

# ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

## REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:8807110182 DOC.DATE: 88/06/29 NOTARIZED: NO DOCKET #  
 FACIL:50-397 WPPSS Nuclear Project, Unit 2, Washington Public Powe 05000397  
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 RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 88-021-00:on 880530,nuclear steam supply shutoff sys  
 Group 6 isolation.

W/8 ltr.

DISTRIBUTION CODE: IE22D COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 5  
 TITLE: 50.73 Licensee Event Report (LER), Incident Rpt, etc.

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AEOD/DOA	1 1	AEOD/DSP/NAS	1 1
AEOD/DSP/ROAB	2 2	AEOD/DSP/TPAB	1 1
ARM/DCTS/DAB	1 1	DEDRO	1 1
NRR/DEST/ADS 7E	1 0	NRR/DEST/CEB 8H	1 1
NRR/DEST/ESB 8D	1 1	NRR/DEST/ICSB 7	1 1
NRR/DEST/MEB 9H	1 1	NRR/DEST/MTB 9H	1 1
NRR/DEST/PSB 8D	1 1	NRR/DEST/RSB 8E	1 1
NRR/DEST/SGB 8D	1 1	NRR/DLPQ/HFB 10	1 1
NRR/DLPQ/QAB 10	1 1	NRR/DOEA/EAB 11	1 1
NRR/DREP/RAB 10	1 1	NRR/DREP/RPB 10	2 2
NRR/DRIS/SIB 9A	1 1	NUDOCS-ABSTRACT	1 1
<u>REG FILE</u> 02	1 1	RES TELFORD,J	1 1
RES/DE/EIB	1 1	RES/DRPS DEPY	1 1
RGNS FILE 01	1 1		
EXTERNAL: EG&G WILLIAMS,S	4 4	FORD BLDG HOY,A	1 1
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## LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Washington Nuclear Plant - Unit 2										DOCKET NUMBER (2) 0 5 0 0 0 3 1 9 1 7										PAGE (3) 1 OF 0 1 4																														
TITLE (4) Nuclear Steam Supply Shutoff System Group 6 Isolation Due to De-energization of the Trip Logic Circuit - Due to Personnel Error																																																		
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)																	
0 5			3			0 8			8			8			8			0 2			1			0			0 0			6			2			9			8			8			0 5 0 0 0 0					
OPERATING MODE (9) 5						THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)																																												
POWER LEVEL (10) 0 1 0 1 0						20.402(b)						20.405(c)						<input checked="" type="checkbox"/> 50.73(a)(2)(iv)						73.71(b)																										
						20.405(a)(1)(i)						50.38(c)(1)						50.73(a)(2)(v)						73.71(c)																										
						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)						50.73(a)(2)(ii)						50.73(a)(2)(viii)(A)																																
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LICENSEE CONTACT FOR THIS LER (12)																																																		
NAME T.R. Wyrick, Compliance Engineer																TELEPHONE NUMBER 5 0 1 9 3 1 7 1 7 1 - 1 2 1 1 5 1 8																																		
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																																																		
CAUSE		SYSTEM		COMPONENT		MANUFACTURER		REPORTABLE TO NPDOS				CAUSE		SYSTEM		COMPONENT		MANUFACTURER		REPORTABLE TO NPDOS																														
SUPPLEMENTAL REPORT EXPECTED (14)																EXPECTED SUBMISSION DATE (15)		MONTH		DAY		YEAR																												
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)																<input checked="" type="checkbox"/> NO																																		

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

On May 30, 1988, at 1410 hours, while in Plant Mode 5 (Refueling) with the reactor head removed, the reactor cavity flooded, and the fuel pool gates removed, the Outboard Nuclear Steam Supply Shutoff System (NS<sup>4</sup>) Group 6, automatically isolated. At the time of this event Residual Heat Removal (RHR) Shutdown Cooling Loop A was in operation and was isolated as a result of this event.

The cause of this event was the de-energization of the Nuclear Steam Supply Shutoff System (NS<sup>4</sup>) Group 6 trip logic circuit caused by the inadvertent removal of the circuit fuse by a Licensed Control Room Operator (CRO).

An outboard NS<sup>4</sup> Group 6 actuation isolates the Outboard Residual Heat Removal (RHR) Shutdown Cooling Supply Valve (RHR-V-8), Outboard RHR Shutdown Cooling Return Valves (RHR-V-53A and 53B), and Outboard RHR to Reactor Head Spray Valve (RHR-V-23). In addition, closing RHR-V-8 will cause both RHR Pump 2A and 2B to trip if no other suction path is available. For this event the closure of RHR-V-8 caused RHR pump 2A to trip. Both RHR-V-53B and RHR-V-23 were closed prior to the event.

The root cause of this event is a skill based personnel error. Contributing factors which led to this event are the lack of a positive method for fuse identification and inconsistently installed fuse identification clips throughout the control room panels.

Plant operators responded by reinserting the trip logic circuit fuse and by returning RHR Shutdown Cooling Loop A to operation within 20 minutes. Returning RHR Shutdown Cooling Loop A to operation also returned all NS<sup>4</sup> Group 6 components to their pre-event status.

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## 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	0   5   0   0   0   3   9   7	8   8	—	0   2   1	—	0   0	0   2	OF 0   4

TEXT (If more space is required, use additional NRC Form 368A's) (17)

Abstract (Cont'd)

The CRO was counseled on the importance of close attention to detail. The Operations department has implemented a double verification program requiring two licensed operators to verify the fuse location prior to removing and during the reinstallation of small fuses. Additionally, all fuse identification clips will be removed from the control room panels.

