

# ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

## REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9102260256 DOC. DATE: 91/02/15 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 90-015-01: on 901102, containment Type B & C leakage exceeded LCO value w/RCS in Mode 5. Caused by degradation of isolation valve seat surface & neoprene in valves. O-rings replaced. W/910215 ltr.

DISTRIBUTION CODE: IE22T COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 7  
 TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

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	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
	<del>REG-FILE</del> 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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February 15, 1991

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:

90-015-01

Sincerely,

A handwritten signature in cursive script, appearing to read "A. A. Blind".

A. A. Blind  
Plant Manager

AAB/cbm

Attachment

c: D. H. Williams, Jr.  
A. B. Davis, Region III  
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P. A. Barrett  
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R. F. Kroeger  
B. Walters - Ft. Wayne  
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IE22



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S&A Department File

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					PAGE (3) 1   OF   0   5				
TITLE (4) CONTAINMENT TYPE B AND C LEAKAGE EXCEEDS L.C.O. VALUE DUE TO DEGRADATION OF ISOLATION VALVE SEATING SERVICES																								
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	1	0	22	9	0	9	0	0	1	5	0	1	0	2	1	5	9	1	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)																					
5			20.402(b)					20.405(c)					50.73(a)(2)(iv)					73.71(b)						
POWER LEVEL (10)			20.405(a)(1)(i)					50.36(c)(1)					50.73(a)(2)(v)					73.71(c)						
0   0   0			20.405(a)(1)(ii)					50.36(c)(2)					50.73(a)(2)(vii)					OTHER (Specify in Abstract below and in Text, NRC Form 365A)						
			20.405(a)(1)(iii)					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 SUPERINTENDENT															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 NRC		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC														
X	B   D	I   T   K	X   9   9   9	Y		X	C   B	I   S   V	C   6   3   1	Y														
X	C   B	I   S   V	C   6   3   1	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)

The measured leakage for the Weld Channel Pressurization System Valve Enclosure Manway for 1-ICM-305 (EIIS:TK/BD) was 94 percent of the measured Type B and C leak rate. 1-CS-442-1 and 1-CS-442-3 (EIIS:ISV/CB) are Containment Isolation Valves for the seal water injection lines to Reactor Coolant Pump Nos. 11 and 13 and had unquantifiable leak rates. The three deficiencies would not have resulted in any additional leakage from containment, due to their function in an accident. There was no leakage into the ICM-305 valve enclosure therefore, it would not have been a contributor. The final Type B and C leak rate was 0.112 La.

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.

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		YEAR 9 0	SEQUENTIAL NUMBER - 0 1 5	REVISION NUMBER - 0 1	0 2	OF 0 5	

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

This supplemental report is being submitted to provide additional information regarding the Type B and C Leak Rate Testing initially reported on November 11, 1990.

Conditions Prior to Occurrence

Unit-1 in Mode 5 (Cold Shutdown)

Description of Event

With the Reactor Coolant System in Mode 5 (Cold Shutdown), the measured leakage, using the maximum pathway methodology, for the Type B and C Leak Rate Tests on Containment penetrations was 6.74 La. In addition, there were two penetrations that had leak rates that could not be quantified. This exceeded the L.C.O. value (0.60 La) of Technical Specification 3.6.1.2.b.

The measured leak rate for the Weld Channel Pressurization System Valve Enclosure Manway for 1-ICM-305 (EIIS:TK/BD) was 94 percent of the measured Type B and C leak rate. Check valves 1-CS-442-1 and 1-CS-442-3 (EIIS:ISV/CB) are Containment Isolation Valves for the seal water injection lines to Reactor Coolant Pump Nos. 11 and 13, respectively. These valves had leak rates that could not be quantified.

Cause

The excessive leak rate of 1-ICM-305 valve enclosure manway cover was caused by a portion (approximately 12 inches) of the O-ring being out of its channel. This manway cover was last installed on June 10, 1989. On June 11, 1989 the valve enclosure was tested and had a leak rate of 1500 sccm. When the manway cover was removed, a portion of the O-ring fell off. The corresponding portion of the O-ring groove was full of grease that is used to lubricate the O-ring. It is believed that a portion of the O-ring was pulled out of its channel when the manway cover was aligned for bolting. The grease used on the O-ring, when it was installed, must have provided a sufficient seal to allow the valve enclosure to pass the June 11, 1989 Leak Rate Test, but degraded since then.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

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

Cause Continued

The excessive leak rates for 1-CS-442-1 and 1-CS-442-3 are attributed to pieces of neoprene found in the valves. A small piece was found in 1-CS-442-1 and a piece approximately 0.19 inches in diameter was found in 1-CS-442-3. These check valves are downstream of the seal water filters. The neoprene pieces found in 1-CS-442-1 and 1-CS-442-3 are believed to have come from the seal water filters and either broke off during filter replacement, or were trapped by the filter and fell off during removal. This is the first time we have experienced such problems.

