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RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 92-001-00:on 920102,high pressure core spray declared inoperable due to battery inoperability.Caused by instructional presentation deficiencies in TS requirements. Notes were added to surveillance procedure.W/920131 ltr.

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WASHINGTON PUBLIC POWER SUPPLY SYSTEM

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

January 31, 1992
G02-92-030

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. 92-001

Dear Sir:

Transmitted herewith is Licensee Event Report No. 92-001 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,

J. W. Baker (M/D 927M)
WNP-2 Plant Manager

Enclosure:
Licensee Event Report No. 92-001

cc: Mr. John B. Martin, NRC - Region V
Mr. C. Sorensen, NRC Resident Inspector (M/D 901A)
INPO Records Center - Atlanta, GA
Ms. Dottie Sherman, ANI
Mr. D. L. Williams, BPA (M/D 399)
NRC Resident Inspector - walk over copy

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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 4

TITLE (4)

High Pressure Core Spray Inoperable Due To Battery Inoperability

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 NUMBERS(S)
0 1	0 2	9 2	9 2	-- 0 0 1	-- 0 0	0 1	3 0	9 2		0 5 0 0 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)	50.73(a)(2)(iv)	77.71(b)
		20.405(a)(1)(i)	50.36(c)(1)	X 50.73(a)(2)(v)	73.73(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
D.A. Swank, Compliance Engineer	AREA CODE 5 0 9 3 7 7 - 4 4 5 1

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 (16) On January 1, 1992 Plant electrical maintenance technicians performed Technical Specification required battery checks on the Division 3 High Pressure Core Spray (HPCS) battery. Several cells were found to have electrolyte levels below the Technical Specification defined Limit value. The battery was still Operable since the levels were above the Allowable Value level. Water was added to the cells prior to the required check of other cell parameters. When the other parameters were checked on January 2, the specific gravity readings of three of the 58 cells were below the Allowable Value. The HPCS battery, HPCS Diesel Generator, and HPCS system were declared inoperable and the NRC was verbally notified per the requirements of 10CFR50.72(b)(2)(iii)(D). The battery was placed on an equalize charge and by 1215 hours on January 3, 1992 the battery parameters were back within the Limit and Allowable Value ranges and the battery, HPCS, and HPCS Diesel Generator were declared Operable.

The root cause of this event was instructional presentation deficiencies in that the Technical Specification requirements are not clearly worded and the procedure did not provide clear guidance on the Technical Specification requirements. Further corrective actions include: 1) notes were added to the surveillance procedure relative to the Limit and Allowable Values; 2) this LER will be reviewed during the next Operator requalification cycle; and 3) written guidance will be provided to clarify the Technical Specification requirements.

The low specific gravity readings were a result of stratification and did not significantly affect battery performance. Therefore, this event was not safety significant and did not pose a threat to the health and safety of Plant personnel or the public.

Plant Conditions
Plant Mode - 1 (Power Operation)
Power Level -100%

Event Description

On January 1, 1992 Plant electrical maintenance technicians performed procedure PPM 7.4.8.2.1.20, Weekly Battery Checks. Plant Technical Specification 4.8.2.1.a requires that on a weekly basis the designated pilot cells of the Division 3 High Pressure Core Spray (HPCS) battery (HPCS-B1-DG3) be checked for the Category A parameters (electrolyte level, specific gravity, and cell float voltage for each of the pilot cells), and that the total battery terminal voltage be verified. These checks were made and the battery parameters met the required specifications.

As a conservative measure, although required only quarterly by the Technical Specifications, the procedure also requires a check of the electrolyte level in the remaining cells, a Category B parameter. This check identified several cells with electrolyte level at or below the Technical Specification defined Limit value, but in all cases above the Technical Specification defined Allowable Value of the top of the cell plates. At 0610 hours on January 1, 1992 the Shift Manager conservatively declared the Division 3 battery inoperable. Upon further review the Shift Manager correctly determined that a Note in Technical Specification Table 4.8.2.1-1 states:

> For any Category B parameter(s) outside the limit(s) shown, the battery may be considered OPERABLE provided that the Category B parameters are within their allowable values and provided the Category B parameter(s) are restored to within limits within 7 days.