There is no safety significance associated with this event. RHR Shutdown Cooling was returned to operation within the allowable Technical Specification Action Statement time limit.

Plant Conditions

- a) Power Level - 0%
- b) Plant Mode - 5 (Refueling)

Event Description

At 1410 hours on May 30, 1988 while in operational condition 5 with the reactor head removed, the reactor cavity flooded and the fuel pool gates removed, the Outboard Nuclear Steam Supply Shutoff System (NS<sup>4</sup>) Group 6, automatically isolated when a Licensed Reactor Operator inadvertently de-energized the NS<sup>4</sup> Group 6 trip logic circuit by removing the circuit fuse. An outboard NS<sup>4</sup> Group 6 actuation isolates the Outboard Residual Heat Removal (RHR) Shutdown Cooling Supply Valve (RHR-V-8), Outboard RHR Shutdown Cooling Return Valves (RHR-V-53A and 53B), and Outboard RHR to Reactor Head Spray Valve (RHR-V-23). At the time of this event RHR Shutdown Cooling Loop A was in operation and isolated as a result of this event. In addition, closing RHR-V-8 will cause both RHR Pump 2A and 2B to trip if no other suction path is available, and for this event caused RHR pump 2A to trip. Both RHR-V-53B and RHR-V-23 were closed prior to the event.

At 1425 hours on May 30, 1988 RHR Shutdown Cooling was re-established using RHR Loop A.

A Licensed Operator was executing a Clearance Order which required pulling fuse #3 on fuse block BB located in control room panel P623. The Licensed Operator failed to recognize fuse #1 because it was covered by a fuse identification clip and started counting down from fuse #2. Fuses 2, 3, 4 and 5 had no identification clips on them making them very visible. Because he started counting from fuse #2 rather than #1, he inadvertently pulled fuse #4 rather than #3, causing the event.

Immediate Corrective Action

Plant Operators responded by re-inserting fuse #4. RHR Shutdown Cooling was re-established using RHR Loop A within 20 minutes, which returned all NS<sup>4</sup> Group 6 components to there pre-event status.

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (5)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
Washington Nuclear Plant - Unit 2	0 5 0 0 0 3 9 7	8 8	— 0 2 1	— 0 0	0 3	OF	0 4

TEXT (If more space is required, use additional NRC Form 305A's) (17)

Further Evaluation and Corrective Action

## A. Further Evaluation

1. The immediate cause of the event was the de-energization of the NS4 Group 6 trip logic circuit caused by the inadvertent removal of the trip logic circuit fuse. The root cause of this event is a skill based personnel error, and Plant procedures did not contribute to the event.

A contributing cause of this event is inconsistent application of fuse identification clips which are randomly installed on small fuses throughout the control room panels. When looking face on at a terminal strip with a fuse identification clip installed, the fuse is completely blocked from view. Another contributing factor is the lack of a positive method for identification of small fuses.

2. The Nuclear Steam Supply Shutoff System is an Engineered Safety Feature and this event is therefore reportable per 10CFR5073(a)(2)(iv).
3. There were no structures, components, or systems inoperable prior to the event that contributed to the event.

## B. Further Corrective Action

1. The Licensed Operator was counseled on the importance of close attention to detail.
2. The Operations department has implemented a double verification program requiring two licensed operators to verify a fuse location prior to removing and during the reinstallation of small control room fuses.
3. Fuse identification clips will be removed from all control room panel fuse blocks to provide consistency and eliminate any confusion.
4. During the investigation of this event, it was noted that panel arrangement drawings located inside control room panels are not controlled documents and, as a result the potential exist for the drawings to be inaccurate. Although, these drawings did not contribute to this event, such drawings will be removed to prevent any inaccuracy or future confusion regarding fuse location.
5. A technical evaluation will be performed to determine the best method for identifying small fuses in the main control room.



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## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
Washington Nuclear Plant - Unit 2	0 5 0 0 0 3 9 7	8 8	0 2 1	0 0	0 4	OF	0 4

TEXT (If more space is required, use additional NRC Form 365A's) (17)

Safety Significance

There is no safety significance associated with this event. RHR Shutdown Cooling was restored within the Plant Technical Specification Action Statement time limit. And, at the time of the event the reactor water level was greater than 22 feet above the reactor vessel flange which provides a large heat sink for core cooling and adequate time to restore RHR Shutdown Cooling or initiate an alternate decay heat removal method. Additionally, no Plant condition requiring the NS<sup>4</sup> Group 6 isolation existed and all NS<sup>4</sup> Group 6 isolations occurred as designed. This event posed no threat to the health and safety of either the public or plant personnel.

Similar Events

None

EIIS InformationText ReferenceEIIS Reference

Nuclear Steam Supply Shutoff System (NS<sup>4</sup>)  
Residual Heat Removal (RHR) Shutdown Cooling Loop A  
RHR Shutdown Cooling Supply Valve (RHR-V-8)  
Outboard RHR Shutdown Cooling Return Valves  
(RHR-V-53A and 53B)  
Outboard RHR to Reactor Head Spray Valve (RHR-V-23)  
RHR Pumps 2A and 2B

SystemComponent

BD	- - - - -
BD	- - - - -
BO	ISV
BO	ISV
BO	ISV
BO	P

WASHINGTON PUBLIC POWER SUPPLY SYSTEM

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

Docket No. 50-397

June 29, 1988

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

Subject: NUCLEAR PLANT NO. 2  
LICENSEE EVENT REPORT NO. 88-021

Dear Sir:

Transmitted herewith is Licensee Event Report No. 88-021 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*

C.M. Powers (M/D 927M)  
WNP-2 Plant Manager

CMP:lg

Enclosure:  
Licensee Event Report No. 88-021

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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