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 FACIL: 50-397 WPPSS Nuclear Project, Unit 2, Washington Public Powe 05000397
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 DAVISON, W.S. Washington Public Power Supply System
 POWERS, C.M. Washington Public Power Supply System
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 88-036-01: on 881118, failure to perform Div 1 4.16 kV
 emergency bus undervoltage degraded voltage protection TSS.
 W/8 ltr.

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

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	NRR/DEST/CEB 8H	1 1	NRR/DEST/ESB 8D	1 1
	NRR/DEST/ICSB 7	1 1	NRR/DEST/MEB 9H	1 1
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	NRR/DOEA/EAB 11	1 1	NRR/DREP/RAB 10	1 1
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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 5																													
TITLE (4) Failure To Perform Division One 4.16 KV Emergency Bus Undervoltage Degraded Voltage Protection Technical Specification Surveillance Due to Inadequate Procedure																																																	
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)									
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OPERATING MODE (9)										THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)																																							
1										20.402(b)										20.405(c)										50.73(a)(2)(iv)										73.71(b)									
POWER LEVEL (10)										20.405(a)(1)(i)										50.38(c)(1)										50.73(a)(2)(v)										73.71(c)									
1 0 0										20.405(a)(1)(ii)										50.38(c)(2)										50.73(a)(2)(vii)										OTHER (Specify in Abstract below and in Text NRC Form 366A)									
										20.405(a)(1)(iii)										X 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)																			
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LICENSEE CONTACT FOR THIS LER (12)																																																	
NAME																				TELEPHONE NUMBER																													
W.S. Davison, Compliance Engineer																				AREA CODE 5 0 9 3 1 7 1 - 1 2 1 5 0 1 1																													
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																				EXT. 2726																													
CAUSE		SYSTEM		COMPONENT		MANUFACTURER		REPORTABLE TO NPDs		CAUSE		SYSTEM		COMPONENT		MANUFACTURER		REPORTABLE TO NPDs																															
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)

On November 18, 1988, a self initiated Safety System Functional Inspection (SSFI) being performed by the Supply System Engineering Assurance Organization revealed a potential inconsistency between the Channel Functional Test Surveillance Procedure and the Technical Specification requirement for the Division One 4.16 KV Emergency Bus Undervoltage Degraded Voltage (Second Level Undervoltage) protection circuitry. A Nonconformance Report was written to document this condition and initiate further evaluation. On November 21, 1988, further evaluation of this condition resulted in the determination that the Channel Calibration for the Division One Second Level Undervoltage 3 second time delay relay (E-RLY-27/S7/UV) had not been performed within the 18 month frequency required by Plant Technical Specification Table 4.3.3.1-1 Section D.2.

After evaluation and direction by Plant Management, the circuitry was declared inoperable. Technical Specification Section 3.0.3 was entered, an Unusual Event declared, the instruments calibration confirmed and then returned to service. Root causes were identified as being Personnel Performance Error (Management Direction Less Than Adequate) and Personnel Performance Error (Work Practices Less Than Adequate). Corrective actions consisted of modification of the Technical Specification surveillance procedures to include the Division One and Two 3 second time delay relays, and submittal of an emergency Technical Specification change to clarify testing requirements. This event posed no threat to the safety of Plant personnel or the public.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/88

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

Plant Conditions

- a) Power Level - 100%
- b) Plant Mode - 1 (Power Operation)

Event Description

On November 18, 1988, a self initiated Safety System Functional Inspection (SSFI) being performed by the Supply System Engineering Assurance Organization revealed a potential inconsistency between the Channel Functional Test Surveillance Procedure and the Technical Specification requirement for the Division One 4.16 KV Emergency Bus Undervoltage Degraded Voltage (Second Level Undervoltage) protection circuitry. A Nonconformance Report was written to document this condition and initiate further evaluation. On November 21, 1988, further evaluation of this condition resulted in the determination that the Channel Calibration for the Division One Second Level Undervoltage 3 second time delay relay (E-RLY-27/S7/UV) had not been performed within the 18 month frequency required by Plant Technical Specification Table 4.3.3.1-1 Section D.2.

Immediate Corrective Action

For the purposes of this LER, the reportable event occurred at 1400 hours when Technical Specification Section 3.0.3 was entered.

NRC Region V issued Notice of Violation 88-40 to the Supply System for not entering Technical Specification Section 3.0.3 in a timely manner.

On November 21, 1988, after evaluation and direction by Plant Management, the following actions were taken by WNP-2 Plant Staff:

1400 hours - Division One Second Level Undervoltage System was declared inoperable and WNP-2 Technical Specification L.C.O. Action Statement 3.0.3 was entered. An Emergency Classification of Unusual Event was declared.

1459 hours - With initial plant power level at 100 percent, plant operators began power reduction in preparation to shut down the plant in accordance with the requirements of the WNP-2 Technical Specifications.

1510 hours - The channel calibration for the Division One Second Level Undervoltage 3 second time delay relays was started.

1755 hours - The Division One channel calibration was completed satisfactorily.

1800 hours - The Division One 4.16 KV Second Level Undervoltage circuit was declared operable. The plant power reduction was halted at 89%.

