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FACIL: 50-305 Kewaunee Nuclear Power Plant, Wisconsin Public Servic 05000305
AUTH. NAME AUTHOR AFFILIATION
GAUGER, B. R. Wisconsin Public Service Corp.
HINTZ, D. C. Wisconsin Public Service Corp.
RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 87-010-00: on 870904, Tech Specs pertaining containment integrity provisions violated. Caused by reactor operator failing to recognize valve administratively inoperable. Informal review with personnel involved. W/871005 ltr.

DISTRIBUTION CODE: IE22D COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 5
TITLE: 50.73 Licensee Event Report (LER), Incident Rpt, etc.

NOTES:

	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL
	PD3-3 LA	1	1	PD3-3 PD	1	1
	QUAY, T	1	1			
INTERNAL:	ACRS MICHELSON	1	1	ACRS MOELLER	2	2
	AEOD/DOA	1	1	AEOD/DSP/NAS	1	1
	AEOD/DSP/ROAB	2	2	AEOD/DSP/TPAB	1	1
	DEDRO	1	1	NRR/DEST/ADS	1	0
	NRR/DEST/CEB	1	1	NRR/DEST/ELB	1	1
	NRR/DEST/ICSB	1	1	NRR/DEST/MEB	1	1
	NRR/DEST/MTB	1	1	NRR/DEST/PSB	1	1
	NRR/DEST/RSB	1	1	NRR/DEST/SGB	1	1
	NRR/DLPQ/HFB	1	1	NRR/DLPQ/QAB	1	1
	NRR/DOEA/EAB	1	1	NRR/DREP/RAB	1	1
	NRR/DREP/RPB	2	2	NRR/DRIS/SIB	1	1
	NRR/PMAS/ILRB	1	1	REG FILE 02	1	1
	RES DEPY GI	1	1	RES TELFORD, J	1	1
	RES/DE/EIB	1	1	RGN3 FILE 01	1	1
EXTERNAL:	EG&G GROH, M	5	5	H ST LOBBY WARD	1	1
	LPDR	1	1	NRC PDR	1	1
	NSIC HARRIS, J	1	1	NSIC MAYS, G	1	1

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NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES 8/31/85

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Kewaunee Nuclear Power Plant	0 5 0 0 0 3 0 5	1 OF 0 4

TITLE (4)

Violation of Technical Specifications on Containment Integrity Due to Operator Error

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 9	0 4	8 7	8 7	0 1 0	0 0	1 0	0 4	8 7	NA	0 5 0 0 0
										0 5 0 0 0

OPERATING MODE (9)	N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
POWER LEVEL (10)	1 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
Brad R. Gauger - Associate Engineer	AREA CODE 4 1 4 3 8 8 - 2 5 6 0

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	

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

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

On September 4, 1987, at 0226 CDT with the plant at 100% power, Technical Specifications pertaining to Containment Integrity provisions were violated. The redundant Containment Isolation (CI) Sump A Discharge Control Valves (MD(R)-134 and MD(R)-135) were opened while valve MD(R)-134 was considered inoperable. The Reactor Operator opened both valves in response to a High Containment Sump level alarm per Operating Procedure A-MDS-30. Valve MD(R)-134 was administratively inoperable because it had not been completely retested following replacement of its associated solenoid valve.

The root cause of the event was the Reactor Operator failing to recognize that valve MD(R)-134 was administratively inoperable. In addition, Design Change Procedure 1544-15 failed to adequately identify valves MD(R)-134 and MD(R)-135 as redundant containment isolation valves.

Containment Isolation valve, MD(R)-134, satisfactorily completed its retest requirements without any further adjustments on the subsequent work shift the next day. The valve was declared operable at 1210 on September 4.

Immediate corrective actions included an informal review with the personnel involved. Other corrective actions will include reviewing the CI system with Operations personnel during requalification training, revising the applicable Administrative Control Directive pertaining to Design Change Procedures, reviewing the incident with the Design Change personnel, and reviewing the incident with Plant Operations personnel.

