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 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 94-007-00: on 940410, RCIC level 8 isolation instrument
 had been calibrated outside of its TS. Caused by failure to
 self check. Corrective action: counseling session
 w/ individuals directly involved. W/940511 ltr.

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WASHINGTON PUBLIC POWER SUPPLY SYSTEM

P.O. Box 968 • 3000 George Washington Way • Richland, Washington 99352

May 11, 1994
G02-94-114

Docket No. 50-397

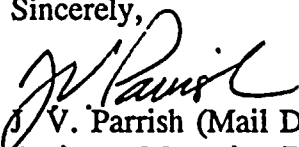
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Subject: NUCLEAR PLANT WNP-2, OPERATING LICENSE NPF-21
LICENSEE EVENT REPORT NO. 94-007-00

Transmitted herewith is Licensee Event Report No. 94-007-00 for the WNP-2 Plant. This report is submitted in response to the report requirements of 10CFR50.73 and discusses the items of reportability, corrective action taken, and action taken to preclude recurrence.

Should you have any questions or desire additional information, please call me or D.A. Swank at (509) 377-4563.

Sincerely,


J. V. Parrish (Mail Drop 1023)
Assistant Managing Director, Operations

JVP/kbl/my
Enclosure

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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)

Washington Nuclear Plant - Unit 2

DOCKET NUMBER (2)

0 5 0 0 0 3 9 7

PAGE (3)

1 OF 5

TITLE (4)

RCIC LEVEL 8 ISOLATION MISCALIBRATION

EVENT DATE (5)

MONTH DAY YEAR
0 4 1 0 9 4

LER NUMBER (6)

YEAR SEQUENTIAL NUMBER REVISION NUMBER
9 4 0 0 7 0 0

REPORT DATE (7)

MONTH DAY YEAR
0 5 1 1 9 4

OTHER FACILITIES INVOLVED (8)

FACILITY NAMES DOCKET NUMBERS(S)
0 5 0 0 0 0 0 0 0 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)

POWER LEVEL (10)

6 4 6

20.402(b)
20.405(a)(1)(i)
20.405(a)(1)(ii)
20.405(a)(1)(iii)
20.405(a)(1)(iv)
20.405(a)(1)(v)

20.405(c)
50.36(c)(1)
50.36(c)(2)
50.73(a)(2)(i)
50.73(a)(2)(ii)
50.73(a)(2)(iii)

50.73(a)(2)(iv)
50.73(a)(2)(v)
50.73(a)(2)(vii)
50.73(a)(2)(viii)(A)
50.73(a)(2)(viii)(B)
50.73(a)(2)(x)

77.71(b)
73.73(c)
OTHER (Specify in Abstract below and in Text, NRC Form 366A)

LICENSEE CONTACT FOR THIS LER (12)

NAME

Kurt B. Lewis, Technical Specialist

TELEPHONE NUMBER

AREA CODE

5 0 9 3 7 7 - 4 1 4 5

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) ☒ NO

ABSTRACT (16)

On April 10, 1994, at 1900 hours, with the plant at 64.6% power, an Instrument and Control (I&C) Maintenance Supervisor reviewing trend data determined that a Reactor Core Isolation Cooling system (RCIC) Level 8 Isolation instrument had been calibrated outside of its Technical Specification Allowable Value from November 9, 1993 to January 29, 1994. At a predetermined Reactor Pressure Vessel (RPV) high-water-level, the Level 8 Isolation closes the RCIC turbine steam supply valve RCIC-V-45, which in turn stops RCIC makeup to the vessel.

Technical Services and I&C personnel initiated an evaluation of applicable Technical Specification surveillance procedures to ensure that similar calibration errors did not exist. The root cause of this event was a failure to self-check to ensure the intended action is correct before it is performed. Further corrective action includes ensuring similar calibration errors that could impact equipment operability currently do not exist.

This event had no safety significance. The miscalibration would have caused the Isolation to occur 0.85 inches above the Technical Specification Allowable Value of 56 inches reactor water level (above instrument zero). Even with the identified condition, the RCIC system was still able to provide high-pressure makeup to the RPV upon demand.

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TITLE (4) RCIC LEVEL 8 ISOLATION MISCALIBRATION							

Plant Conditions

Power Level - 64.6%
Plant Mode - 1 (Power)

Event Description

On April 10, 1994, at 1900 hours, with the plant at 64.6% power, an Instrument and Control (I&C) Maintenance Supervisor reviewing trend data determined that a Reactor Core Isolation Cooling system (RCIC) Level 8 Isolation instrument (MS-LSI-24D) had been calibrated outside of its Technical Specification Allowable Value from November 9, 1993 to January 29, 1994. This condition was caused by incorrectly calibrating the instrument's trip point for increasing, rather than decreasing pressure. This results in calibrating the instrument's reset instead of its trip.

At a predetermined Reactor Pressure Vessel (RPV) high-water-level, the Level 8 Isolation closes the RCIC turbine steam supply valve RCIC-V-45, which in turn stops RCIC makeup to the vessel. The miscalibration would have caused the isolation to occur 0.85 inches above the Technical Specification Allowable Value of 56 inches reactor water level.

