

# CATEGORY 1

## REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9707300094    DOC. DATE: 97/07/23    NOTARIZED: NO    DOCKET #  
 FACIL: 50-397 WPPSS Nuclear Project, Unit 2, Washington Public Powe    05000397  
 AUTH. NAME    AUTHOR AFFILIATION  
 PFITZER, B.    Washington Public Power Supply System  
 BEMIS, P. R.    Washington Public Power Supply System  
 RECIP. NAME    RECIPIENT AFFILIATION

SUBJECT: LER 97-007-00: on 970611, voluntary rept of automatic start of  
 DG-1 & DG-2 was experienced. Caused by undervoltage condition  
 on electrical busses SM-7 & SM-8. Circulating water pump  
 CW-P-1C control switch was placed in pull-to-lock.

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

### NOTES:

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	NRR/DE/EMEB	1 1	NRR/DRCH/HHFB	1 1
	NRR/DRCH/HICB	1 1	NRR/DRCH/HOLB	1 1
	NRR/DRCH/HQMB	1 1	NRR/DRPM/PECB	1 1
	NRR/DSSA/SPLB	1 1	NRR/DSSA/SRXB	1 1
	RES/DET/EIB	1 1	RGN4 FILE 01	1 1
EXTERNAL:	L ST LOBBY WARD	1 1	LITCO BRYCE, J H	1 1
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WASHINGTON PUBLIC POWER SUPPLY SYSTEM

P.O. Box 968 • Richland, Washington 99352-0968

July 23, 1997  
GO2-97-147

Docket No. 50-397

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

Gentlemen:

Subject: **NUCLEAR PLANT WNP-2, OPERATING LICENSE NPF-21,  
LICENSEE EVENT REPORT NO. 97-007-00**

Transmitted herewith is voluntary Licensee Event Report No. 97-007-00 for WNP-2. This report is submitted in response to the recommendations contained in NUREG-1022.

Should you have any questions or desire additional information regarding this matter, please call me or Mr. Paul Inserra at (509) 377-4147.

Respectfully,

P. R. Bemis  
Vice President, Nuclear Operations  
Mail Drop PE23

PE22  
1/1

Enclosure

cc: EW Merschhoff, NRC RIV  
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# LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) <b>Washington Nuclear Plant - Unit 2</b>						DOCKET NUMBER (2) <b>50-397</b>			PAGE (3) <b>1 OF 3</b>		
TITLE (4) <b>VOLUNTARY REPORT OF AUTOMATIC START OF DG-1 AND DG-2 DUE TO SM-7 AND SM-8 UNDERVOLTAGE</b>											
EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)		
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV. NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER	
06	11	97	97	007	00	07	23	97	N/A	05000	
OPERATING MODE		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more) (11)									
4		20.402(b)		20.405(c)		50.73(a)(2)(iv)		73.71(b)			
POWER		20.405(a)(1)(i)		50.36(c)(1)		50.73(a)(2)(v)		73.71(c)			
0%		20.405(a)(1)(ii)		50.36(c)(2)		50.73(a)(2)(vii)		X		OTHER	
		20.405(a)(1)(iii)		50.73(a)(2)(i)		50.73(a)(2)(viii)(A)		Voluntary			
		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 <b>Bill Pfitzer, Licensing Engineer</b>								TELEPHONE NUMBER (Include Area Code) <b>509-377-2419</b>			
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		MONTH		DAY	
YES (If yes, completed EXPECTED SUBMISSION DATE).						NO					
ABSTRACT:											
<p>On 6/11/97, with the plant in Operating Mode 4, Circulating Water Pump motor CW-M-P/1C experienced internal electrical faulting shortly after pump startup. The pump ran for approximately 15 seconds prior to tripping the CW-M-P/1C feeder breaker due to phase differential current. The motor fault caused a momentary undervoltage condition on electrical busses SM-7 and SM-8 which initiated an automatic start of emergency diesel generators, EDG-1 and EDG-2. The diesel generators started and ran unloaded, as designed, until manually shutdown by operating personnel. The output breakers for EDG-1 and EDG-2 did not close and load the EDGs because the undervoltage condition was only momentary, and plant busses continued to be fed from the startup transformer, TR-S.</p> <p>Immediate corrective actions were to return EDG-1 and EDG-2 to standby readiness and initiate an investigation into the cause of CW-M-P/1C trip.</p> <p>The root cause of EDG-1 and EDG-2 auto start was an undervoltage condition on electrical busses SM-7 and SM-8</p> <p>This event is voluntarily reported. The safety significance of this event is considered minimal.</p>											

