of the disc holder and disc guide. However, the inspection of the valve internals did not indicate that any binding or galling occurred.

The following observations were made during valve disassembly. The upper and lower ring settings were found to be acceptable. The disc holder and disc guide were in excellent condition. The disc and nozzle seats were in good condition and the spindle run out was acceptable. All valve internal dimensions were within the recommended tolerances. All findings were normal and none of the as-found conditions were considered to have any adverse impact on valve operation.

All of the original valve parts were reused. Prior to disassembly and following re-assembly of the valve, zero leakage was exhibited when leak tested at 90 percent of the lift setpoint. The as-left lift setpoint was 1063 psig.

Although the root cause of the setpoint drift could not be determined, the refurbishment of 2-SV-1A-3 provided good maintenance information. The vendor representative recommended taking the dimensions of all internal valve parts when the safety valves are disassembled.

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 root cause of the setpoint drift could not be determined.

No abnormal findings were noted during the disassembly of Safety Valve 2-SV-1A-3, that would contribute to the excessive lift setpoint and erratic lift values observed during the as-found testing at the off-site test facility. The Plant will continue to review and trend the Main Steam Safety Valve (MSSV) data. Industry problems on MSSVs will continue to be closely monitored.

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).

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 2	0 5 0 0 0 3 1 6	9 2	- 0 0 3	- 0 1	0 4	OF 0 5	

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

Analysis of Event continued:

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, in place, to acceptable values and retested satisfactorily.

Valve 2-SV-1A-3 was sent to an off-site laboratory for testing and repair. The valve was disassembled and no anomalies were found. Following reassembly of 2-SV-1A-3, it was successfully leak tested at 90 percent of the lift setpoint and reset to lift at 1063 psig.

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 (as-found).

The Maintenance Procedure used for disassembly and repair of the MSSVs is being revised to include requirements to take dimensions of the valve internals. This procedure change will provide additional information for the MSSV trending/review activities and help ensure standardization and consistency of refurbishment work. The maintenance procedure change/revision is scheduled to be completed prior to the Unit 1 MSSV repairs.

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) D. C. COOK NUCLEAR PLANT - UNIT 2	DOCKET NUMBER (2) 0 5 0 0 0 3 1 6	LER NUMBER (6)				PAGE (3)			
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER					
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TEXT (If more space is required, use additional NRC Form 366A's) (17)

Corrective Action continued:

A review of the previous Main Steam Safety Valve failures has indicated that most of the out-of-specification lifts were high. The Main Steam Safety Valve Surveillance Procedure, was modified to include a preferred range for the as-left lift setpoints. The preferred range is on the lower end of the Technical Specification band. This will allow for some setpoint drift and still be within the Technical Specification limits.

Example: The safety valves, with a Technical Specification lift setpoint range of 1075 +/- one percent (1064-1086 psig), have a preferred as-left setpoint range of 1064-1070 psig.

Failed Component Identification:

Main Steam Safety Valve
Manufacturer: Dresser Consolidated Valves
Model: 3707RA-RT22
EIIIS 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	