

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8806160090 DOC. DATE: 88/06/06 NOTARIZED: NO DOCKET #  
 FACIL: 50-397 WPPSS Nuclear Project, Unit 2, Washington Public Powe 0500039  
 AUTH. NAME AUTHOR AFFILIATION  
 WASHINGTON, S. L. Washington Public Power Supply System  
 POWERS, C. M. Washington Public Power Supply System  
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 88-012-00: on 880606, potential existence of unmonitored radiological effluent release path during certain emergency conditions determined. Cause unknown. Fan disabled. W/880606 ltr.

DISTRIBUTION CODE: IE22D COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 6  
 TITLE: 50.73 Licensee Event Report (LER), Incident Rpt, etc.

NOTES:

	RECIPIENT ID CODE/NAME	COPIES		RECIPIENT ID CODE/NAME	COPIES	
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	AEOD/DOA	1	1	AEOD/DSP/NAS	1	1
	AEOD/DSP/ROAB	2	2	AEOD/DSP/TPAB	1	1
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	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
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	NRR/DLPQ/QAB 10	1	1	NRR/DOEA/EAB 11	1	1
	NRR/DREP/RAB 10	1	1	NRR/DREP/RPB 10	2	2
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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) 050008197 PAGE (3) 1 OF 15

TITLE (4) Potential Unmonitored Effluent Release Path Due To Design Error By Architect/Engineer Cause Unknown

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	0	8	8	0	1	2	0	0	6	0	6	8	8	0	5	0	0	0		

OPERATING MODE (9) 5

POWER LEVEL (10) 0 10 0

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

<input type="checkbox"/>	20.402(b)	<input type="checkbox"/>	20.405(c)	<input type="checkbox"/>	50.73(a)(2)(iv)	<input type="checkbox"/>	73.71(b)
<input type="checkbox"/>	20.405(a)(1)(i)	<input type="checkbox"/>	50.38(e)(1)	<input type="checkbox"/>	50.73(a)(2)(v)	<input type="checkbox"/>	73.71(c)
<input type="checkbox"/>	20.405(a)(1)(ii)	<input type="checkbox"/>	50.38(e)(2)	<input type="checkbox"/>	50.73(a)(2)(vii)	<input checked="" type="checkbox"/>	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
<input type="checkbox"/>	20.405(a)(1)(iii)	<input type="checkbox"/>	50.73(a)(2)(i)	<input type="checkbox"/>	50.73(a)(2)(viii)(A)		10CFR Part 21
<input type="checkbox"/>	20.405(a)(1)(iv)	<input checked="" type="checkbox"/>	50.73(a)(2)(ii)	<input type="checkbox"/>	50.73(a)(2)(viii)(B)		
<input type="checkbox"/>	20.405(a)(1)(v)	<input type="checkbox"/>	50.73(a)(2)(iii)	<input type="checkbox"/>	50.73(a)(2)(ix)		

LICENSEE CONTACT FOR THIS LER (12)

NAME: Steven L. Washington, Compliance Engineer

TELEPHONE NUMBER: 501937171-21080

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE)  NO

EXPECTED SUBMISSION DATE (15)

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

On May 6, 1988 a Plant Design Engineer determined that under certain emergency conditions an unmonitored radiological effluent release path from the Turbine Building through Diesel Generator Corridor (D104) to the atmosphere could exist. The cause of this event is design error. Fan DEA-FN-51, which exhausts directly to the atmosphere during both normal and emergency operation, was part of the original Plant design done by Burns & Roe Inc. The effluent path through DEA-FN-51 should have been evaluated for effluent monitoring instrumentation in accordance with Regulatory Guide 1.97. WNP-2 committed to monitor noble gas effluents in Appendices B and C of the Final Safety Analysis Report (FSAR). The root cause of this event is unknown. During normal and most emergency operations there is no effect since DEA-FN-51 is supplied clean outside air by the Turbine Building HVAC System, or during some emergencies by the DG Area Cable Cooling System. However, during some postulated post-accident conditions it is possible that DEA-FN-51 could pull air from the Turbine Building and exhaust it directly to the atmosphere. The most severe accident (radiologically) in the turbine building is a main steamline break which could generate a source term concentration of  $3.312 \times 10^{-4} \text{uCi/cc}$ . The above concentration is within the range specified in Regulatory Guide 1.97 for which effluent monitoring is required. The effects of a main steamline break in the Turbine Building, with a total release to the environment, have been analyzed and the consequences of this potential event reviewed and accepted. The immediate corrective actions taken included: an engineering assessment which determined that DEA-FN-51 was not required for cable cooling during normal or emergency conditions, disabling the fan by pulling its power fuses, and closing the back draft damper. Corrective actions to be taken include: removal of fan DEA-FN-51 and its accessories, sealing the opening created by the removal of the fan, and a design review to ensure that no other potential Regulatory Guide 1.97 unmonitored leakage paths exist.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		88	012	00	02	OF	05

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

Plant Conditions

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

Event Description

On May 6, 1988 a Plant Design Engineer determined that under certain emergency conditions an unmonitored radiological effluent release path from the diesel generator corridor to the atmosphere could exist. The Plant Design Basis includes an FSAR Appendix B II.F.1.1 commitment to monitor noble gas effluent and an Appendix C FSAR commitment to meet the intent of Regulatory Guide 1.97. This potential release path was being investigated due to a concern raised by a Plant System Engineer.

