ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:9003220090 DOC.DATE: 90/03/09 NOTARIZED: NO DOCKET #
FACIL:50-397 WPPSS Nuclear Project, Unit 2, Washington Public Powe 05000397
AUTH.NAME AUTHOR AFFILIATION
FIES,C.L. Washington Public Power Supply System
POWERS,C.M. Washington Public Power Supply System
RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 90-005-00:on 900209,ESF actuation containment instrument air.

W/9 ltr.

DISTRIBUTION CODE: IE22T COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 5
TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

NOTES:

	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL
	PD5 LA	1	1	PD5 PD	1	1
	SAMWORTH,R	1	1			
INTERNAL:	ACNW	2	2	ACRS	2	2
	AEOD/DOA	1	1	AEOD/DSP/TPAB	1	1
	AEOD/ROAB/DSP	2	2	DEDRO	1	1
	NRR/DET/ECMB 9H	1	1	NRR/DET/EMEB9H3	1	1
	NRR/DET/ESGB 8D	1	1	NRR/DLPQ/LHFB11	1	1
	NRR/DLPQ/LPEB10	1	1	NRR/DOEA/OEAB11	1	1
	NRR/DREP/PRPB11	2	2	NRR/DST/SELB 8D	1	1
	NRR/DST/SICB 7E	1	1	NRR/DST/SPLB8D1	1	1
	NRR/DST/SRXB 8E	1	1	REG FILE 02	1	1
	RES/DSIR/EIB	1	1	RGN5 FILE 01	1	1
EXTERNAL:	EG&G WILLIAMS,S	4	4	L ST LOBBY WARD	1	1
	LPDR	1	1	NRC PDR	1	1
	NSIC MAYS,G	1	1	NSIC MURPHY,G.A	1	1
	NUDOCS FULL TXT	1	1			

NOTE TO ALL "RIDS" RECIPIENTS:

PLEASE HELP US TO REDUCE WASTE! CONTACT THE DOCUMENT CONTROL DESK, ROOM P1-37 (EXT. 20079) TO ELIMINATE YOUR NAME FROM DISTRIBUTION LISTS FOR DOCUMENTS YOU DON'T NEED!

FULL TEXT CONVERSION REQUIRED
TOTAL NUMBER OF COPIES REQUIRED: LTTR 37 ENCL 37

A044
WP

RIDS/ADDS

WASHINGTON PUBLIC POWER SUPPLY SYSTEM

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

March 9, 1990

Docket No. 50-397

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

Subject: NUCLEAR PLANT NO. 2
LICENSEE EVENT REPORT NO. 90-005

Dear Sir:

Transmitted herewith is Licensee Event Report No. 90-005 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,

C. M. Powers (M/D 927M)
WNP-2 Plant Manager

WSD:lr

Enclosure:
Licensee Event Report No. 90-005

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)

Cert No P085600105

IE22
1/1

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)
Washington Nuclear Plant - Unit 2	0 5 0 0 0 3 9 7	1 OF 0 4

TITLE (4) Engineered Safety Feature Actuation Containment Instrument Air (CIA)

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 5 0 0 0
0 2	0 9	9 0	9 0	— 0 0 5	— 0 0	0 3	0 9	9 0		0 5 0 0 0

OPERATING MODE (9)	1	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)	X 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)	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
C. L. Fies, Compliance Engineer	AREA CODE 5 0 9 — 3 7 7 - 2 5 0 1 EXT 2039

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				

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

At approximately 2230 hours on February 9, 1990 a non-safety related circuit breaker on power panel 7CA-A (PP-7CA-A) tripped. This breaker supplies power to a number of nitrogen shut-off valves including the valve that normally supplies nitrogen to the Containment Instrument Air (CIA) System (CN-V-65). When power was lost the valve closed causing the pressure to decrease in the CIA system. The pressure decrease eventually caused the safety related bottled nitrogen source to be placed into service which is considered an Engineered Safety Feature Actuation.

The root cause of this event was an equipment manufacturing error involving a defect in the circuit breaker tripping mechanism.

Immediate corrective action was taken in less than three hours to replace the defective breaker and put the normal nitrogen supply back into service. No further corrective action is planned.

The event posed no threat to the health and safety of either the public or plant personnel.

