

ACCELERATED DOCUMENT DISTRIBUTION SYSTEM

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9302220080 DOC. DATE: 93/02/12 NOTARIZED: NO DOCKET #
 FACIL: 50-397 WPPSS Nuclear Project, Unit 2, Washington Public Power 05000397
 AUTH. NAME AUTHOR AFFILIATION
 FIES, C.L. Washington Public Power Supply System
 BAKER, J.W. Washington Public Power Supply System
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 89-006-01: on 890316, entry into TS 3.0.3 caused by errors discovered in calculation for dose received by CR operators during LOCA. CR calculation revised to assume zero percent mixing of leakage from containment. W/930212 ltr.

DISTRIBUTION CODE: IE22T COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 6
 TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

NOTES:

RECIPIENT ID CODE/NAME	COPIES LTTR ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR ENCL
PD5 LA	1 1	PD5 PD	1 1
CLIFFORD, J	1 1		
INTERNAL: ACNW	2 2	ACRS	2 2
AEOD/DOA	1 1	AEOD/DSP/TPAB	1 1
AEOD/ROAB/DSP	2 2	NRR/DET/EMEB 7E	1 1
NRR/DLPQ/LHFB10	1 1	NRR/DLPQ/LPEB10	1 1
NRR/DOEA/OEAB	1 1	NRR/DREP/PRPB11	2 2
NRR/DST/SELB 8D	1 1	NRR/DST/SICB8H3	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 BRYCE, J.H	2 2	L ST LOBBY WARD	1 1
NRC PDR	1 1	NSIC MURPHY, G.A	1 1
NSIC POORE, W.	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. 504-2065) TO ELIMINATE YOUR NAME FROM DISTRIBUTION LISTS FOR DOCUMENTS YOU DON'T NEED!

FULL TEXT CONVERSION REQUIRED
 TOTAL NUMBER OF COPIES REQUIRED: LTTR 31 ENCL 31

A04

WASHINGTON PUBLIC POWER SUPPLY SYSTEM

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

February 12, 1993
G02-93-034

Docket No. 50-397

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

**SUBJECT: NUCLEAR PLANT WNP-2, OPERATING LICENSE NPF-21
LICENSEE EVENT REPORT NO. 89-006-01**

Transmitted herewith is Licensee Event Report No. 89-006-01 for the WNP-2 Plant. This revised report is submitted in response to the requirements of 10CFR50.73. It provides the results of the root cause analysis and identifies additional corrective actions. This information was not available for Revision 0 of the LER.

Sincerely,

J. W. Baker for

J. W. Baker
WNP-2 Plant Manager (Mail Drop 927M)

JWB/WSD/my
Enclosure

cc: Mr. J. B. Martin, NRC - Region V
Mr. R. Barr, NRC Resident Inspector (Mail Drop 901A, 2 Copies)
INPO Records Center - Atlanta, GA
Mr. D. L. Williams, BPA (Mail Drop 399)

190126

9302220080 930212
PDR ADDCK 05000397
S PDR

JE22

LICENSEE EVENT REPORT (LER)															DOCKET NUMBER (2)					PAGE (3)				
FACILITY NAME (1)																								
Washington Nuclear Plant - Unit 2															0 5 0 0 0 3 9 7					1 OF 5				
TITLE (4)																								
ENTRY INTO TECHNICAL SPECIFICATION 3.0.3 CAUSED BY DISCOVERY OF CALCULATION ERRORS IN POST LOCA INTEGRATED CONTROL ROOM DOSE																								
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 (5)											
0	3	1	6	8	9	8	9	--	0	0	6	--	0	1	0	2	1	2	9	3				
OPERATING MODE (9)			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)																					
1																								
POWER LEVEL (10)			20.402(b)				20.405(c)				50.73(a)(2)(iv)				77.71(b)									
0			20.405(a)(1)(i)				50.36(c)(1)				50.73(a)(2)(v)				73.73(c)									
7			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)									
8			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)													
			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, Licensing Engineer															AREA CODE									
															5 0 9 3 7 7 - 4 1 4 7									
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																								
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 (16)																								
<p>On March 16, 1989, during a review of the WNP-2 Final Safety Analysis Report (FSAR) being performed by Supply System engineering personnel as a result of the submission of a proposed Technical Specification amendment, an error was discovered in the calculation for dose received by Control Room operators during a Loss of Coolant Accident (LOCA). The plant was currently limited to 78% power due to an inoperable Main Steam Isolation Valve which resulted in the ability to utilize only three of the four main steam lines. The error was such that the ability to stay within the limits of design basis for dose to the operators was not able to reasonably assured. As result of the potential inoperability of the Control Room Emergency Filtration System, Technical Specification LCO Action Statement 3.0.3 was entered, an Emergency Classification of Unusual Event was declared and a controlled shutdown was initiated. Due to the results of additional evaluation and institution of compensatory measures, the shutdown was terminated at 52% power as the plant was considered to be within design basis requirements. In addition to the power reduction, compensatory measures were initiated to recover the operable condition of the Control Room Emergency Filtration systems. LCO Action Statement 3.0.3 was exited and the Emergency Classification of Unusual Event was terminated. Subsequent reviews of the dose projection model discovered conservatism of sufficient magnitude to conclude that control room personnel would be provided sufficient protection post LOCA. There is no safety significance associated with this event as subsequent evaluation demonstrated the ability of the WNP-2 design to function adequately during post LOCA conditions.</p>																								