Corrective Actions

The 1-ICM-305 valve enclosure manway cover O-ring was replaced. A retest indicated no leakage (000 sccm). The Maintenance procedure, for installation of the manway cover, will be reviewed by February 28, 1991 to ensure adequate direction is in place to assure proper fit-up of the manway cover/O-ring seal.

Valve 1-CS-442-1 had the small piece of neoprene removed. The seat was lapped and the disc was replaced. The as-left leak rate was 40 sccm. Valve 1-CS-442-3 had the piece of neoprene removed. No additional repair actions were necessary. The as-left leak rate was 65 sccm. The Maintenance procedure used for replacement of the Seal Water Injection Filters will be reviewed, by February 28, 1991 to ensure that adequate steps are in-place to prevent the introduction of material to the system during seal replacement. In addition, the reason for the filter seal degradation is under investigation and will be completed by March 15, 1991.

Other Containment Isolation Valves that exhibited leak rates in excess of the guideline acceptance criteria were repaired and retested to ensure the leak rates were within allowable limits. The final as-left Type B and C leak rate was 0.112 La.



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 1	DOCKET NUMBER (2)  0 5 0 0 0 3 1 5 9 0	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)

Analysis

The ICM-305 valve enclosure is outside of the containment and provides a containment barrier for any leakage from ICM-305, the Containment Sump Recirculation Isolation Valve. This valve enclosure is not part of the containment integrated leak rate test boundary. therefore, an additional leak into the enclosure would have to have developed for radioactivity to escape out of the containment. No other leaks were discovered in this valve enclosure during the as-found testing or during the as-left testing. Therefore, if the containment had been pressurized and radioactivity had been released into the containment atmosphere, the radioactivity would have been contained within the containment. The public health and safety was never threatened by this condition.

Valves 1-CS-442-1 and 1-CS-442-3 are located in the Reactor Coolant Pump Seal Water Injection System. Both of these valves were found with foreign material in the seat area and were unable to fully close. The leakage from these valves could not be quantified. These check valves would not be required to isolate the containment during an accident scenario as the Reactor Coolant Pump Seal Water Injection System remains in service following a design basis accident, preventing a flow path from containment to the outside atmosphere. If a postulated break in either of these lines occurred, containment integrity would be maintained by the two check valves, located in each line inside containment and downstream of 1-CS-442-1 and 1-CS-442-3.

This event has been determined to be reportable under 10 CFR 50.73 (a)(2)(i)(C). Based on the above, however, it has also been determined that this condition did not create a significant safety concern. The as-found condition of the containment would not have put the plant in an unsafe condition.

Failed Component Identification

Component name: 1-ICM-305 Valve Enclosure  
Plant I.D. No.: 1-TK-84 (EIIS:TK/BD)  
Manufacturer: Unknown  
Model No.: Unknown



LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATIONESTIMATED 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  
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FACILITY NAME (1)

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D. C. COOK NUCLEAR PLANT - UNIT 1

0 5 0 0 0 3 1 5

YEAR

SEQUENTIAL  
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NUMBER

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0 1

0 5 OF 0 5

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

Failed Component Identification ContinuedComponent name: Reactor Coolant Pump No. 11 Seal Water  
Injection Containment Isolation Valve

Plant I.D. No.: 1-CS-442-1, (EIIS:ISV/CB)

Manufacturer: Conval, Inc.

Model No.: 12C2

Component name: Reactor Coolant Pump No. 13 Seal Water  
Injection Containment Isolation Valve

Plant I.D. No.: 1-CS-442-3 (EIIS:ISV/CB)

Manufacturer: Conval, Inc.

Model No.: 12C2

Previous Similar EventsPrevious Licensee Event Reports submitted for excessive type  
B & C Leak Rate Test results include:

050-315/79-34

050-316/79-20

050-315/81-11

050-316/79-53

050-315/81-25

050-316/81-18

050-315/82-58

050-316/83-16

050-315/83-72

050-316/84-05

050-315/85-17

050-316/86-09

050-315/87-12

050-316/89-05

050-315/89-04

050-316/90-07