Plant Conditions

Power Level - 100%
Plant Mode - 1

Event Description

At approximately 2230 hours on February 9, 1990 circuit breaker number 18 on power panel 7CA-A (PP-7CA-A) tripped. This non-safety related breaker supplies power to a number of nitrogen shut-off valves. This includes the Nitrogen-to-Containment Instrument Air (CIA) Cross Connection valve that normally supplies nitrogen to the CIA System (CN-V-65). At 2317 hours the CIA HEADER PRESSURE LOW annunciator alarm was observed in the control room. At about the same time, Plant Operating personnel noted that position indication was lost on CN- V-65. A short time later at 2319 and 2322 hours, respectively, valves CIA-V- 39A and CIA-V-39B closed automatically. These two valves provide the isolation boundary between the safety and non-safety related portions of the CIA system.

The safety related part of the CIA provides a backup nitrogen supply to operate the Main Steam Safety Relief Valves (MSRV) which are part of the Automatic Depressurization System (ADS). The ADS is a backup Emergency Core Cooling System (ECCS) designed to quickly reduce reactor pressure in the unlikely event of failure of the High Pressure Core Spray (HPCS) system. The ADS is composed of seven specially designated MSRVs that provide rapid depressurization of the primary system.

Valves CIA-V-39A and CIA-V-39B are automatically closed when the normal CIA pressure drops to 140 Psig (as measured by pressure switches CIA-PS-39A and CIA-PS-39B) after a three minute time delay. A total of three signals in two channels (A and B) are used to initiate backup nitrogen for the Automatic Depressurization System (ADS). The signals for each channel are (1) CIA-PS- 22A(B) 135 PSIG, (2) CIA-PS-21A(B) 140 PSIG, and (3) CIA-V-39A(B) closed as described above. These signals feed a two-out-of-three logic circuit in each channel which initiates the stepping programmers for the nitrogen bottles. Programmer "A", CIA-PROG-1A, is initiated by the "A" logic and provides backup nitrogen to three ADS valves. Programmer "B", CIA-PROG-1B, is initiated by the "B" logic and provides backup nitrogen to the four remaining ADS valves. This logic worked as designed and the backup nitrogen system restored the pressure to above its normal operating value (approximately 152 psig) prior to 2330 hours. During the time the backup nitrogen supply was in service, the pressure in the safety related part of CIA increased to approximately 160 psig.

Immediate Corrective Action

At 0020 hours on February 10, 1990 the breaker was replaced and power was restored to the normal nitrogen supply valve CN-V-65. At 0115 hours the pressure in the CIA system was restored to its normal operating value of approximately 152 psig.

Further Evaluation and Corrective Action

A. Further Evaluation

1. This event is being reported per the requirements of 10CFR50.73(a)(2)(iv) as an "event or condition that resulted in manual or automatic actuation of any Engineered Safety Feature (ESF)....."

2. The circuit breaker that failed was disassembled and inspected. A manufacturing and/or tolerance defect was observed that contributed to the failure.

3. The cause of this event was equipment failure of the circuit breaker. The root cause of the event was an equipment manufacturing error involving a defect in the tripping mechanism.

4. The current being drawn through the breaker was measured and shown to be 1.5 amps, which is normal.

5. There were no structures, components or systems that were inoperable prior to the start of this event which contributed to the event.

B. Further Corrective Action

No further corrective action is planned.

Safety Significance

This event has no safety significance since all equipment functioned as designed. The event was caused by the failure of an off-the-shelf circuit breaker which feeds non-safety related components. This event demonstrated the ability of the safety related portion of the Containment Instrument Air System to perform its function as designed.

EIIS Information

Text Reference	EIIS Reference System	EIIS Reference Component
Containment Instrument Air (CIA)	LD	--
Power Panel 7CA-A (PP-7CA-A)	EC	PL
Containment Nitrogen Valve 65 (CN-V-65)	LK	V
CIA-V-39A	LD	V
CIA-V-39B	LD	V
Main Steam Safety Relief Valves (MSRV)	MS	RV
Automatic Depressurization System (ADS)	BG	--
High Pressure Core Spray System (HPCS)	BG	--
CIA Pressure Switch 39A (CIA-PS-39A)	LD	PS
CIA-PS-39B	LD	PS
CIA-PS-22A	LD	PS
CIA-PS-22B	LD	PS
CIA-PS-21A	LD	PS
CIA-PS-21B	LD	PS
CIA Programmer 1A (CIA-PROG-1A)	LD	
CIA-PROG-1B	LD	