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION															
FACILITY NAME (1)		DOCKET NUMBER (2)					LER NUMBER (8)			PAGE (3)					
Washington Nuclear Plant - Unit 2		0	5	0	0	0	3	9	7	Year	Number	Rev. No.			
		8	9							0	0	6	0	1	
TITLE (4)		ENTRY INTO TECHNICAL SPECIFICATION 3.0.3 CAUSED BY DISCOVERY OF CALCULATION ERRORS IN POST LOCA INTEGRATED CONTROL ROOM DOSE													

Plant Conditions

Power Level - 78%

Plant Mode - 1 (Power Operation)

Event Description

On March 16, 1989, during a review of the WNP-2 Final Safety Analysis Report (FSAR) being performed by Supply System engineering personnel, as a result of the submission of a proposed Technical Specification amendment, an error was discovered in the calculation for dose received by Control Room operators during a Loss of Coolant Accident (LOCA). It was discovered that WNP-2 Calculation NE-02-88-27 Rev. 0 assumes 100% mixing of leakage from the Primary Containment into the Secondary Containment atmosphere. A review of the FSAR identified a previous commitment to Regulatory Guide 1.3 Rev. 2 in conjunction with the statement that an alternate atmosphere dispersion and dilution methodology was used. Regulatory Guide 1.3 Rev. 2 specifies a 0% mixing criteria for use in determination of dose received by control room personnel. The Regulatory Guide does permit the use of mixing, but not without prior NRC approval. An examination of the WNP-2 calculation based on 100% mixing revealed that no exception had been requested or granted by the NRC to the Regulatory Guide 1.3 Rev. 2 requirement for 0% mixing. Thus, the ability of the Control Room Emergency Filtration System to perform its intended function to keep the control room within the limits of design basis for thirty day integrated dose to the control room operators during and after a LOCA was not able to be reasonably assured without performing additional calculations to determine the magnitude of the effect.

Immediate Corrective Action

After evaluation and direction by Plant Management, the following actions were taken:

1430 Hours - The NRC Bethesda Operations Center was notified of the occurrence of this event as a one-hour nonemergency event per the requirements of 10CFR50.72(b)(1)(ii)(B).

1454 Hours - Technical Specification LCO 3.0.3 was entered and a controlled shutdown was commenced. This action was taken as a result of the determination by the Plant Operations Committee. The Plant was operating in an unanalyzed condition due to the Control Room Emergency Filtration System being potentially unable to achieve its design function and therefore not able to meet the requirements of Technical Specification 3.7.2 "Control Room Emergency Filtration System."

1520 Hours - The Shift Manager declared an Emergency Classification of Unusual Event.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION															
FACILITY NAME (1)		DOCKET NUMBER (2)					LER NUMBER (8)			PAGE (3)					
Washington Nuclear Plant - Unit 2		0	5	0	0	0	3	9	7	Year	Number	Rev. No.			
		8	9							0	0	6	0	1	
										3	OF	5			
TITLE (4) ENTRY INTO TECHNICAL SPECIFICATION 3.0.3 CAUSED BY DISCOVERY OF CALCULATION ERRORS IN POST LOCA INTEGRATED CONTROL ROOM DOSE															

1529 Hours - As a compensatory measure, the South Control Room Ventilation Remote Air Intake (ROA-V-52B) was opened to supply additional dilution of any intake source with additional clean air. The North Control Room Ventilation Remote Air Intake (ROA-V-52A) was left in the open position.