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FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Kewaunee Nuclear Power Plant	0 5 0 0 0 3 0 5	8 7	— 0 1 0	— 0 0	0 2 OF 0 4

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

Description of Event

On September 3, 1987 with the plant at 100% power, the solenoid valve [PSV] for the air operated Containment Sump Pumps Discharge Header Isolation Control Valve [FCV] (MD(R)-134) was replaced under a plant design change. This rendered the control valve administratively inoperable per Technical Specification (TS) definition 1.0.e, until a retest could be performed in accordance with Article IWV-3200 of the ASME Boiler and Pressure Vessel Code Section XI, 1980 Edition including addenda through Winter 1981 (1980W81). Compliance with the ASME Code is required by TS 4.2.a.2.

The Design Change Procedure, No. 1544-15, replaced the existing solenoid valve on control valve MD(R)-134 with an upgraded model. The power fuses [FU] for the solenoid valve were removed (deenergizing the valve) and the status was controlled by a HOLD card during the process of physically replacing the component. Administrative Control Directive 4.3 "Tagout Control", states that a HOLD card is used only for the protection of lives and a DANGER card is used to protect equipment or warn of an unusual or dangerous condition. Therefore, after the new solenoid valve was installed, the HOLD card was removed from the fuse block and replaced with a DANGER card to allow retesting.

Due to quality control questions, the electrical contractor personnel did not have adequate time to complete the retest requirements in a single day shift. They intended to leave the components, e.g. fuses and control room switch [33], DANGER tagged until the retest could be performed on the next day.

At the request of plant operations personnel, the fuses were reinstalled and the DANGER card was removed from the fuses at 1530 on September 3, before the electricians left for the day. This action was in accordance with the first section of the procedural retest. This allowed operations greater flexibility should they need to operate the valve. The retest included a valve travel timing test, annunciator verification and leakage check of installed tubing.

On September 4, at 0226 CDT upon actuation of Containment Sump A high level alarm [LA], a Reactor Operator after finding the valve energized and no DANGER card present on the fuse block, proceeded to pump the Containment Sump A per Operating Procedure A-MDS-30. The Reactor Operator noted that the control room switch was DANGER carded and assumed that the valve, MD(R)-134, was operable because the fuses had been replaced. Valves MD(R)-134 and MD(R)-135, which are redundant containment isolation valves [JM] for the sump pumps discharge header, were simultaneously open for 2.9 minutes to allow pumping of the containment sump to the Waste Disposal System [WD].

While performing a review of the completed procedure on the morning of September 4, the Shift Supervisor, day shift, inquired whether Technical Specifications were violated due to the opening of valve MD(R)-135 when pumping the containment sump. After consultation with the Superintendent Plant Technical it was determined that MD(R)-135 was opened while the redundant valve, MD(R)-134 was administratively inoperable. These actions were in violation of plant Technical Specifications (TS 3.6.a and TS 1.0.g.4).

Cause of Event

The root cause of the event was the Reactor Operator failing to recognize that valve MD(R)-134 was administratively inoperable. In addition, Design Change Procedure 1544-15 failed to adequately identify the valves MD(R)-134 and MD(R)-135 as redundant containment isolation valves.

The Reactor Operator should have reviewed with the Control Room Supervisor and the Shift Supervisor, the inoperable status of MD(R)-134 and the reason for the DANGER tag prior to following the procedure to pump the sump (A-MDS-30). The DANGER tag instructed that valve MD(R)-134 remain "CLOSED". Clear instructions addressing the valves inoperable status and the reasons for the inoperable status should have been included on the DANGER tag to provide the operator the necessary technical background information.

The Design Change Procedure should have specified that MD(R)-134 and MD(R)-135 provide redundant containment isolation. This would have provided the Shift Supervisor (on September 3) with additional information and would have aided in his actions when making the decision to replace the fuses. This would have also aided operations in providing clear instructions on the DANGER tag.

