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BLIND,A.A. Indiana Michigan Power Co. (formerly Indiana & Michigan Ele
RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 92-002-00:on 890124,containment isolation valves not repaired when ASME section XI leakrate acceptance criteria exceeded.Caused by procedure requirements not being included in test procedure.Packing replaced.W/920313 ltr.

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TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

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INDIANA MICHIGAN POWER

March 13, 1992

United States Nuclear Regulatory Commission
Document Control Desk
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Docket No. 50-316

Document Control Manager:

In accordance with the criteria established by 10 CFR 50.59 entitled Licensee Event Report System, the following report is being submitted:

92-002-00

Sincerely,

A. A. Blind
Plant Manager

/sb

Attachment

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IE22

NRC FORM 366 (6-89) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104
EXPIRES: 4/30/92

ESTIMATED BURDEN PER RESPONSE TO COMPLY WTH 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.

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) CONTAINMENT ISOLATION VALVES NOT REPAIRED WHEN ASME SECTION XI LEAKRATE ACCEPTANCE CRITERIA EXCEEDED

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 1	2 4	8 9	9 2	0 0 2	0 0	0 3	1 3	9 2		0 5 0 0 0
										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 0 0	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
		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
G. A. WEBER - 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 NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS
B	J M	I S V	D 0 2 0	Y					
B	J M	I S V	D 0 2 0	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)

During a review of IST Valve Program Test Data, the ISI Engineer discovered that the Boron Injection Tank Outlet Valves, 2-ICM-250 and 2-ICM-251, had been returned to service following the 1989 Unit 2 Steam Generator Replacement Outage with seat leakage in excess of the established ASME Section XI leakage limits. The valves remained in service until August, 1990 when the Unit was shut down for refueling. During the outage, the valves were retested. Valve 2-ICM-250 was found to meet the leakage limit, while 2-ICM-251 was found to significantly exceed the limit. Subsequently, stem packing was replaced in both valves. Both valves were then retested and found to be within leakage limits.

Allowing the valves to be returned to service following the 1989 outage, while being outside Section XI limits, was due to a procedural deficiency affecting Section XI valves which were tested under the Containment Local Leak Rate Test (LLRT) procedure. Until this condition was discovered, the procedure only included acceptance criteria for the LLRT, which, in certain circumstances, can be less restrictive than Section XI limits. The Unit 2 LLRT procedure has been revised to include the Section XI limits; the Unit 1 procedure is scheduled for revision prior to its next use.

Conditions Prior to Occurrence

Unit-2 in Mode 5 (Cold Shutdown)

Description of Event

During a review of the IST Valve Program Test Data, the ISI Engineer discovered that Valves 2-ICM-250 (EIIS/ISV-JM) and 2-ICM-251 (EIIS/ISV-JM) had been returned to service following the Unit 2 1989 Steam Generator Replacement Outage, with seat leakage in excess of the ASME Section XI permissible leakage value of 600 sccm, as identified in the Second 10-Year Interval Long-Term Inservice Examination and Testing Plan for Class 1, 2, and 3 Systems and Components for D.C. Cook Plant, Unit 2. Valves 2-ICM-250 and 2-ICM-251 are the Boron Injection Tank Outlet Valves. Valve 2-ICM-250 was returned to service with a leakrate of 806.8 sccm and 2-ICM-251 was returned to service with a leakrate of 704.7 sccm.

The valves were in service from January of 1989 until they were retested during the next Refueling Outage in August of 1990. The August, 1990 tests revealed that 2-ICM-250 had a leakrate of 289.4 sccm and 2-ICM-251 had a leakrate of 9466.9 sccm. Following replacement of the valve packing, 2-ICM-250 was returned to service with a 119.3 sccm leakrate. Following the replacement of the valve stem packing and torque switch adjustment of the motor operator, 2-ICM-251 was returned to service with a leakrate of 163.5 sccm. Valves ICM-250 and 251 are double disc gate valves. The leakrate is measured by pressurizing the valve body between the seats. Any valve stem packing leakage is included in the leak rate measurement.

