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ACCESSION NBR:8810140190 DOC.DATE: 88/10/05 NOTARIZED: NO DOCKET #
 FACIL:50-397 WPPSS Nuclear Project, Unit 2, Washington Public Powe 05000397
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SUBJECT: LER 88-032-00:on 880905,inadvertant closure of RCIC steam supply line CIV due to personnel error.

W/8 ltr.

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

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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 1 7										PAGE (3) 1 OF 0 4		
TITLE (4) Inadvertant Closure of Reactor Core Isolation Cooling Steam Supply Line Containment Isolation Valve Due to Personnel 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 5	8 8	8 8	0 3 2	0 0	1 0	0 5	8 8							0 5 0 0 0							
OPERATING MODE (9) 2		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)																				
POWER LEVEL (10) 0 0 1		20.402(b)				20.405(c)				<input checked="" type="checkbox"/> 50.73(a)(2)(iv)				73.71(b)								
		20.405(a)(1)(i)				50.38(c)(1)				50.73(a)(2)(v)				73.71(c)								
		20.405(a)(1)(ii)				50.38(c)(2)				50.73(a)(2)(vi)				OTHER (Specify in Abstract below and in Text, NRC Form 366A)								
		20.405(a)(1)(iii)				50.73(a)(2)(i)				50.73(a)(2)(vii)(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 W.S. Davison, Compliance Engineer										TELEPHONE NUMBER 510 9 317 71-12 510 17												
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)										Ext 2726												
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS												
SUPPLEMENTAL REPORT EXPECTED (14)										EXPECTED SUBMISSION DATE (15)				MONTH	DAY	YEAR						
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)										<input checked="" type="checkbox"/> NO												

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

On September 5, 1988, at 1426 hours, during a plant startup, an inadvertant containment isolation of the Reactor Core Isolation Cooling (RCIC) System steam supply line occurred. The event began at about 1100 hours when reactor pressure was held at 90 psig while drawing a main condenser vacuum. The Reactor Building Equipment Operator reported that the differential pressure indicated by RCIC-DPIS-13A (indicating differential pressure switch) and RCIC-DPIS-13B did not meet surveillance acceptance criteria. He was directed by the Control Room Supervisor to open the equalizing valve around RCIC-DPIS-13B until indicated differential pressure was zero and then to reclose the valve.

After cycling the equalizing valve, the Equipment Operator noted that the differential pressure incorrectly indicated in the negative direction. In an attempt to solve the problem, he then decided to open the drain valves on the sensing lines to eliminate what he assumed was entrained air. During the draining process, unknown to the operator, the flow through the sensing lines surged high enough to close the associated instrument line excess flow check valves.

At 1409 hours the heatup was resumed. At 1426 hours, RCIC-V-63 automatically closed upon receipt of an isolation signal as RCIC-DPIS-13B exceeded its differential pressure setpoint in the negative direction.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

Abstract (Cont'd)

A Standing Night Order has been issued by the Plant Operations Manager to provide additional guidance to operations personnel concerning the operation instrument valves. A policy letter will be issued by the Plant Operations Manager to clarify the authority of operations personnel to operate instrument valves.

This event will be added to those discussed during Equipment Operator training and requalification.

The root cause of this event was personnel error in that the Plant Equipment Operator incorrectly operated the differential pressure switch sensing line valves. This event posed no threat to the safety of Plant personnel or the public.

Plant Conditions

- a) Power Level - 1%
- b) Plant Mode - 2 (Startup)

Event Description

On September 5, 1988, at 1426 hours, during a plant startup, an inadvertant containment isolation of the Reactor Core Isolation Cooling (RCIC) System steam supply line occurred. The event began at about 1100 hours while reactor pressure was being held at 90 psig while drawing a main condenser vacuum. The reactor Building Equipment Operator reported that the differential pressure indicated by RCIC-DPIS-13A (indicating differential pressure switch) and RCIC-DPIS-13B did not meet the acceptance criteria for the PPM 7.0.0 Shift and Daily Instrument Check procedure. Since this was a normal occurrence during plant startups, the Equipment Operator was directed by the Control Room Supervisor to open the equalizing valve around RCIC-DPIS-13B until indicated differential pressure was zero and then to reclose the valve.

After cycling the equalizing valve, the Equipment Operator noted that the differential pressure incorrectly indicated in the negative direction. In an attempt to solve the problem, he then decided to open the drain valves on the sensing lines to eliminate what he assumed was entrained air. During the draining process, unknown to the operator, flow through the sensing lines surged high enough to close the associated instrument line excess flow check valves. Upon completion, the instrument was returned to service and a report was made to the Control Room Supervisor. The operator described his actions concluding that RCIC-DPIS-13B met the channel check requirements.