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Washington Nuclear Plant - Unit 2	50-397	97	007	00	2 OF 3

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

Event Description

On 6/11/97, with the plant in Operating Mode 4 with electrical distribution being supplied by the startup transformer TR-S [XFMR], Circulating Water Pump motor CW-M-P/1C [KE][P][MO] experienced internal electrical faulting shortly after pump startup. The pump ran for approximately 15 seconds prior to tripping the CW-M-P/1C feeder breaker [BKR] due to phase differential current. The motor fault caused a momentary undervoltage condition on electrical busses SM-7 and SM-8 [BU] which initiated an automatic start of emergency diesel generators, EDG-1 and EDG-2 [DG]. The diesel generators started and ran unloaded, as designed, until manually shutdown by operating personnel. The output breakers for EDG-1 and EDG-2 did not close and load the EDGs because the undervoltage condition was only momentary, and plant buses continued to be fed from the startup transformer, TR-S. This event was voluntarily reported within 4 hours, and this report is being voluntarily submitted since the EDGs are not engineered safety features at WNP-2.

Immediate Corrective Action

Circulating Water pump CW-P-1C control switch was placed in pull-to-lock.

EDG-1 and EDG-2 were returned to standby readiness.

Investigation was initiated into the cause of CW-M-P/1C trip.

A significant Problem Evaluation Request was initiated to resolve this problem.

Further Evaluation

Control room personnel reported that CW-M-P/1C started normally with the expected starting current, and operated with a running current of approximately 600 amps for approximately 15 seconds prior to tripping. Following the trip, phase voltages on the bus supplying the motor were observed to be 4250, 4400, and 4300 volts on each of the A, B, and C phases respectively with the 230kV voltage at Ashe substation reported at 242kV.

Throughout this event, plant busses continued to be fed from the startup transformer, TR-S. The WNP-2 electrical distribution system relay scheme operated as designed to isolate the fault and terminate the undervoltage condition on the affected busses. Had the undervoltage condition on SM-7 and SM-8 continued for approximately four seconds, the supply breakers from Backup Auxiliary Transformer, TR-B, would have auto closed and SM-7 and SM-8 would have been supplied by TR-B. If the undervoltage condition had continued for approximately 7 seconds the EDG output breakers would have auto closed and SM-7 and SM-8 would have been supplied by the EDGs.



**LICENSEE EVENT REPORT (LER)**  
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Washington Nuclear Plant - Unit 2	50-397	97	007	00	3 OF 3

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In this case the feeder breaker for CW-M-P/1C tripped, isolating the fault immediately, and the standby sources designed to automatically supply the safety-related electrical busses were not needed.

Root Cause

The auto start of EDG-1 and EDG-2 was caused by an undervoltage condition on SM-7 and SM-8. The undervoltage condition was caused by internal faulting of the non-safety related CW-M-P/1C which developed shortly after start of the motor.

Further Corrective Action

None required. EDG response to the undervoltage condition was normal. Appropriate corrective actions associated with CW-P-P/1C have been taken.

Assessment of Safety Consequences

WNP-2's electrical distribution system relay scheme operated as designed to isolate the fault without unnecessary challenges to the plant electrical distribution system. In this case the feeder breaker for CW-M-P/1C tripped, isolating the fault immediately. Offsite and onsite sources designed to automatically supply the safety-related electrical busses were available at the time from transformer TR-B and the EDGs. The safety significance of this event is considered minimal.

Similar Events

There have been no similar previous events of motor faults causing starts of the EDGs.