The Diesel Generator Area Cable Cooling System is designed to cool critical electrical cabling during normal and emergency conditions. The system cools cabling which runs between the emergency diesel generators and the main control room and critical switchgear room. The System is comprised of two independent and separate systems which cool areas containing both Division 1 and Division 2 cable. The failure of one system will not affect the operational functions of the other cooling system. The cable cooling system, which is shown in Figure 1, is comprised of two exhaust fans (DEA-FN-51 and DEA-FN-52) powered from the Division 1 emergency power bus and one supply air handling unit (DMA-AH-51) powered from the Division 2 emergency power bus. During normal Plant operation DEA-FN-51 runs continuously and exhausts directly to the atmosphere. DEA-FN-52 also runs continuously and discharges to the Radwaste Building. DMA-AH-51 is normally in standby. When DMA-AH-51 is running it draws air from the outside when the outside temperature is above 40°F or recirculates room air if the temperature is below 40°F. If not already in service, both DEA-FN-51 and DEA-FN-52 auto start when the Division 1 diesel generator is started and DMA-AH-51 auto starts when the Division 2 diesel generator is started.

During normal Plant operations DEA-FN-51 draws clean air down the diesel generator corridor (D104) which is supplied by the Turbine Building HVAC System. During some emergency conditions DEA-FN-51 and DEA-FN-52 are supplied outside air by the supply air handling unit (DMA-AH-51) when the outside air temperature is greater than 40°F or recirculated room air when the temperature is less than 40°F. However, if during these emergency conditions DMA-AH-51 is not operable, air from the Turbine Building could be drawn in by DEA-FN-51 and exhausted to the atmosphere. A main steamline break in the Turbine Building would result in a source whose maximum concentration is  $3.312 \times 10^{-4}$  uCi/cc. (The source concentration was calculated by dividing the total main steamline break source by 10% of the volume of the Turbine Building.) The above concentration level is within the range specified in Regulatory Guide 1.97 Table 2 (between  $10^{-6}$  uCi/cc and  $10^2$  uCi/cc) and, therefore, this release path should have been monitored.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

Immediate Corrective Actions

An Engineering Assessment determined that DEA-FN-51 was not required for cable cooling during normal or emergency conditions. The fan was disabled by removing its power fuses and by closing the back draft damper.

Further Evaluation

There were no Plant structures, components, or systems inoperable at the start of this event that contributed to this event.

The cause of this event is a design error. This fan was part of the original Plant design done by Burns & Roe Inc., the Architect/Engineer for WNP-2, and should have been evaluated in accordance with Regulatory Guide 1.97. The root cause of this event can not be determined.

This event is reportable per 10CFR50.73(a)(2)(ii)(B) and 10CFR Part 21. The Plant was in a condition outside its design basis.

Further Corrective Actions to be Taken

A Plant Modification Request is being processed to remove DEA-FN-51 and its associated accessories and to seal the opening created by the removal of the fan.

A Plant Design Review will be performed to verify that no other potential unmonitored release paths requiring monitoring by Regulatory Guide 1.97 exist. Burns & Roe, Inc. will be notified of the 10CFR Part 21 determination.

Safety Significance

The maximum potential release through this path would be the entire source generated by a main steamline break. This release has been analyzed (FSAR, Chapter 15, Section 15.6.4) and found acceptable even if all the activity is released directly to the environment. Therefore, the consequences of this potential event have been previously reviewed and accepted. Since an actual emergency condition did not occur during the event period, this event posed not threat to the health and safety of the public or Plant personnel.

Similar Events

None

EIIS Information

Text Reference

Diesel Generator Corridor

EIIS Reference

System      Component

NB      - - - - -

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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		8 8	0 1 2	0 0	0 4	OF	0 5

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

EIIS Information

Text Reference

EIIS Reference

System      Component

Diesel Generator Area Cable Cooling System exhaust fan (DEA-FN-51)	VJ	FAN
Turbine Building HVAC	VK	- - - - -
Diesel Generator Area Cable Cooling System Supply air Handling Unit (DMA-AH-51)	VJ	AHU
Turbine Building	NM	- - - - -
Main Steamline	SB	PSP
Diesel Generator Area Cable Cooling System	VJ	- - - - -
Division 1 Diesel Generator	EL	DG
Division 2 Diesel Generator	EL	DG
Main Control Room	NE	- - - - -
Critical Switchgear Room	NE	- - - - -
Diesel Generator Area Cable Cooling System exhaust fan (DEA-FN-52)	VJ	FAN
Division 1 emergency power bus	EL	BU
Division 2 emergency power bus	EL	BU
Radwaste Building	NE	- - - - -
Reactor Building	NG	- - - - -