At 1409 hours the heatup was resumed. Reactor pressure began increasing and, unknown to the operators, RCIC-DPIS-13B began again to move in the negative direction. At 1426 hours, RCIC-V-63 automatically closed upon receipt of an isolation signal as RCIC-DPIS-13B exceeded its differential pressure setpoint in the negative direction.

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

Immediate Actions

The plant startup was halted and an investigation started. The associated Process Instrumentation excess flow check valves, PI-EFC-x38e and PI-EFC-x38f, were found closed, isolating the differential pressure switch from the steam supply line. The excess flow check valves were reopened, the instrument lines backfilled with water and a channel calibration was satisfactorily completed for RCIC-DPIS-13B. At 1920 hours, RCIC-V-63 was reopened and the RCIC System returned to service. At 1941 hours, after a satisfactory channel functional test was performed on RCIC-DPIS-13B, the plant startup was continued.

Further Evaluation

1. This event is being reported under the provisions of 10CFR50.73(a)(2)(iv) as an event that resulted in the automatic actuation of an Engineered Safety Feature (ESF).
2. The root cause of this event was personnel error in that the Plant Equipment Operator incorrectly operated the differential pressure switch sensing line valves. He failed to communicate his intended actions to the Control Room Supervisor prior to performing them. When the Equipment Operator initially attempted to drain the air from the sensing lines, he inadvertently caused isolation of the "high side" of RCIC-DPIS-13B. As the plant startup progressed, reactor pressure increased, causing pressure at the "low side" of the DP switch to increase while the pressure on the isolated "high side" stayed the same. This erroneous differential pressure indication eventually resulted in exceeding the negative direction setpoint and subsequent initiation of the RCIC-V-63 isolation.
3. The following were evaluated as contributing factors:
 - o The Equipment Operator went outside of his instructions.
 - o The Equipment Operator did not understand how RCIC-DPIS-13B was different from other DP switches. He was familiar with instruments installed in liquid systems which did sometimes require draining for removal of trapped air. RCIC-DPIS-13B is a "dry instrument" as it is installed in a steam system with condensate pots to supply the water column and should not be indiscriminantly drained.
 - o The Equipment Operator did not realize that this DP switch could cause an isolation.
4. RCIC-DPIS-13B is an elbow type flow indicating switch installed in the steam supply line to the RCIC turbine. Its purpose is to sense the high steam flow which would be indicative of an instrument or steam line break. It indicates and actuates in both the negative and positive direction. The positive direction indicates a steam supply line break. The negative direction indicates an instrument line break.

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

5. The nonlicensed Plant Equipment Operator failed to recognize the true nature of the event in that he did not understand the effect of his valve manipulations on the plant (i.e., excess flow check valve closure causing erroneous DP switch indication and subsequent valve isolation). This error was associated with a task not covered by an approved procedure.

Further Corrective Action

1. A Standing Night Order has been issued by the Plant Operations Manager which provides additional guidance concerning operation of instrument valves.
2. A policy statement letter will be issued by the Plant Operations Manager to clarify the authority of operations personnel to operate instrument valves.
3. This event will be added to those discussed during Equipment Operator training and requalification.

Safety Significance

Plant Operators reacted correctly and in accordance with plant procedures to halt the startup, investigate, and correct the spurious isolation. All plant equipment operated correctly to respond to the inadvertant isolation signal by causing RCIC-V-63 to close. This event did not affect the safety of Plant personnel or the public.

Similar Events

None

EIIS InformationText ReferenceEIIS Reference

RCIC
RCIC-DPIS-13A
RCIC-DPIS-13B
Equalizing Valve
Drain Valve
Excess Flow Check Valve
PI-EFC-x38e
PI-EFC-x38f
RCIC-V-63

System	Component
BN	- - - - -
BN	PDIS
BN	PDIS
BN	SHV
BN	SHV
BN	V
BN	V
BN	V
BN	ISV

WASHINGTON PUBLIC POWER SUPPLY SYSTEM

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

Docket No. 50-397

October 5, 1988

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

Subject: NUCLEAR PLANT NO. 2
LICENSEE EVENT REPORT NO. 88-032

Dear Sir:

Transmitted herewith is Licensee Event Report No. 88-032 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.

Very truly yours,

W. Kaeffer for
C.M. Poyers (M/D 927M)
WNP-2 Plant Manager

CMP:lg

Enclosure:
Licensee Event Report No. 88-032

cc: Mr. John B. Martin, NRC - Region V
Mr. C.J. Bosted, NRC Site (M/D 901A)
INPO Records Center - Atlanta, GA
Ms. Dottie Sherman, ANI
Mr. D.L. Williams, BPA (M/D 399)

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