



A Centenor Energy Company

EDISON PLAZA  
300 MADISON AVENUE  
TOLEDO, OHIO 43652-0001

AB-94-0042  
NP-33-94-005

Docket No. 50-346

License No. NPF

November 14, 1994

United States Nuclear Regulatory Commission  
Document Control Desk  
Washington, D. C. 20555

Gentlemen:

LER 94-004  
Davis-Besse Nuclear Power Station, Unit No. 1  
Date of Occurrence - October 14, 1994

Enclosed please find Licensee Event Report 94-004, which is being submitted to provide 30 days written notification of the subject occurrence. This LER is being submitted in accordance with 10 CFR 50.73(a)(2)(i)(B).

Very truly yours,

John K. Wood  
Plant Manager  
Davis-Besse Nuclear Power Station

JKW/eld

Enclosure

cc: Mr. John B. Martin  
Regional Administrator  
USNRC Region III

Mr. Stan Stasek  
DB-1 NRC Sr. Resident Inspector

210127  
Utility Radiological Safety Board

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## LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS  
INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD  
COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION  
AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR  
REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO  
THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF  
MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)

Davis-Besse Unit Number 1

DOCKET NUMBER (2)

05000 - 346

PAGE (3)

1 OF 04

TITLE (4)

Containment Hydrogen Purge Inlet Screen Not Installed

EVENT DATE (5)			LER NUMBER (6)			REPORT NUMBER (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
10	14	94	94	004	00	11	14	94		05000
OPERATING MODE (9)		6	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)							
POWER LEVEL (10)		0	20.402(b)		20.405(c)		50.73(a)(2)(iv)		73.71(b)	
			20.405(a)(1)(i)		50.36(c)(1)		50.73(a)(2)(v)		73.71(c)	
			20.405(a)(1)(ii)		50.36(c)(2)		50.73(a)(2)(vii)		OTHER	
			20.405(a)(1)(iii)		X 50.73(a)(2)(i)		50.73(a)(2)(viii)(A)		(Specify in Abstract below and in Text, NRC Form 366A)	
			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

Norman K. Peterson, Senior Engineer - Licensing

TELEPHONE NUMBER (include Area Code)

(419) 321-8450

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRPDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRPDS

## SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE)	NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
X					

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On October 14, 1994 with the plant shutdown in Mode 6, a piping system walkdown of the Containment Hydrogen Purge (CHP) System was being conducted by Toledo Edison (TE) personnel. During the walkdown, the system engineer discovered that a screen on the inlet to the CHP line was not installed per the isometric drawings of the system. An evaluation of this discrepancy revealed that this screen is necessary to assure operability of the CHP system and the containment isolation valves as required by Technical Specifications (TS) 3.6.4.4 and 3.6.3.1. Corrective actions included replacement of the inlet screen during the Ninth Refueling Outage. This condition is being reported under 10CFR50.73(a)(2)(i)(B) as a condition prohibited by the TS.

**LICENSEE EVENT REPORT (LER)**  
**TEXT CONTINUATION**

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503

FACILITY NAME (1)		DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
Davis-Besse Unit Number 1		05000-346	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	02 OF 04
			94	004	00	

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

Description of Occurrence:

On October 14, 1994 with the plant shutdown in Mode 6, a piping system walkdown of the Containment Hydrogen Purge (CHP) system was being conducted by Toledo Edison (TE) personnel. During the walkdown, the system engineer discovered that a screen on the inlet to the CHP line was not installed per the isometric drawings of the system. An evaluation of this discrepancy revealed that this screen is necessary to assure operability of the CHP system and the containment isolation valves as required by Technical Specifications (TS) 3.6.4.4 and 3.6.3.1.

The CHP system consists of a four inch line exiting containment, two normally closed motor operated butterfly valves that serve as containment isolation valves, and a filtering unit. The containment isolation valves receive a close signal from the Safety Features Actuation System. The CHP system serves three purposes. During power operation, the system is used periodically to vent the containment to maintain containment internal pressure within the limits specified in TS 3.6.1.4. Following a postulated accident, the CHP system would be used to control post-accident containment hydrogen concentration. The CHP system also provides a connection point for the Hydrogen Recombiner.

The function of the CHP system inlet screen is to preclude debris from entering the CHP system piping following an accident that could prevent the containment isolation valves from seating properly or the CHP system from functioning as designed.

After discovery of this condition, it was determined that without the screens, during some accident scenarios, debris could enter the line and prevent the CHP system and the containment isolation valves from performing their intended safety functions. This is contrary to TS 3.6.4.4 which requires the CHP to be operable in Modes 1 and 2, and TS 3.6.3.1 which requires all containment isolation valves to be operable in Modes 1 through 4. This condition is being reported under 10CFR50.73(a)(2)(i)(B) as a condition prohibited by the TS.

LICENSEE EVENT REPORT (LER)  
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Davis-Besse Unit Number 1		05000-346		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	03 OF 04
				94	004	00	

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

Apparent Cause of Occurrence:

A review of plant maintenance records failed to indicate the time frame the screen was removed. It is suspected that the screen was installed during plant construction but was removed during maintenance or to facilitate local leak rate testing of the containment penetration and was not replaced.

Analysis of Occurrence:

The safety significance of this event is minimal.

The possibility of debris entering the system and causing the containment isolation valves to malfunction can only occur during a limited number of accident scenarios.

In order for debris to enter the system, the containment isolation valves would have to be open with the containment pressure above atmospheric pressure. The valves are only opened for containment venting during power operation or to control containment hydrogen concentration several days (greater than seventeen days) following a design basis accident. During power operation, the valves are opened for approximately 100 hours per year (approximately 1 percent of the time) and the possibility of the occurrence of an accident during the time that the valves are open is remote. Several days following an accident, it is not likely that any debris will be entrained in the containment atmosphere as the containment conditions will have stabilized and any loose debris will have settled inside the containment.

The CHP system inlet is located outside and below the top of the "D" Ring Shield Structure. Since most of the primary plant piping is located inside this structure, any loose debris resulting from a design basis event will not be directed into the inlet line. In addition, for debris to cause failure of the containment isolation valves, it must travel approximately twelve feet through the four inch pipe and through two 90 degree elbows. These design features further reduce the likelihood of component or system failures.

Furthermore, the containment is inspected prior to containment closure and startup from each refueling outage to confirm that loose debris is not present in the containment.

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		94	004	00	

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

Corrective Actions:

The CHP system inlet screen was replaced during the Ninth Refueling Outage (9RFO) under Maintenance Work Order (MWO) Number 7-94-0956-01.

The procedure governing the local leak rate testing of this penetration will be revised to ensure the inlet screen is replaced following testing. This procedure change will be completed prior to the next scheduled local leak rate test of the penetration.

Containment penetrations of similar design and function were reviewed to determine the potential extent of this condition. Based upon this review, it was determined that the identified deficiency is limited to this penetration. Therefore, this event is considered to be an isolated occurrence.

Current maintenance and testing practices are more comprehensive and detailed than in the past. Therefore, the possibility of this screen being removed and not being replaced in the future is small and no further corrective actions are necessary.

Failure Data:

Since 1990, there has been one LER involving similar issues. LER 90-005 describes an event where the design of the plant's Electrical Penetration Assemblies as described in the Updated Safety Analysis Report differed from the configuration in the field.

NP-33-94-005

PCAQ No. 94-0956