1925 hours - Technical Specification Action Statement 3.0.3 was exited and the Emergency Classification of Unusual Event was terminated.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

Further Evaluation and Corrective Action

Further Evaluation

1. This event is being reported as a "condition prohibited by the plants Technical Specification" per the requirements of 10CFR50.73(a)(2)(i)(B).
2. The immediate cause of the event was procedural inadequacy in that the Technical Specification surveillance procedure did not include the calibration of the 3 second time delay relays associated with Division One and Division Two Second Level Undervoltage Protection circuitry.

A formal root cause investigation resulted in identification of the following causes:

- 1) Personnel Performance Error - (Management Programs-Management Direction Less Than Adequate) - At the time WNP-2 Technical Specifications were approved, the management system to clarify Technical Specifications and/or document interpretations was not adequate. During the startup phase of plant operation, it was recognized that the specification required interpretation to conclude that the 3 second time delay relays were not part of the channel. The specifications were not changed to clarify the requirement nor was the interpretation documented. At that time, no interpretation procedure existed. The current Technical Specification interpretation procedure was implemented March 3, 1984.
- 2) Personnel Performance Error - (Management Programs-Work Practices Less Than Adequate) - During initial surveillance procedure preparation and review, there was inadequate verification of Technical Specifications requirements. The surveillance procedures did note the 8 second requirement and stated that 5 seconds of it was covered. Insufficient cross check was done to ensure that the remaining 3 seconds was specifically covered elsewhere.
3. Both the Division One and Division Two Second Level Undervoltage 3 Second Time Delay Relay Calibrations have been previously controlled via the plants non-Technical Specification Surveillance Testing Program at two year required intervals. The Division Two Second Level Undervoltage 3 Second Time Delay Relays did not require calibration because they had been calibrated during the 1987 annual refueling outage via the non-Technical Specification Testing Program. The Division One Surveillance was scheduled for the 1988 annual outage but was deferred for performance during the 1989 outage. Prior to the performance on November 21, 1988, the Division One Second Level Undervoltage 3 second time delay relay had not been calibrated since initial plant startup.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/88

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4. The Division One (and Division Two) Second Level Undervoltage protection consists of three ITE static type definite time undervoltage relays and three secondary time delay (3 second) relays. The undervoltage relays monitor the three phases of the 4160 volt emergency busses. These three relays each provide two contacts which contribute to a two out of three logic array. The relays are set to actuate at approximately 87.3% of nominal bus voltage and will change the state of their contacts following a 5 second time delay. Actuation (contact closure) of two of these relays will energize two of three secondary time delay (3 second) relays. These 3 second time delay relays contribute to the total eight second time delay referenced in the WNP-2 FSAR and the Technical Specification. They are the end-point relays which actuate circuit breaker movement, alarms and other functions.
5. On December 2, 1988, during subsequent evaluation of the Division One 4.16 KV Emergency Bus Second Level Undervoltage event, a possible inconsistency was discovered concerning the Technical Specification surveillance requirements for the Division Three 4.16 KV Emergency Bus Second Level Undervoltage circuitry. The Division Three circuitry is not specifically called out in Technical Specification Table 3.3.3-1, ECCS Minimum Channels Required, nor listed in Table 4.3.3-1, ECCS Surveillance Requirements. Its setpoint is, however, listed in Table 3.3.3-2, ECCS Actuation Setpoints.

On December 2, 1988, during a plant outage, the Division 3 Second Level Undervoltage Channel Calibration Test was successfully performed per the requirements of the WNP-2 Technical Specifications.

Further Corrective Action

1. Discussion with NRR and NRC Region Five Staff resulted in submittal of an emergency Technical Specification amendment with a Safety Analysis to clarify the testing requirements. Included in this submittal was the exclusion of the Division Three circuitry from the Channel Functional Test requirement due to the inability to test this circuit during power operation without loss of the circuit protective function and without the use of jumpers to place the logic in a tripped condition. The emergency Technical Specification change addressed the Division One, Two and Three Technical Specification surveillance requirements. The emergency Technical Specification change was issued to WNP-2 by NRR on January 6, 1989.
2. Channel Calibration Technical Specification Surveillance procedures have been revised to include the Division One and Division Two 3 second time delay relays.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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EXPIRES: 8/31/88

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Safety Significance

Upon notification by NRC Region Five staff that the Supply System was in non-compliance with Technical Specification Table 4.3.3.1-1 Section D.2, a plant shutdown was initiated. The Division One Second Level Undervoltage circuitry was declared inoperable and appropriate action was taken to place the plant in the condition specified by the Technical Specifications. The Division Two Second Level Undervoltage circuitry was operable during this entire period of time, therefore the redundant Division Two 4.16 KV Emergency Bus was capable of performing all of the functions required to establish safe shutdown during accident conditions. Also, Normal Onsite and Offsite electrical power distribution systems were operable during this event. This event posed no threat to the safety of Plant personnel or the public.

Similar Events

None

EIIS InformationText ReferenceEIIS Reference

System Component

Division One/Two/Three 4.16 KV Emergency Bus Undervoltage
Degraded Voltage Protection Circuitry

EA 27

E-RLY-27/S7/UV

EA 27

3 Second Time Delay Relay

EA 2

WASHINGTON PUBLIC POWER SUPPLY SYSTEM

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

Docket No. 50-397

March 14, 1989

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

Subject: NUCLEAR PLANT NO. 2
LICENSEE EVENT REPORT NO. 88-036-01

Dear Sir:

Transmitted herewith is Licensee Event Report No. 88-036-01 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

CMP:lg

Enclosure:
Licensee Event Report No. 88-036-01

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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