Analysis of Event

Technical Specifications (TS) state that Containment System integrity shall not be violated if there is fuel in the reactor which has been used for power operation except when the reactor is in cold shutdown with the vessel head installed or the reactor is in a refueling shutdown condition (TS 3.6.a). Containment System integrity is defined to exist when, among others, the required automatic Containment System isolation valves are operable or are deactivated in the closed position, or at least one valve in each line having an inoperable valve is closed (TS 1.0.g.4). Therefore, with MD(R)-134 inoperable, the redundant Containment Isolation Valve, MD(R)-135, should have remained in the closed position until the procedure and retest for MD(R)-134 were completed. Control valve MD(R)-134 was administratively inoperable until a retest could be performed per ASME Boiler and Pressure Vessel Code Section XI, (1980W81) (TS 4.2.a.2). Article IWV-3200 of the aforementioned code states that the valve shall be tested to demonstrate that the performance parameters which could be affected by the replacement are within acceptable limits. Due to the successful retest, the short time involved during the pumping operation (2.9 minutes), the small pipe size (3 inch), and the line penetrating containment being a water filled boundary, the safety implications were minimal. Containment Sump Isolation valves MD(R)-134 and MD(R)-135 both fail in the closed position and are automatically closed on a containment isolation signal. Containment Integrity System design provides for redundancy.

The Containment Isolation valve, MD(R)-134, satisfactorily completed its retest requirements without any further adjustments on the subsequent work shift the following day. The valve was declared operable at 1210 on September 4. Therefore, if Containment Isolation would have been required MD(R)-134 and MD(R)-135 would have fulfilled their isolation function.

This report is submitted in accordance with the Code of Federal Regulations 10 CFR 50.73(a)(2)(i)(B) relating to any event or condition prohibited by the plant's Technical Specifications.

Corrective Actions

Immediate corrective action included an informal discussion of the events pertaining to the Technical Specification violation with the Plant Operations personnel involved.

Further corrective actions will include reviewing the Containment Isolation system with the Operations personnel during requalification training and stressing the importance of maintaining the Technical Specification definition of Containment Integrity. This report will also be discussed with Plant Operating personnel to point out the importance of not relying on the DANGER tag's information without first understanding why the DANGER tag was placed.

In addition, Design Change personnel will revise the applicable Administrative Control Directive (ACD) pertaining to Design Change procedures and implement revisions as necessary based on this event. Revisions will include adding Limiting Conditions for Operations (LCO's) to the procedures where applicable and stressing safety precautions. This report will be reviewed by the Design Change personnel to stress the importance of recognizing situations that may have to be addressed by a procedure when modifications are being performed during power operations.

Additional Information

Equipment Failures: None.

Similar Events: None.

WPSC (414) 433-1598
TELECOPIER (414) 433-1297

NRC-87-129

EASYLINK 62891993

WISCONSIN PUBLIC SERVICE CORPORATION
600 North Adams • P.O. Box 19002 • Green Bay, WI 54307-9002

October 5, 1987

10 CFR 50.73

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555

Gentlemen:

Docket 50-305
Operating License DPR-43
Kewaunee Nuclear Power Plant
Reportable Occurrence 87-010-00

In accordance with the requirements of 10 CFR 50.73, "Licensee Event Report System", the attached Licensee Event Report for reportable occurrence 87-010-00 is being submitted.

Very truly yours,

D. C. Hintz
Vice President - Nuclear Power

TJW/jms

Attach.

cc - INPO Records Center
Suite 1500, 1100 Circle 75 Parkway
Atlanta, GA 30339
Mr. Robert Nelson, NRC Resident Inspector
RR #1, Box 999, Kewaunee, WI 54216
US NRC, Region III
799 Roosevelt Road
Glen Ellyn, IL 60137

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