NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/85

LICENSEE EVENT REPORT (LER)

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

TITLE (4)
Potential Piping Breaks, Startup Feedwater Pump Piping

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 0 0
0 6	1 8	8 4	8 4	— 0 0 9	— 0 0	0 6	1 8	8 4		0 5 0 0 0

OPERATING MODE (9)	1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
POWER LEVEL (10)	0 9 4	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 (Specify in Abstract below and in Text, NRC Form 366A)
		20.405(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
		20.405(a)(1)(iv)	XX 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	TELEPHONE NUMBER
	AREA CODE
F. R. Miller/P. H. Straube	4 1 9 2 5 9 - 5 3 7 2

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	
B	B A	T R B	T 1 4 7	N							

SUPPLEMENTAL REPORT EXPECTED (14)

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

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

During the conceptual design stage of Facility Change Request 83-159 and work on Non-Conformance Report 84030, it was discovered that an unanalyzed situation existed in Auxiliary Feedwater Pump Rooms 237 and 238 due to potential pipe break effects from non-seismic piping located in these rooms. This non-seismic piping is associated with the Startup Feedwater Pump. Auxiliary Feedwater Pump Room 238 (Auxiliary Feedwater Pump 1-1) could have been affected by a high energy pipe break in the startup feedwater pump suction piping. The room would also be affected by flooding in the event that the non-seismic turbine plant cooling water piping serving the startup feedwater piping coolers ruptured.

Auxiliary Feedwater Pump Room 237 (Auxiliary Feedwater Pump 1-2) could have been affected by a moderate energy pipe break in the startup feedwater pump suction piping.

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

Description of Occurrence: During the review of the Auxiliary Feedwater Pump Room Environmental Requirements, it was discovered that the Station was operating in a condition outside of that addressed in the Updated Safety Analysis Report (USAR).

The discharge piping from the SUFP is a high energy line during operation of the SUFP according to the criteria in USAR Section 3.6. This criterion stipulates that a line outside Containment shall be classified as high energy if operating conditions subject the piping to more than 275 psig and 200°F. A high energy system which is in service more than six hours is analyzed for pipe rupture. The original design criteria for this piping assumed that operational time would be less than six hours at a time and that suction would be taken from the Condensate Storage Tank. The operation of the SUFP has exceeded the six hour limit, and suction has been taken from the Deaerator Storage Tank. This subjects the SUFP discharge line to all the requirements of high energy piping.

The suction piping to the SUFP is a moderate energy line according to the criterion in USAR Section 3.6. This criteria stipulates that a line outside Containment operating above 275 psig or 200°F is a moderate energy line. Postulation of critical piping cracks at the most adverse location must be considered for this piping.

Designation of Apparent Cause of Occurrence: Three conditions caused the potential concerns explained previously. The USAR did not recognize the fact that the SUFP suction could be normally lined up to the Deaerator Storage Tank rather than the Condensate Storage Tank. Modifications to the SUFP suction piping did not recognize that moderate energy fluid was being introduced into Rooms 237 and 238. Systems were used in a manner different from FSAR/USAR commitments.

Analysis of Occurrence: The potential for pipe whip and jet impingement in Room 238 and flooding and high temperature in Room 237 or 238 caused an unanalyzed condition in either room. If a pipe break would have occurred, this condition could have affected the operation of AFP 1-1 or 1-2.

Corrective Action: Corrective action was taken when these conditions were discovered by isolating AFP Rooms 237 and 238 from flooding, fluid jet impingement, and high temperature concerns. To accomplish this, FW106, FW32, FW91, CW196, and CW197, all located outside AFP Rooms 237 and 238, were closed. The affected procedures were revised to reflect these changes, and the valves may now only be opened within the limits of the procedures.

After these actions were taken, AFP Rooms 237 and 238 are no longer subjected to the potential concerns explained previously when the SUFP is not running. The concerns still exist during the limited amount of time that the SUFP is in operation.

When the SUFP is operated during unit startup and shutdown, interim corrective action will be taken to place an operator at the SUFP. Upon indication of a pipe leak or break, the operator would either stop the SUFP locally or contact the Control Room to stop the SUFP. He would then close the isolation valves. This would minimize any flooding and high temperature effects. This action is being taken since it is assumed that the piping will develop leaks through pipe cracks before a complete piping rupture would occur.

In addition, the SUFP suction and discharge piping will be hydrctested to original hydrotest pressures. This will verify that the piping is in sound condition from a pressure retention standpoint.

Long term corrective actions will be taken to implement permanent hardware modifications which will resolve all high energy, moderate energy, and flooding concerns within AFP Rooms 237 and 238. Alternate solutions are presently being developed. Long term corrective action will be factored into our Integrated Living Schedule to determine an implementation schedule.

Failure Data: There have been no previous similar reported occurrences.

Report No: NP-33-84-09

DVR No(s): 84-080

TOLEDO EDISON

July 18, 1984

Log No. K84-935
File: RR 2 (NP-33-84-09)

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

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

Gentlemen:

LER No. 84-009
Davis-Besse Nuclear Power Station Unit 1
Date of Occurrence: June 18, 1984

Enclosed is Licensee Event Report 84-009, which is being submitted in accordance with 10CFR50.73, to provide 30 day written notification of the subject occurrence.

Yours truly,

TD Murray

Terry D. Murray
Station Superintendent
Davis-Besse Nuclear Power Station

TDM/ljk

Enclosure

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

Mr. Walt Rogers
DB-1 NRC Resident Inspector

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