1530 Hours - NRC Bethesda Operations Center was notified of the Emergency Classification.

1651 Hours - Additional analysis was completed which established the capability to meet the FSAR commitment to Regulatory Guide 1.3 with reactor power equal to or less than 52% equilibrium conditions.

1720 Hours - The shutdown was halted at a reactor power level of 52%.

1840 Hours - Technical Specification Action Statement 3.0.3 was exited based upon the following compensatory measures:

1. Both Control Room Remote Air Intakes must remain open.
2. At least a positive one-eighth inch water gauge pressure must be maintained in the Control Room.
3. An operator was dedicated to respond within 20 minutes to close one of the Remote Air Intakes in the case of high radiation and briefed on his responsibilities.
4. The system operating procedure was modified to reflect the new restrictions.
5. Reactor Power was limited to the levels approved by current analysis.

1854 Hours - The Emergency Classification of Unusual Event was terminated.

Further Evaluation and Corrective Action

Further Evaluation

1. This LER is written to document this event as reportable per the requirements of 10CFR50.73(a)(2)(i)(B) "Any operation or condition prohibited by the plant's Technical Specification ..."
2. There were no structures, components or systems that were inoperable prior to start of this event which contributed to the event.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION								
FACILITY NAME (1) Washington Nuclear Plant - Unit 2	DOCKET NUMBER (2) 0 5 0 0 0 3 9 7		LER NUMBER (8)			PAGE (3)		
			Year	Number	Rev. No.			
			8 9	0 0 6	0 1	4	OF	5
TITLE (4) ENTRY INTO TECHNICAL SPECIFICATION 3.0.3 CAUSED BY DISCOVERY OF CALCULATION ERRORS IN POST LOCA INTEGRATED CONTROL ROOM DOSE								

3. Since the additional evaluation of the control room dose calculations resulted in the confirmation of the ability to return the plant to 78% power, it was concluded that the entry into Technical Specification Action Statement 3.0.3 on March 16, 1989, was not necessary and was a conservative action. The decision to enter Technical Specification 3.0.3 was based on the conclusion that the power plant was being operated in a condition that exceeded the Control Room Emergency Filtration Systems ability to maintain control room personnel dose within the design limits.
4. The root cause was an inadequate work practice due to lack of attention to detail by the originator of the calculation. The design criteria limiting the use of mixing from primary containment was overlooked. This oversight was also missed by the individual verifying the calculation.

Further Corrective Actions

1. The Control Room dose calculation was revised (NE-02-88-27 Rev. 1) to assume zero percent mixing of leakage from primary containment.
2. The individual performing the calculation and the verifier were both counseled.
3. To provide assurance that this problem would not recur, an Engineering Flyer was written and distributed to all Engineering personnel describing the error that was made and the importance to attention to detail.

Safety Significance

There is no safety significance associated with this event as it involved errors in calculations which, through additional evaluation, were shown to contain overly conservative assumptions. Removal of the unnecessary conservatism resulted in proving the capability of the WNP-2 Control Room Emergency Filtration System design to assure that the thirty day integrated dose received by control room operators as a result of a LOCA was consistent with the requirements of 10CFR50 Appendix A General Design Criterion 19 and the methodology required by Reg. Guide 1.3 Rev. 2 and the Standard Review Plan Section 6.4.

Similar Events

LER 86-036-01 "Failure to Perform Division One 4.16 KV Emergency Bus Undervoltage Degraded Voltage Protection Technical Specification Surveillance Due to Inadequate Procedure" documented an event which involved entry into Technical Specification Action Statement 3.0.3.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION											
FACILITY NAME (1)		DOCKET NUMBER (2)				LER NUMBER (8)				PAGE (3)	
Washington Nuclear Plant - Unit 2		0 5 0 0 0 3 9 7				Year		Number		Rev. No.	
		8 9				0 0 6		0 1		5 OF 5	
TITLE (4) ENTRY INTO TECHNICAL SPECIFICATION 3.0.3 CAUSED BY DISCOVERY OF CALCULATION ERRORS IN POST LOCA INTEGRATED CONTROL ROOM DOSE											

EIIS Information

Text Reference

ROA-V-52B
ROA-V-52A
Primary Containment
Secondary Containment

EIIS Reference

<u>System</u>	<u>Component</u>
VA	V
VA	V
NH	-----
NG	-----