

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Davis-Besse Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 3 4 1 6	PAGE (3) 1 OF 0 3
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TITLE (4)
Control Room Emergency Ventilation System - Inoperable Cooling

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)					
1	0	0	4	8	5	8	5	0	1	8	0	5	0	0	0
1	0	0	4	8	5	8	5	0	1	8	0	5	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 0 0	20.402(b)	20.405(a)(1)(i)	20.405(a)(1)(ii)	20.405(a)(1)(iii)	20.405(a)(1)(iv)	20.405(a)(1)(v)	20.405(c)	50.36(c)(1)	50.36(c)(2)	50.73(a)(2)(i)	50.73(a)(2)(ii)	50.73(a)(2)(iii)	50.73(a)(2)(iv)	50.73(a)(2)(v)	50.73(a)(2)(vi)	50.73(a)(2)(vii)	50.73(a)(2)(viii)(A)	50.73(a)(2)(viii)(B)	50.73(a)(2)(ix)	73.71(b)	73.71(c)	OTHER (Specify in Abstract below and in Text, NRC Form 356A)
	X																					

LICENSEE CONTACT FOR THIS LER (12)										TELEPHONE NUMBER					
NAME George R. Germain/Jan C. Stotz										AREA CODE 4 1 1 9 2 4 9 - 1 5 0 0 0					

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	CAUSE	SYSTEM

SUPPLEMENTAL REPORT EXPECTED (14)										EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR			
X YES (If yes, complete EXPECTED SUBMISSION DATE)										NO		1	2	3	1	8	5

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

During the review of the Control Room Emergency Ventilation System as part of the System Review and Test Program committed to the NRC in the Course of Action Report (Serial No. 1182), it was determined that existing system tests did not prove that the cooling function was operable. Further reviews of the operation of equipment in the system indicated that the system was not operable.

Although the Station has been in Cold Shutdown (Mode 5) since June 9, 1985, this event is reportable as a violation of Technical Specification 3.7.6.1 which requires two Control Room Emergency Ventilation System trains to be operable in Modes 1, 2, 3, and 4. This is being reported under 10CFR50.73(a)(2)(i)(B) since some of the conditions apparently existed since original startup.

The systems are being run in different configurations to determine whether component failures and/or design problems are preventing the cooling system from functioning properly.

The system review has also noted that the heat loads generated by equipment in the Control Room area are above the load listed in the Updated Safety Analysis Report (USAR). The present loading appears to exceed the capacity of the present cooling system, even if the units were functioning properly. This is being reported under 10CFR50.73(a)(2)(ii)(B) as a condition outside the design basis of the plant.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/85

FACILITY NAME (1) Davis-Besse Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 3 4 6	LER NUMBER (6)			PAGE (3)		
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		8 5	— 0 1 8	— 0 0	0 2	OF	0 3

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

Description of Occurrence: During the review of the Control Room Emergency Ventilation System, CREVS, (VI), as part of the Systems Review and Test Program committed to the NRC in the Course of Action Report (Serial No. 1182), it was determined that existing system tests did not prove that the cooling function was operable. Further reviews of the operation of equipment in the system indicated that the cooling function of the system would not be operable.

The CREVS is designed to provide the Control Room area with filtered and cooled air in those instances when the normal ventilation is isolated. This would occur in the case of a chlorine tank car leak, high level of radiation detected in the Station vent, or selected safety actuation signal. The CREVS is required to filter out toxic gases and airborne radioactive materials which would otherwise make the Control Room uninhabitable. It is also required to provide cooling to maintain temperatures low enough for continued habitability and to prevent selected electronic equipment from overheating.

Although the Station has been in Cold Shutdown (Mode 5) since June 9, 1985, this event is reportable as a violation of Technical Specification 3.7.6.1 which requires two CREVS trains to be operable in Modes 1, 2, 3, and 4. This is being reported under 10CFR50.73(a)(2)(i)(B) since the condition apparently existed since original startup.

The system review has also noted that the heat loads generated by equipment in the Control Room area are above the load listed in the Updated Safety Analysis Report (USAR). The present loading appears to exceed the capacity of the present cooling system, even if the units were functioning properly. This is being reported under 10CFR50.73(a)(2)(ii)(B) as a condition outside the design basis of the plant.

Designation of Apparent Cause of Occurrence: The design problems exist because the surveillance tests written to satisfy the Technical Specification requirements concentrated on the filtering functions. The only reference to cooling is a requirement that the Control Room be maintained at below 110°F when the CREVS is running. This was always satisfied during monthly and refueling outage testing. But, these tests never required the system to be run for a long enough time with normal ventilation isolated to determine if cooling would really work. Nor, were other tests written to periodically test the temperature and flow switches and demonstrate that the service water cooled condensing started when the CREVS is started.

The cause of the CREVS starting in the air-cooled mode instead of the service water-cooled mode is not known at this time. Troubleshooting will be performed to determine whether the cause is component failure related or a design problem.

The cause of the currently projected heat loads being in excess of design loads is that additional electronic systems have been added to the Control Room since initial startup in 1977. These new loads appear to exceed the design capacity of the cooling system.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/85

FACILITY NAME (1) Davis-Besse Unit 1	DOCKET NUMBER (2) 0500034685	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		01	8	00	03	OF	03

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

Analysis of Occurrence: During CREVS operation, the water-cooled condensers should be used. The air-cooled condensers are provided as a backup to the water-cooled units. If the service water supply line from the lake is lost during a seismic event, the service water temperature will rise. The water temperature could rise too high for proper operation of the water-cooled condensers. On high service water temperature, 85°F, the service water-cooled condensers are isolated and the air-cooled units are started automatically.

The air-cooled condensers are required following a seismic event. The present design also uses the air-cooled condensing units when the service water temperature is less than 55°F.

Corrective Action: The systems are being run in different configurations to determine whether component failures and/or design problems are preventing the cooling system from functioning properly.

A design modification to provide modulation of water flow through the condensers is being evaluated to improve refrigerant cycle performance over a wider range of service water temperatures. The capacity of the cooling system will be upgraded, and a calculation will be prepared to verify adequate cooling system capacity.

A followup report will be forwarded when the test program has been completed providing more detail.

Failure Data: There have been no previous reports of this nature.

Report No: NP-33-85-24DVR No(ε): 85-156



November 1, 1985

Log No. K85-1420
File: RR 2 (NP-33-85-24)

Docket No. 50-346
License No. NPF-3

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

Gentlemen:

LER No. 85-018
Davis-Besse Nuclear Power Station Unit 1
Date of Occurrence: October 4, 1985

Enclosed is Licensee Event Report 85-018 which is being submitted in accordance with 10CFR50.73, to provide 30 day written notification of the subject occurrence.

Yours truly,

Louis F. Storz
Plant Manager
Davis-Besse Nuclear Power Station

LFS/ljk

Enclosure

cc: Mr. James G. Keppler,
Regional Administrator,
USNRC Region III

Mr. Walt Rogers
DB-1 NRC Resident Inspector

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