

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)

Washington Nuclear Project - Unit 2

DOCKET NUMBER (2)

0 5 0 0 0 3 9 7

PAGE (3)

1 OF 0

TITLE (4)

Reactor Protection System - Unscheduled Actuation

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	3	0	2	8	4	8	4	0	1	1	0	5	0	0	0
0	3	0	2	8	4	8	4	0	0	0	3	2	1	8	4
OPERATING MODE (9)			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more of the following) (11)												
POWER LEVEL (10)			20.402(b)			20.406(e)			50.73(a)(2)(iv)			73.71(b)			
0 0 0			20.406(a)(1)(i)			50.36(e)(1)			50.73(a)(2)(v)			73.71(e)			
			20.406(a)(1)(ii)			50.36(e)(2)			50.73(a)(2)(vii)			X OTHER (Specify in Abstract below and in Text, NRC Form 368A)			
			20.406(a)(1)(iii)			50.73(a)(2)(ii)			50.73(a)(2)(viii)(A)						
			20.406(a)(1)(iv)			50.73(a)(2)(iii)			50.73(a)(2)(viii)(B)						
			20.406(a)(1)(v)			50.73(a)(2)(iii)			50.73(a)(2)(ix)			50.72.B.2(ii)			

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
L. D. Kassakatis, Plant Compliance Engineer	5 0 9 3 7 7 - 1 2 5 0 1

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

Ext. 4727

CAUSE	SYSTEM	COMPONENT	MANUFAC- TURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFAC- TURER	REPORTABLE TO NRC
B	JIC	CNT	RG	080	Y				
B	JIC	CNT	RG	080	Y				

SUPPLEMENTAL REPORT EXPECTED (14)

YES (if yes, complete EXPECTED SUBMISSION DATE)	NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
	X				

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

On 3/2/84, while performing an IRM "B" surveillance test, a Reactor Protection System actuation occurred when only a $\frac{1}{2}$ Scram was anticipated. The RPS logics were reset and the surveillance was reperformed, this time yielding the expected results ($\frac{1}{2}$ Scram only). Maintenance personnel discovered a loose connection in RPS Trip System "A" Scram Discharge Volume High Level Trip Circuitry, which was postulated to have caused the inadvertent actuation. The event was reported under requirements of 10 CFR 50.72.B.2(ii).

On 3/9/84 the weekly IRM surveillances were reperformed and again IRM "B" surveillance resulted in a full RPS actuation when only a $\frac{1}{2}$ Scram was anticipated. When the surveillance was reperformed the full RPS actuation was repeated. Troubleshooting revealed a failed auxiliary contact in a Trip System "A" Scram Contactor which supplied logic to the "B" Backup Scram System. This failure, coupled with a surveillance in Trip System "B" caused a RPS actuation via the "B" Backup Scram System. The event was reported under requirements of 10 CFR 50.72.B.2(ii).

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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TEXT (If more space is required, use additional NRC Form 388A's) (17)

Reactor Power Level - 0
Reactor Mode 4
Reportable under requirements for 10 CFR 50.72.B.2(ii).

During the 3/2/84 weekly surveillance test of Intermediate Range Monitors, a full Reactor Protection System actuation occurred while IRM-B was under test. Normally, a single channel trip ($\frac{1}{2}$ Scram) is expected. Indication at the time of the actuation was a $\frac{1}{2}$ Scram in System "B" and Scram air header pressure low. Approximately five seconds after the $\frac{1}{2}$ Scram annunciated, Operators noticed that the core map accumulator indicators showed all HCU's had depressurized, indicating a full RPS actuation. RPS logics were reset and the IRM-B surveillance was rerun, this time with the expected results ($\frac{1}{2}$ Scram in System "B" only). The Shift Manager directed maintenance to check wiring in the Reactor Protection System "A" Logic Panel for any abnormal conditions in hardware and wiring. Maintenance personnel found a loose connection in the coil circuit of Relay C72-K31C which provides input to Reactor Protection System Channel C for high Scram discharge volume level trip. It was postulated that since no other indication could be found as to what contributed to the RPS actuation, this loose wire may have allowed Relay C72-K31C to de-energize a channel of Trip System "A" and when IRM "B" surveillance was run, the trip generated a full RPS actuation. However, this loose wire did not explain why there was no $\frac{1}{2}$ Scram indicated in Trip System A. If Relay C72A-K31C had actually been de-energized, there would have been a $\frac{1}{2}$ Scram System "A" and a "Scram Discharge Volume High Water Level Trip" annunciated in System "A". Neither annunciator was observed. (It was noted that after the core map indicated that all HCU's had depressurized, both Scram Discharge Volume High Water Level Trip Annunciators for System "A" and "B" alarmed. This was not an immediate action, however.)