Since the observed levels were within their Allowable Values, the battery was declared Operable at 0718 hours. This Note implies, although it is not clearly stated, that the Category B parameters, cell electrolyte level, voltage, and specific gravity for each of the connected cells, should be verified to be within their Allowable Value range for each of the cells when any of the cell parameters are outside of the Limit range. No time restriction for completion of this verification is provided in the Note. The Shift Manager called for immediate corrective action for the low electrolyte level condition and at approximately 0818 hours Plant electrical maintenance technicians completed adding water to the low cells in the Division 3 battery to return them to within the Limit range.

On January 2, 1992 Plant Maintenance Engineering personnel reviewed the activities of the day before and found that the requirement to verify each of the Category B parameters for each of the connected cells had not yet been performed. Immediate performance of these verification checks revealed that three of the 58 cells of the Division 3 battery had specific gravity readings which were greater than .02 lower than the average of all the connected cells. These specific gravity readings were outside the Allowable Value and Limit ranges. All three of these cells had water added to them the previous day. The Division 3 battery was declared inoperable at 1920 hours on January 2, 1992.

Immediate Corrective Action

Upon finding the low specific gravity readings, the Division 3 battery was placed on an equalize charge to promote mixing within each cell. Both HPCS and the HPCS Diesel Generator, in addition to the HPCS battery, were declared inoperable. The HPCS system was left in a standby status and was available if required. The appropriate Technical Specification action statements were complied with.

Since HPCS is a single train safety system, this event constituted a condition that alone could have prevented the fulfillment of the safety function of a system needed to mitigate the consequences of an accident, a four-hour verbal notification was made to the NRC at 1920 hours pursuant to the requirements of 10CFR50.72(b)(2)(iii)(D).

On January 3, 1992 at 1215 hours the Division 3 battery Category B parameters were rechecked and were all found to be within the Allowable Value and Limit ranges. Battery HPCS-B1-DG3 was declared operable and the action statements were exited.

Further Evaluation and Corrective Action

A. Further Evaluation

Since HPCS is a single train safety system, this event constituted a condition that alone could have prevented the fulfillment of the safety function of a system needed to mitigate the consequences of an accident. This LER is submitted per the requirements of 10CFR50.73(a)(2)(v)(D).

It appears from the information available that the observed low specific gravity condition was due to the addition of water to the cells only one day prior to the readings being taken. The battery manufacturer states that after adding water, mixing within the cells may take several weeks if the battery is on a float charge. However, as long as the cell level before the water addition is above the top of the plates, the addition of water does not significantly alter the performance of the cell.

PPM 7.4.8.2.1.20 has a limitation in the front of the procedure to address failure to meet the Category A limits, but did not specifically address the Category B Limits and Allowable Values. Additionally, there were no notes in the body of the procedure pertaining to the limitation or providing guidance on what to do in the event the Category A or B parameters fall outside the Technical Specification Limits or Allowable Values.

The root cause of this event was instructional presentation deficiencies in that the Technical Specification requirements contained in Note 2 of Table 4.8.2.1-1 are not clearly worded and the procedure did not provide sufficient guidance on the Technical Specification requirements.

B. Further Corrective Action

1. The weekly battery testing procedure was changed to include notes in the body of the procedure relative to the Category A and B parameters.

2. This LER will be reviewed during the next Licensed Operator Requalification training cycle.

3. Written guidance will be provided to clarify the Technical Specification requirements.

Safety Significance

The low specific gravity readings observed were a result of adding water to the cells. At no time was the level in any cell below the top of the plates. The manufacturer of the batteries states that operational performance is only marginally effected by low electrolyte level so long as the level is maintained above the top of the plates. In addition, the battery performance is not significantly effected by the addition of water to a cell where electrolyte level is above the plates prior to the addition. The average specific gravity of a cell is independent of the degree of mixing and, as verified by specific gravity testing on January 3 after mixing had occurred, the average specific gravity in the cells was acceptable. The observed low specific gravity condition was actually only temporary stratification due to the addition of water. Although technically inoperable, the HPCS system was maintained in its normal standby status and was available for service if required. Therefore, this event involved no safety significance.

Similar Events

There have been no previous LERs involving low battery levels or specific gravity readings. LER 90-017 documented the inoperability of the HPCS battery due to the cracked casing of a single cell.

EIIS Information

Text Reference	EIIS Reference	
	System	Component
Division 3 battery, HPCS battery, HPCS-B1-DG3	EI	BTRY
HPCS	BG	---
HPCS diesel Generator	EK	DG