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Washington Nuclear Plant - Unit 2	0500039788	88	012	00	05	OF	05

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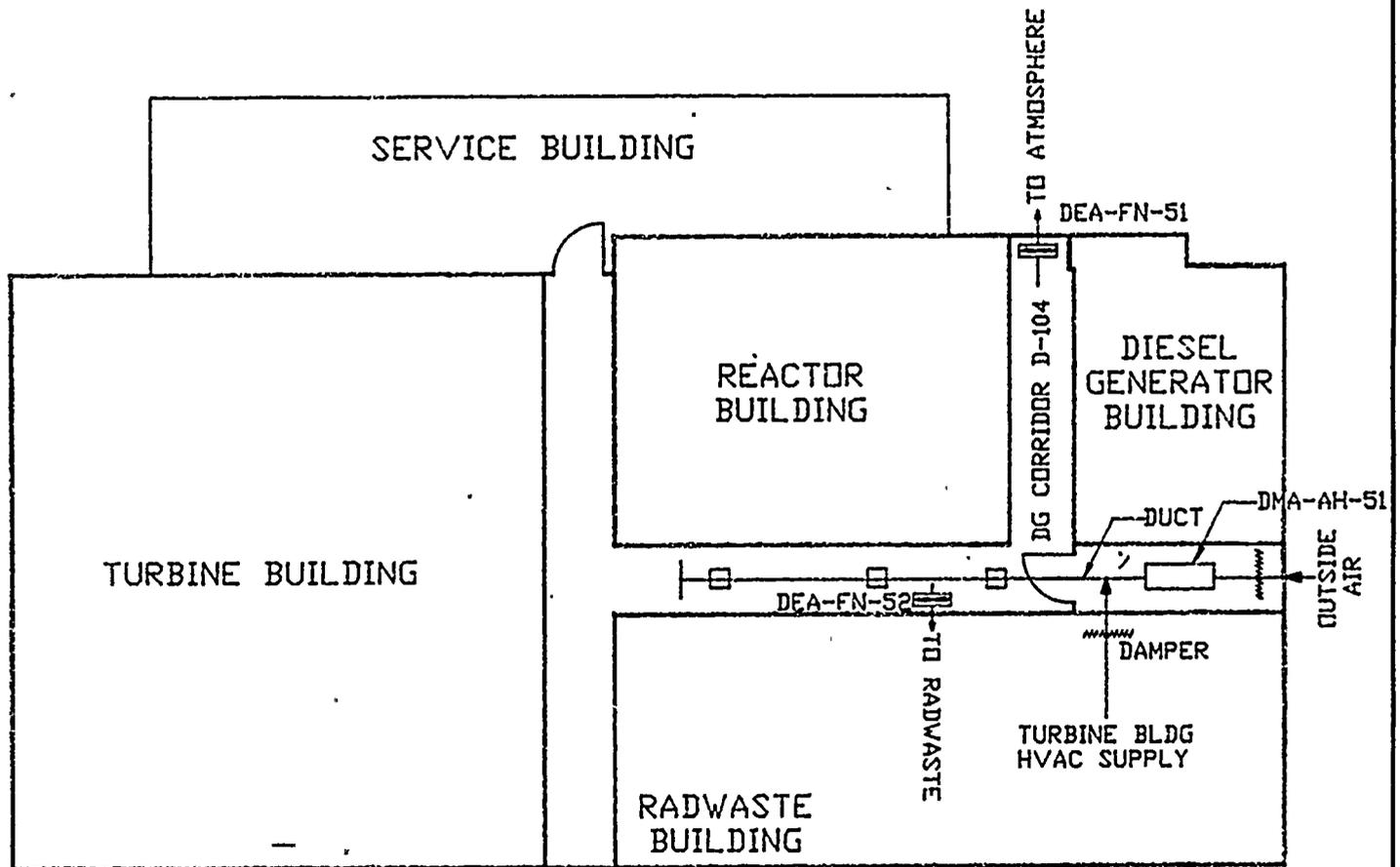


FIGURE 1

WASHINGTON PUBLIC POWER SUPPLY SYSTEM

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

Docket No. 50-397

June 6, 1988

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

Subject: NUCLEAR PLANT NO. 2  
LICENSEE EVENT REPORT NO. 88-012

Dear Sir:

Transmitted herewith is Licensee Event Report No. 88-012 for the WNP-2 Plant. This report is submitted in response to the report requirements of 10CFR50.73 and 10CFR Part 21. The report discusses the items of reportability, corrective action taken, and action taken to preclude recurrence.

Very truly yours,

*JW Baker*

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

CMP:lg

Enclosure:  
Licensee Event Report No. 88-012

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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