

# ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

## REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9206110149 DOC. DATE: 92/05/27 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 92-006-00: on 920427, two of three pressurized safety valves sent for testing & failed to meet TS required test criteria. Cause could not be determined. No preventive action taken. W/920527 ltr.

DISTRIBUTION CODE: IE22T COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 4  
 TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

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EXTERNAL:	EG&G BRYCE, J.H		3	3		L ST LOBBY WARD		1	1
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May 27, 1992

United States Nuclear Regulatory Commission  
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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:

92-006-00

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  
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B. A. Svensson

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JUN 4 1992  
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## 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) D. C. COOK NUCLEAR PLANT - UNIT 2										DOCKET NUMBER (2) 0 5 0 0 0 3 1 1 6 1				PAGE (3) 1 OF 0 3		
TITLE (4) FAILURE OF TWO PRESSURIZER SAFETY VALVES TO MEET TECHNICAL SPECIFICATION REQUIRED SURVEILLANCE TEST CRITERIA																
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 4	2 7	9 2	9 2	0 0 6	0 0	0 5	2 7	9 2					0 5 0 0 0			
OPERATING MODE (9) 5		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)														
POWER LEVEL (10) 0 1 0 1 0		20.402(b)				20.406(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)		
		20.406(a)(1)(ii)				50.38(c)(2)				50.73(a)(2)(vi)				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)(vii)(A)						
		20.406(a)(1)(iv)				50.73(a)(2)(ii)				50.73(a)(2)(vii)(B)						
		20.406(a)(1)(v)				50.73(a)(2)(iii)				50.73(a)(2)(ix)						
LICENSEE CONTACT FOR THIS LER (12)																
NAME G. A. WEBER - PLANT ENGINEERING SUPERINTENDENT										TELEPHONE NUMBER AREA CODE 6 1 6 4 6 5 - 5 9 1 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	A B	R V	C 7 1 0	Y												
SUPPLEMENTAL REPORT EXPECTED (14)												EXPECTED SUBMISSION DATE '95		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) (15)

On April 27, 1992 with Unit 2 in Mode 5 (Cold Shutdown) it was determined that two of three pressurizer safety valves, which were sent to an off site test laboratory for testing, were found with lift settings outside of the Technical Specification acceptance criteria. Acceptable settings are between 2461 psig and 2509 psig. Valve 2-SV-45A was found to have a lift setpoint of 2556 psig and valve 2-SV-45C had a lift setpoint of 2531 psig. The remaining Pressurizer Safety Valve had an acceptable lift setting. The cause for the setpoint drift could not be determined.

There was no safety-significance since the worst case (2-SV-45A lift setpoint of 2556 psig) would result in a maximum transient pressure of 2633 psig (2556 psig plus 3 percent accumulation to attain its full rated lift). This is below the Technical Specification safety limit of 2735 psig.

Both 2-SV-45A and 2-SV-45C were completely disassembled, inspected, and critical dimensions taken. Although there were no problems noted and all dimensions were within tolerances; the disk, nozzle, and eductor were lapped to increase the clearances. The valves were reassembled and tested satisfactorily. The safety valve conditions experienced at the D. C. Cook Plant are similar to current industry trends/concerns. Since a specific Root Cause could not be determined, no preventive action is planned at this time. However, we will be evaluating the test methods and industry activities pertaining to the pressurizer safety valves.

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

0 5 0 0 0 3 1 6

YEAR SEQUENTIAL NUMBER REVISION NUMBER

9 2 - 0 0 6 - 0 0 0 2 OF 0 3

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

Conditions Prior to Occurrence

Unit Two - Mode 5 (Cold Shutdown - following refueling).

Description of Event

On April 27, 1992, it was determined that two of the three pressurizer safety valves (EIIS/AB-RV) had lift settings outside Technical Specification 3.4.3 acceptance criteria. The safety valves are tested at a test laboratory using steam at nominal temperature and pressure, as required by Technical Specifications. The valves are required to lift at 2485 psig plus or minus 1 percent, (i.e. between 2461 and 2509 psig). Replacement valves tested by the same laboratory have been installed in place of the three valves removed for testing. Valve 2-SV-45A lifted at 2556 psig and 2-SV-45C lifted at 2531 psig. The third valve, 2-SV-45B, has an acceptable lift setpoint. Technical Specification Surveillance 4.4.3 requires that each Pressurizer Code Safety Valve be demonstrated operable per Section XI of the ASME Boiler and Pressure Vessel Code, 1974 Edition.

Cause of Event

The vendor could not conclusively determine the cause for the 2-SV-45A or 2-SV-45C setpoint drift. The safety valve conditions experienced at the D. C. Cook Plant are similar to current industry trends/concerns.

Both 2-SV-45A and 2-SV-45C were completely disassembled, inspected, and critical dimensions taken. Although there were no problems noted and all dimensions were within tolerances; the disk, nozzle, and eductor were lapped to increase the clearances. The valves were reassembled and tested satisfactorily.

Analysis of Event

This event has been determined to be reportable under the provisions of 10CFR50.73(a)(2)(i)(B) as an operation prohibited by Plant Technical Specification 3.4.3, which requires all of the pressurizer safety valves to be operable with a lift setting of 2485 psig +/- 1 percent.

The as-found lift setpoints of safety valves 2-SV-45A and 45C did not have any actual impact on the Reactor Coolant System (RCS) since the safety valves were not challenged during the last fuel cycle. There was no potential impact since the RCS would not have exceeded the maximum transient limit of 2735 psig, which is 110 percent of design pressure (2485 psig). There was no impact on the health or safety of the public.

Safety Valve 2-SV-45A (worst case) had a lift setpoint of 2556 psig. The RCS pressure would have to reach a pressure of 2633 psig (2556 psig plus 3 percent accumulation) for this valve to attain its full rated lift. Valve 2-SV-45C would have attained its rated lift at 2607 psig (2531 psig plus 3 percent).

The reactor vessel and pressurizer were designed to ASME B&PV Section III which permits a maximum transient pressure of 2735 psig, 110 percent of design pressure (2485 psig). The RCS piping, valves and fittings are designed to



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FACILITY NAME (1)

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D. C. COOK NUCLEAR PLANT - UNIT 2

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TEXT (If more space is required, use additional NRC Form 365A's) (17)

Analysis of Event Continued

ANSI B31.1, 1967 Edition, which permits a maximum transient pressure of 2985 psig, 120 percent of design pressure (2485 psig).

In addition, the entire RCS was hydro tested to 3107 psig, 125 percent of design (2485), to demonstrate system integrity prior to initial operation.

In conclusion, this event did not have any safety significance. The safety limit of 2735 psig would not have been exceeded since the maximum RCS pressure would not have exceeded 2633 psig (2-SV-45A setpoint of 2556 psig plus 3 percent). This event did not have any safety significance and did not represent a hazard to the public health and safety.

Corrective Action

The disc, nozzle, and eductor were lapped in both safety valves (2-SV-45A and C). Retests were satisfactorily completed for steam set pressure and seat leakage.

Since a specific Root Cause could not be determined, no preventive action is planned at this time. However, we will be evaluating the test methods and industry activities pertaining to the pressurizer safety valves.

Failed Component Identification

Pressurizer Safety Valve Plant Designation: 2-SV-45A and 2-SV-45C  
Manufacturer: Crosby Valve Company  
Model: HB-86-BP  
EIIIS Code: AB-RV

Previous Similar Events

LER: 50-315/90-16  
LER: 50-316/89-04