

March 8, 1989

Docket No. 50-298

Mr. George A. Trevors, Division  
Manager - Nuclear Support  
Nebraska Public Power District  
Post Office Box 499  
Columbus, Nebraska 68601

Dear Mr. Trevors:

SUBJECT: 10 CFR PART 21 NOTIFICATION

The NRC staff has received a 10 CFR Part 21 notification from the Washington Power Supply System (WPPS). The notification addresses the discovery of an unmonitored radiological release path at the Washington Nuclear Plant, Unit 2, that was caused by a design error by the architect/engineer, Burns & Roe Inc.

The staff has concluded that although the deficiency at WPPS may be an isolated design oversight, the Nebraska Public Power Districts should be made aware of the deficiency since, Burns & Roe also served as the architect/engineer for Cooper Nuclear Station. Therefore, the staff is forwarding the enclosed Licensee Event Report from WPPS for your information.

Sincerely,

/s/

Paul W. O'Connor, Project Manager  
Project Directorate - IV,  
Division of Reactor Projects - III,  
IV, V and Special Projects  
Office of Nuclear Reactor Regulation

Enclosure:  
As stated

cc w/enclosure:  
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ACRS (10)

PD4 Plant File

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PDR ADOCK 05000298  
S PNU

PD4/PM *fwc*  
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03/8/89

PD4/D *mc*  
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*QFol*  
*1/1*



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555  
March 8, 1989

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Sincerely,

A handwritten signature in cursive script that reads "Paul W. O'Connor".

Paul W. O'Connor, Project Manager  
Project Directorate - IV,  
Division of Reactor Projects - III,  
IV, V and Special Projects  
Office of Nuclear Reactor Regulation

Enclosure:  
As stated

cc w/enclosure:  
See next page

Mr. George A. Trevors  
Nebraska Public Power District

Cooper Nuclear Station

cc:

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Cooper Nuclear Station  
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## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (3)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
Washington Nuclear Plant - Unit 2	01500003917818	—0112	—00	012	OF 05	

TEXT: If more space is required, use additional NRC Form 288a-1 (5/1/77)

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

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
Washington Nuclear Plant - Unit 2	0500039788	-	012	-00	03	OF 05

TEXT: If more space is required, use additional NRC Form 200A-1 (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 InformationText Reference

Diesel Generator Corridor

EIIS Reference

System      Component

NB      - - - -

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (3)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
Washington Nuclear Plant - Unit 2	0500039788	8	012	00	04	of	05

TEXT (if more space is required, use additional NRC Form 2044-3/117)

EIIS InformationText ReferenceEIIS 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	- - - - -

# LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (8)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		08	012	00	05	OF	05

Washington Nuclear Plant - Unit 2

0500039788-012-0005 OF 05

TEXT (If more space is required, use additional NRC Form 266A's) (17)

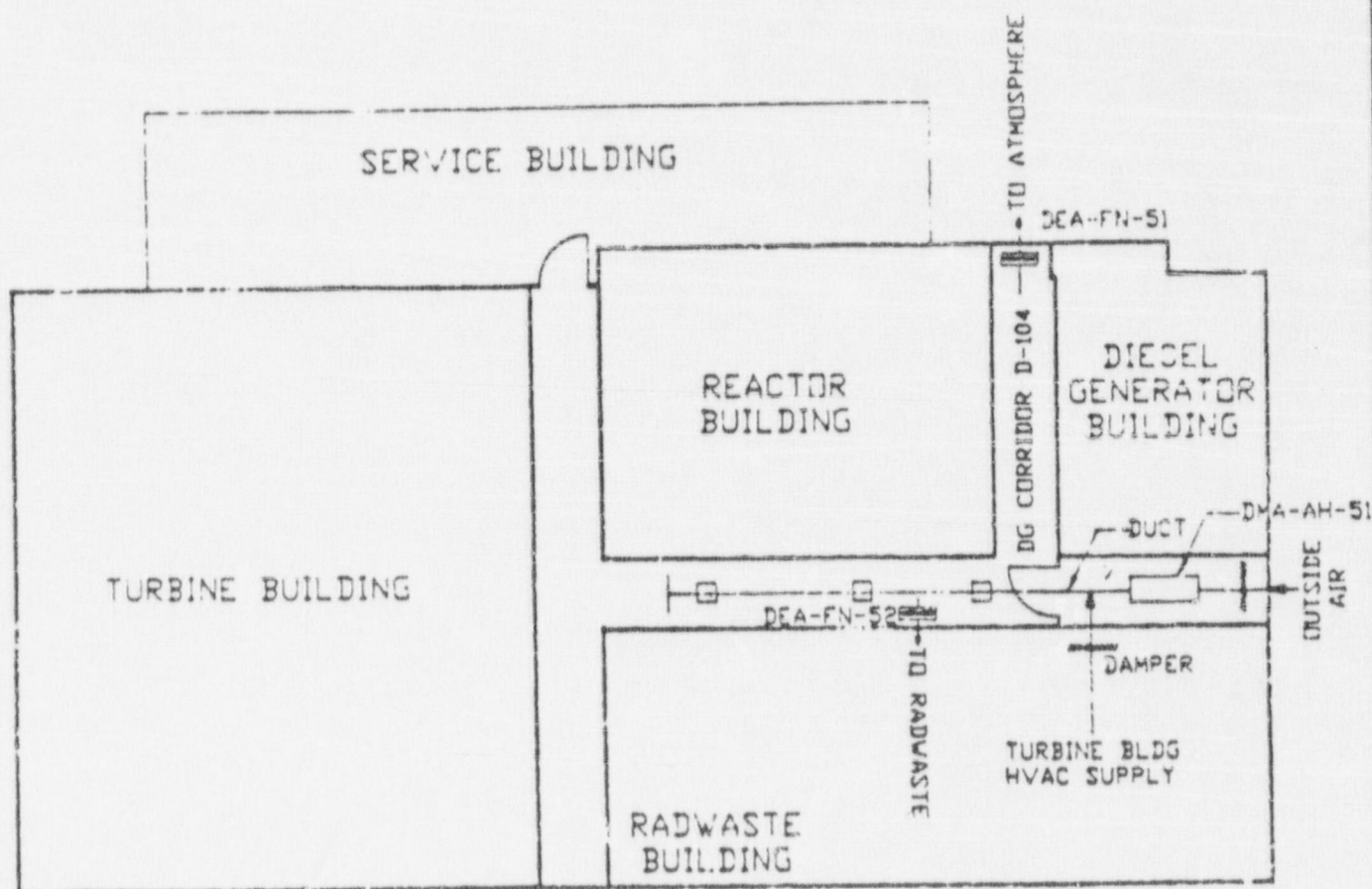


FIGURE 1