Seven days later on 3/9/84, the IRM surveillances were reperformed per Tech Spec requirements. IRM's that input into RPS System "A" were run first, with all channels performing correctly. Surveillances for IRM's that input into Trip System "B" were started with IRM "B" which again resulted in a full RPS actuation instead of the expected $\frac{1}{2}$ Scram in System "B".

This time when the surveillance was reperformed, the full actuation again resulted instead of the expected $\frac{1}{2}$ Scram.

Troubleshooting revealed that an auxiliary contact on Scram Contactor K14E in Trip System "A" that makes up half of the System "B" back-up Scram logic was failing to reset when the RPS logics were reset. This failure was determined to be a normally closed contact that was not opening when the RPS logics were reset. This in turn caused back-up Scram System "B" to be in a $\frac{1}{2}$ Scram condition all the time. When the IRM surveillances in Trip System "B" were run, the logics associated with a RPS Trip System "B" $\frac{1}{2}$ Scram completed the logics required to cause a full Reactor Protection System actuation via backup Scram System "B". This conclusion explains why the Operations personnel were seeing all the HCU's depressurizing while having no attendant annunciation of a full RPS actuation. Because there is no annunciation of a back-up Scram System actuation there was not an immediate way to tell what had caused the full actuation.

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Washington Nuclear Project - Unit 2	0500039784	—	011	—	00	03	OF 03

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

A new contactor was procured from General Electric, installed, and tested. The IRM's in Trip System "A" and "B" were tripped, one at a time, and each caused the expected $\frac{1}{2}$ Scram without a full RPS actuation.

Analysis of the failed auxiliary contact revealed that a spot weld holding half of the contact to an electrical terminal had failed. The initial actuation on 3/2/84 was probably caused by the beginning of the failure of the auxiliary contact. When the surveillances were run again on 3/9/84, the sequence began with Trip System "A" IRM inputs. This probably caused the complete failure of the auxiliary contact. When System "B" surveillances were started, the failure was complete and hence any IRM surveillance on the "B" Trip System would cause a full RPS actuation. This was proved during troubleshooting on 3/9/84 and 3/10/84, by causing IRM trips on all four IRM's in Trip System "B" which all resulted in full RPS actuations.

New auxiliary contactors are being procured from General Electric for the remaining K14 relays and will be installed and tested at first opportunity.

Washington Public Power Supply System

P.O. Box 968 3000 George Washington Way Richland, Washington 99352 (509) 372-5000

Docket No. 50-397
March 21, 1984

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

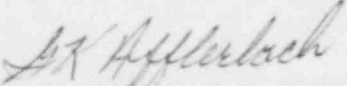
Subject: **NUCLEAR PROJECT NO. 2**
LICENSEE EVENT REPORT NO. 84-011

Dear Sir:

Transmitted herewith is Licensee Event Report No. 84-011 for WNP-2 Plant. This report is submitted in response to the report requirements of Technical Specification Section 6.9.1.7 and discusses the item of noncompliance, corrective action taken, and action taken to preclude recurrence.

This is the follow-up report to the verbal notification given at 1615 hours on March 2, 1984, and at 1700 hours on March 9, 1984.

Very truly yours,


J. D. Martin (M/D 927M)
WNP-2 Plant Manager

JDM:de

Enclosure:
Licensee Event Report No. 84-011

cc: Mr. John B. Martin, Administrator
Region V, Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
1450 Maria Lane
Walnut Creek, California 94596
Mr. A. D. Toth, (901A)

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