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SUBJECT: LER 98-001-00:on 980203,automatic start of HPCS EDG was noted.Caused by operator error.Operations crew stabilized plant at approximately 75% reactor power & investigation of event was initiated.W/980304 ltr.

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WASHINGTON PUBLIC POWER SUPPLY SYSTEM
P.O. Box 968 • Richland, Washington 99352-0968

March 4, 1998
GO2-98-044

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. 98-001-00**

Transmitted herewith is voluntary Licensee Event Report No. 98-001-00 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

Enclosure

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LICENSEE EVENT REPORT (LER)

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TITLE (4) VOLUNTARY REPORT OF AUTOMATIC START OF HPCS DG DUE TO OPERATOR ERROR

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
02	03	98	98	001	00	03	04	98	N/A	05000

OPERATING MODE	1
POWER	100

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)

	20.402(b)		20.405(c)		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)	X	OTHER
	20.405(a)(1)(iii)		50.73(a)(2)(i)		50.73(a)(2)(viii)(A)		Voluntary (NUREG 1022)
	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 (Include Area Code)
Bill Pfitzer, Licensing Engineer	509-377-2419

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	YEAR
	YES (If yes, completed EXPECTED SUBMISSION DATE).	NO				

ABSTRACT:

On 2/03/98, during the performance of surveillance testing, with the plant in Operating Mode 1, a control room operator mistakenly tripped the supply breaker for 4160v electrical bus SM-2 by inadvertent operation of the breaker handswitch. This resulted in the loss of electrical bus SM-2 which was accompanied by tripping of condensate pump COND-P-1B, condensate booster pump COND-P-2B, condenser circulating water pump CW-P-1B and the supply breaker to bus SM-4, and automatic starting of the High Pressure Core Spray emergency diesel generator (HPCS DG). Loss of COND-P-1B and COND-P-2B initiated a reactor water level transient which was mitigated by prompt Operations crew action to reduce total core flow to approximately 60 million lb-mass/hr by use of the Reactor Recirculation system. All plant equipment operated as designed during the event.

Immediate actions were taken by the Operations crew to stabilize the plant at approximately 75% reactor power, and an investigation of the event was initiated by convening an Incident Review Board (IRB).

The cause of the event was human error and failure to self check, in that the control room operator erroneously tripped the supply breaker for electrical bus SM-2, which in turn caused the loss of bus SM-4 and the start of the HPCS DG.

This event is voluntarily reported since the HPCS DG is not an Engineered Safety Feature at WNP-2. The safety significance of this event is considered minimal.

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

Event Description

On February 3, 1998, while operating in Mode 1 at 100% power, control room personnel were making preparations to perform the Division 1 Emergency Diesel Generator semi-annual operability surveillance (OSP-ELEC-S701). In accordance with the surveillance procedure, the designated Control Room Operator (CRO2) had shifted the power source for electrical board SM-1 from transformer TR-N to transformer TR-S, with a second Control Room Operator (CRO3) acting as a peer checker for the evolution. As one of the final steps in the evolution, the procedure directed the control switch for breaker CB-N1/1, the normal supply breaker to electrical bus SM-1, to be placed in the TRIP position to ensure the switch escutcheon green flag is displayed.

Just prior to this step, CRO3 (the peer checker) responded to an unrelated control room annunciator, and CRO2 (the performer) momentarily turned away from the control panel to review the impending steps of the procedure. After reviewing the procedure, CRO2 returned his attention to the control panel and incorrectly selected and manipulated the control switch for breaker CB-N1/2, the normal supply breaker to bus SM-2. Upon manipulation of the handswitch, CB-N1/2 tripped, de-energizing SM-2. The selection and operation of the handswitch for CB-N1/2 was performed in error by CRO2.

De-energization of SM-2 caused automatic tripping of the pumps associated with the bus, i.e., condensate pump COND-P-1B, condensate booster pump COND-P-2B, and condenser circulating water pump CW-P-1B. The consequent reduction in reactor feedwater flow resulted in reactor water level lowering at a rate of about 25 inches per minute. Prompt action by the Operations crew to lower total core flow to approximately 60 million lb-mass/hr using the Reactor Recirculation system, thus reducing reactor power level, successfully stabilized the plant at approximately 75% power. Power was immediately returned to bus SM-2 by manual closure of the alternate supply breaker from transformer TR-S.

Additionally, the momentary loss of bus SM-2 caused the de-energization of electrical bus SM-4, which in turn resulted in automatic starting of the HPCS DG due to SM-4 undervoltage. Normal power was subsequently returned to bus SM-4 when the Operations crew re-closed the supply breakers from SM-2 and manually tripped the HPCS DG.

Because the HPCS DG is not considered an Engineered Safety Feature at WNP-2, this report is being voluntarily submitted per the recommendation of NUREG 1022. This event would otherwise require a mandatory report per the requirements of 10CF50.73(a)(2)(iv).

Immediate Corrective Action

A voluntary 4-hour report of the HPCS DG auto start was made in accordance with 10 CFR 50.72 (b)(2)(ii).

After the transient was stabilized, a Problem Evaluation Request was initiated and an Incident Review Board (IRB) was convened.

Root Cause

The cause of the event was human error. After having reviewed the impending steps of the bus transfer procedure, CRO2 incorrectly selected the handswitch for breaker CB-N1/2 switch and placed it in the TRIP position without adequate self-checking.

A contributing cause of this event was failure to obtain a peer check. After having completed the bulk of the procedure using peer checks, CRO2 considered the remaining portion of the procedure of lesser concern and discontinued obtaining peer checks prior to action steps.

An additional contributing cause of this event was that peer checking standards have not been properly communicated by Operations management.

Further Corrective Action

Operations supervision will conduct and document appropriate counseling to address the human performance error(s) associated with this event.

A station wide stand down was conducted on February 3, 1998, to review this event as well as other recent human performance error initiated events.

An entry into the Operations Night Orders was made on February 3, 1998, reiterating expectations regarding the Operations Observation program, procedure usage, prejob briefs, self checking, and peer checks.

Shift Managers will evaluate crew members for buy-in and adherence to routine self-checking. Individuals that do not exhibit the proper use of self-checking techniques will be given one-on-one reinforcement of the techniques, emphasizing the value of self-checking.

Operations management expectations regarding peer checks and self-checking will be documented in the appropriate Operating Instruction(s).

The Operations Observation program will be revised to provide instruction to reinforce management's expectations for peer checks and self-checking.

Assessment of Safety Consequences

The consequences of this event were minimized by prompt operator action to mitigate and stabilize the resultant reactor water level transient. Additionally, the design basis of the plant envelopes loss of electrical power conditions such as this event. A review of the WNP-2 Probabilistic Safety Analysis shows that loss of bus SM-2 is a negligible contributor to the overall core damage frequency. For these reasons, the safety

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consequences of this event are considered minimal. However, it is recognized that personnel performance is critical to successful plant operations.

Similar Events

LER 96-002 documented an equipment operator opening a potential transformer fuse compartment, resulting in electrical bus SM-8 transferring to alternate power supply, and automatic starting of EDG-2.

LER 95-002 documents Operations personnel manipulation of the wrong lever on the main turbine front standard, resulting in a main turbine trip and reactor scram.