A review of the test data prior to the 1989 tests revealed that acceptable test results were obtained in June, 1988. Valve 2-ICM-250 had a leakrate of 219.0 sccm and 2-ICM-251 had a leakrate of 239.3 sccm. Between the 1988 and the 1989 tests, the unit was in a Steam Generator Replacement Outage.

The ISI Engineer was in the process of assuming the IST Valve Program duties, for the valves in the Containment Local Leakrate (LLRT) Test Procedure and identified this discrepancy while entering the test data into the IST Valve Program. Credit was taken for the Section XI reviews as being part of the LLRT, without specific Section XI acceptance criteria in the procedure. The LLRT Procedure is identified on-site as the Type B and C Leakrate Test (1 and 2 EHP 4030 STP.203) and fulfills the requirements of 10CFR Appendix-J and Technical Specifications Type B and C Testing.

Cause of Event

At the time of this event, specific procedural requirements were not included in the appropriate test procedure which would detect that the ASME Section XI Guideline and Maximum Permissible Leakrate Limits were not exceeded. The Type B and C Leakrate Test Procedures (1 and 2 THP 4030 STP.203) did not fully implement the requirement for analysis of leakage rates and the corrective action requirements of Paragraphs IWV-3426 and 3427(a). The B and C Test Engineer's primary concern was fulfilling Technical Specification and 10CFR50, Appendix-J requirements. An independent review of the test data was not performed for Section XI purposes. The Test Engineer was also required to perform the Section XI reviews for these particular valves.

The excessive leak rates for 2-ICM-250 and 251 is attributed to packing leakage. Following replacement of the packing, acceptable leakrates were obtained.

Analysis of Event

Valves 2-ICM-250 and 2-ICM-251 have two safety functions. On a safety injection signal the valves open to allow the charging pumps to inject make-up water to the Reactor Coolant System (RCS). The valves may also be required to be closed to establish Containment Integrity. When used for Containment Isolation, the maximum seat leakage is determined by the Containment Local Leakrate Test (LLRT), which is conducted to satisfy 10CFR50 Appendix-J Type C Testing. The leakrate for all penetrations and valves subject to the Type B and C Leakrate Test is required to be less than 0.6 La. The total Type B and C leakrate was 0.076 La, well below the 0.6 La limit, despite the leakage contribution of these valves.

This event was determined to be reportable per the requirements of 10CFR50.73, Paragraph (a)(2)(i)B as a condition prohibited by the Plant's Technical Specifications. The condition did not represent a significant threat to public safety since these valves were capable of performing their safety functions.

Corrective Actions

The valve stem packing was replaced on both 2-ICM-250 and 251.

The Type B and C Leakrate Test Procedures (1 and 2 THP 4030 STP.203) are being revised to ensure that the ASME Section XI reviews are completed prior to entering Mode 4, when Containment integrity is required by Technical Specifications. 2 THP 4030 STP.203 has been revised and 1 THP 4030 STP.203 is scheduled to be revised by June 30, 1992, prior to its next use.

The ISI Program Engineer now performs an independent review of the Type C Test Data for those valves in the IST Valve Program. This review ensures that the Section XI maximum permissible criteria and leakrate trending activities are satisfactorily completed. This duty was previously performed by the B and C Test Engineer whose primary concern was fulfilling Technical Specification and 10CFR50, Appendix-J requirements.

Failed Component Identification

Component Name: Boron Injection Tank Train-A Outlet Containment Isolation Valve
Component ID: 2-ICM-250
Manufacturer: Anchor/Darling Valve Co.
Model No.: S 350 WDD

Component Name: Boron Injection Tank Train-B Outlet Containment Isolation Valve
Component ID: 2-ICM-251
Manufacturer: Anchor/Darling Valve Co.
Model No.: S 350 WDD

Previous Similar Events

This is the first event of this type.