Immediate Corrective Action

Technical Services and I&C personnel initiated an evaluation of applicable Technical Specification surveillance procedures to determine if similar calibration errors existed. No additional reportable conditions were identified.

Further Evaluation, Root Cause, and Corrective Action

Further Evaluation

1. There were no other structures, systems or components inoperable at the time that contributed to this event.
2. RCIC Level 8 Isolation instruments MS-LIS-24B and 24D provide a two-out-of-two logic to terminate RCIC makeup automatically on a predetermined high reactor water level. Evaluation of surveillance calibration data determined that technicians miscalibrated both instruments during the associated November 9, 1993 surveillance; however, only MS-LIS-24D was calibrated outside of its Technical Specification Allowable Value. The technicians transposed associated trip and reset settings; the transposition resulted in the calibration error.

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3. On January 29, 1994, during performance of the same calibration procedure, technicians found MS-LIS-24B outside of its Technical Specification Allowable Value and MS-LIS-24D within its Technical Specification Allowable Value.
4. On January 29, 1994, technicians recalibrated MS-LIS-24B to within its Technical Specification Allowable Value.
5. On January 29, 1994, I&C personnel wrote a PER documenting MS-LIS-24B being out of its Technical Specification Allowable Value. Because MS-LIS-24B was within its Technical Specification Allowable Value on November 9, 1994, the problems associated with MS-LIS-24B were determined to be not reportable.
6. Because the technicians found MS-LIS-24D within its Technical Specification Allowable Value on January 29, 1994, this switch was not mentioned in the PER.
7. On April 10, 1994, in conjunction with closing out the January 29, 1994 PER, the I&C Maintenance Supervisor discovered the MS-LIS-24D calibration error during a review of instrument trend data and the subject November 9, 1993 surveillance data. This miscalibration of MS-LIS-24D is reportable via this LER.

Root Cause

The root cause of this event was a failure to self-check to ensure the intended action is correct before it is performed. The identified RCIC instruments trip on decreasing pressure. The technicians inadvertently transposed the trip and reset values during the calibration procedure. Although the technicians were knowledgeable of the decreasing pressure trip function, they apparently had a mindset that the trips occurred on increasing pressure.

Further Corrective Action

1. A review of completed Technical Specification surveillance procedures involving instrument trip functions on decreasing pressure (including level switches) was finished on April 4, 1994. Results showed no other reportable conditions.
2. On April 11, 1994, the I&C Maintenance Supervisor held an I&C shop meeting to discuss the calibration errors. During the meeting, the failures to self-check that caused this event were discussed.
3. On April 13, 1994, the I&C Maintenance Supervisor conducted a separate counseling session with the individuals directly involved in this event. Specifically, the importance of self-checking and attention to detail were emphasized.

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4. On May 3, 1994, the Maintenance Division Manager discussed the failures to self-check with the individuals involved in the event.
5. On May 4, 1994, the Supervisor of the individuals involved in this event discussed this event with the Plant Manager.
6. As described in the Similar Events section of this LER, technicians made a similar calibration error in 1989; the root cause was inadequate procedures. Although an inadequate procedure was not a root cause of this event, I&C personnel have determined that additional procedural enhancements can be made to procedures involving calibration of instruments with decreasing pressure trip functions.

Enhancement of procedures involving calibration of instruments with decreasing pressure trip functions will be completed by August 31, 1994.

Safety Significance

RCIC Level 8 Isolation instruments MS-LIS-24B and 24D provide a two-out-of-two logic to terminate RCIC injection automatically on a predetermined high reactor water level. A review of the November 1993 MS-LIS-24D calibration data showed that the RCIC Level 8 Isolation trip of that instrument would have occurred 0.85 inches above the Technical Specification Allowable Value of 56 inches reactor water level. Further, the miscalibration would not have prevented RCIC from supplying high-pressure makeup to the Reactor Pressure Vessel upon demand. Therefore, the MS-LIS-24D calibration error had no safety significance. The effect on the Reactor Pressure Vessel would have been minimal and would not have posed a threat to plant personnel or to the public.

Similar Events

A review of previous LERs showed that a similar event occurred in 1989 (LER 89-042). In the 1989 event, personnel transposed the trip and reset values associated with an Automatic Depressurization System (ADS) Backup Nitrogen Supply pressure switch. The switch was designed to trip on decreasing pressure. The root cause was poorly written procedures; corrective action directed revision of applicable procedures "to indicate the decreasing nature of the trip." Although an inadequate procedure was not a root cause of the event being reported in LER 94-007, further procedure enhancements will be made as committed to in the Further Corrective Action section of this LER.

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TITLE (4) RCIC LEVEL 8 ISOLATION MISCALIBRATION													

EIIS Information

Text Reference

EIIS Reference

<u>System</u>	<u>Component</u>
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Reactor Core Isolation Cooling Systems
(RCIC)
Reactor Pressure Vessel (RPV)
Steam Supply Valve RCIC-V-45
Level 8 Isolation Instruments MS-LIS-24B
and D)
Automatic Depressurization System (ADS)
Backup Nitrogen Supply Pressure Switch

BN	---
---	RPV
BN	V
SB	LIS
BG	PS