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)

Environmental Qualification of Steam Generator Level Transmitters

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)
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0 4	2 2	8 6	8 6	— 0 2 2	— 0 0	0 5	2 2	8 6		0 5 0 0 0

OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
5		20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10)		20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
0 1 0	0	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)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	
		20.405(a)(1)(v)	X 50.73(a)(2)(iii)	50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
	AREA CODE
Peter Jacobsen	4 1 9 2 4 9 - 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	

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)	X NO				

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

During our recent Regulatory Guide 1.97 review, steam generator level transmitters LTSP9A3 and LTSP9B3, which are required to mitigate a small break Loss of Coolant Accident (LOCA) and Main Steam Line Break, were identified as becoming submerged during a small break LOCA. Environmental qualification in accordance with 10CFR50.49 had not been established for a submerged condition because previous review for environmental qualification of equipment was based on the large break LOCA for which these level transmitters are not required to function after submergence. The transmitters are qualified for an MSLB since they do not become submerged. Corrective action options being investigated at this time include: a) relocating the transmitters above submergence levels, b)providing water tight enclosures, and c) establishing qualification for submergence.

This is being submitted per 10CFR50.73(a)(2)(iii) as a condition outside the design basis.

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* U.S.GPO:1984-0-454-481/18759

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

Description of Occurrence:

As part of our restart commitment, we are in the processing of reviewing all components associated with equipment qualification (EQ). As part of this review, a tabulation of Regulatory Guide 1.97 equipment required to be qualified to IEEE 323 (10CFR50.49) was recently completed. Subsequent to our comparison of previously exempted equipment from submergence qualification it was determined that the level transmitters LTSP9A3 and LTSP9B3 would become submerged after approximately six hours, following a small break Loss of Coolant Accident (LOCA). The previous exemption was based on the EQ licensing basis of considering only large break LOCA, for which this equipment is not required. These transmitters are used to control steam generator water level by controlling the speed on the auxiliary feed pump turbine and are required when there is a break in the Reactor Coolant System which is so small that make-up flow through the break is not adequate to remove the core heat.

Designation of Apparent Cause of Occurrence:

The present EQ review involves evaluation RG 1.97 criteria which identified the submergence question. Previous reviews used large break LOCA as design basis for which this equipment is not required to function after submergence.

Analysis of Occurrence:

The subject transmitters are located approximately at the 667 ft. elevation in containment and are used to control steam generator level during a small break (i.e. .04 sq. ft.) LOCA. Calculations indicate these transmitters will become submerged in 6.67 hours during the small break LOCA. The transmitters and associated accessories (i.e., field run cable, splice and conduit seal assembly) are qualified for the atmospheric temperature, pressure, chemical spray, radiation and steam environment resulting from a large break LOCA and MSLB. Comparison of available qualification information vs. assumed environmental conditions which will be verified by June 30, 1986, indicates that the transmitter, conduit seal assembly and field cable could function submerged. Since, there presently is no evidence that indicates that submergence would have caused failure, the only deficiency is lack of documented testing for the splice when submerged as required by 10CFR50.49.

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

Corrective Action:

A design review has been initiated to evaluate the potential solutions (e.g. move equipment above flood level, provide enclosures to protect equipment from submergence, establish qualification for submergence) for this problem. Subsequent to identification of the recommended solution a field modification will be made to the level transmitter prior to our restart scheduled for October 1986.

Failure Data:

There has been one previous report of lack of environmental qualification. See LER 85-023 and LER 86-006.

REPORT NO: NP-33-86-25

DVR NO(s): 86-084

TOLEDO EDISON

May 22, 1986

Log No: KA86-146
File: (NP-33-86-25)

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

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

Gentlemen:

LER No. 86-022
Davis-Besse Nuclear Power Station Unit No. 1
Date of Occurrence April 22, 1986

Enclosed is Licensee Event Report 86-022 which is being submitted in accordance with 10CFR50.73, to prvide 30 day written notification of the subject occurrence.

Yours truly,

Louis F Storz

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

LFS/ed

Enclosure

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

Mr. Paul Byron
DB-1 NRC Resident

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