

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Davis-Besse Unit 1	DOCKET NUMBER (2) 0 5 0 0 0	PAGE (3) 1 OF 0 4
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TITLE (4)
Environmental Qualification Program Not Adequately Established

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	1	0	2	8	6	8	6	—	0	0	6	—	0	0	0	—	0	0	0	—	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	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.408(c)	<input type="checkbox"/> 90.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)						
	<input type="checkbox"/> 20.408(a)(1)(i)	<input type="checkbox"/> 90.38(a)(1)	<input type="checkbox"/> 90.73(a)(2)(v)	<input type="checkbox"/> 73.71(e)						
	<input type="checkbox"/> 20.408(a)(1)(ii)	<input type="checkbox"/> 90.38(a)(2)	<input type="checkbox"/> 90.73(a)(2)(vi)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)						
	<input type="checkbox"/> 20.408(a)(1)(iii)	<input type="checkbox"/> 90.73(a)(2)(i)	<input type="checkbox"/> 90.73(a)(2)(viii)(A)							
	<input type="checkbox"/> 20.408(a)(1)(iv)	<input checked="" type="checkbox"/> 90.73(a)(2)(ii)	<input type="checkbox"/> 90.73(a)(2)(viii)(B)							
<input type="checkbox"/> 20.408(a)(1)(v)	<input type="checkbox"/> 90.73(a)(2)(iii)	<input type="checkbox"/> 90.73(a)(2)(x)								

LICENSEE CONTACT FOR THIS LER (12)		TELEPHONE NUMBER	
NAME Tom Beeler, Electrical/Controls Engineering Manager		AREA CODE 4 1 9	NUMBER 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
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> NO				

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

A current review/walkdown of Environmental Qualification (EQ) equipment found overdue maintenance, lack of records documenting maintenance activities, and incorrect installation of such equipment. Overdue maintenance included failure to replace equipment and/or components to meet vendors' requirements or qualified life requirements; lubrication inspections not always documented; and equipment not properly installed in consideration of postulated accident environments.

The review had lead to the determination that an Environmental Qualification program had not been adequately established by Toledo Edison.

This is being reported per 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

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES 2/31/85

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TEXT (If more space is required, use additional NRC Form 3054's) (17)

Description of Occurrence: Discrepancies were identified during a systematic review of the Environmental Qualification (EQ) program, documentation, and equipment. This review has been on-going since October, 1985, and includes a walkdown of EQ equipment, survey of station maintenance records, and a comparison of walkdown and maintenance information against EQ requirements. The identified discrepancies were listed in a Deviation Report (DVR) issued January 2, 1986; the unit is currently shutdown following the June 9, 1985 incident.

Discrepancies included overdue maintenance or lack of records documenting maintenance activities, as follows:

1. Foxboro pressure transmitters: Eight transmitters had exceeded their qualified life, and replacement of cover O-rings for four transmitters had exceeded the replacement interval recommended by the vendor.
2. Rosemount transmitters: Replacement of calibration/amplifier boards for pressure and flow transmitters (total of 8) had exceeded the replacement interval recommended by the vendor. Also, calibration of five level and pressure transmitters exceeds the maintenance schedule.
3. ASCO Solenoid valves: Replacement of coils for 32 solenoid valves was not performed within the required maintenance interval.
4. Limitorque motor operators: Records to document recent lubrication inspections of 34 valve motor operators could not be found.
5. ITT General Controls damper motor operation: Replacement of non-metallic components for 5 damper motor operators has not been performed, and exceeds the replacement interval recommended by the vendor.

Installation discrepancies included the following:

6. Rosemount transmitter: Contrary to station records, one transmitter was found to be of an outdated model, and not EQ qualified for the harsh environment postulated for this pressure differential transmitter.
7. Namco limit switches: The electrical connections of 16 limit switches was not suitable for the postulated harsh environments.
8. Rosemount transmitters: For two sump level transmitters, the EQ qualification files erroneously stated the postulated accident environment, as compared to the actual location and installation details.
9. Rosemount level, flow and pressure transmitters: The qualification test configuration for the Rosemount transmitter included a weep hole in the low point of the conduit servicing the transmitter, to preclude chemical spray accumulation in the conduit. The installed configuration does not include this weep hole in conduits to 22 transmitters. Because the tested and installed configurations should be the same, weep holes in the conduits are required.
10. SOR pressure switches: The qualification test configuration of the SOR pressure switch included a moisture seal at the junction of the conduit and switch; the installed configuration does not include a similar seal for 16 pressure switches.

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TEXT (If more space is required, use additional NRC Form 388A's) (17)

A total of 153 individual equipment items were identified for corrective actions. These discrepancies have been identified on 78 Non-Conformance Reports (NCR's).

Designation of Apparent Cause of Occurrence: The cause of this finding was the failure of Toledo Edison to adequately establish all the parts of the program necessary to ensure the continued Environmental Qualification of equipment. Although the reviews of analysis had been performed to create the list of equipment required to be EQ, and this list had been identified to the Preventive Maintenance Planning group, the details of the program and the significance of the failure to perform preventative maintenance at specified intervals had not been explained or proceduralized.

Analysis of Occurrence: Failure to maintain Environmentally Qualified equipment could invalidate the certification. Its continued operability during postulated accident conditions could not be guaranteed. This would place the Station in a condition that was outside the design basis.

Corrective Action: A Nuclear Mission Procedure NMP-NE-306, Environmental Qualifications, is being written to govern the program. It explains how the program will work as well as which groups will be responsible for specific parts of the program.

The Station has written AD 1809.00, the Station Environmental Qualification Program, in compliance with the NMP. It describes the stations role in ensuring that identified EQ PMs are conducted on schedule and what steps are to be taken when the schedule cannot be met.

TED is revising the EQ list due to errors found in earlier analysis (LER 85-023) and due to modifications in the plant since the June 9, 1985 event. The additions as well as the new EQ Program procedures should ensure a systematic program is in place.

Specific resolutions to the noted discrepancies are summarized below:

<u>EQUIPMENT</u>	<u>DISCREPANCY</u>	<u>RESOLUTION</u>	<u>REFERENCE DOCUMENT</u>
8 Foxboro pressure transmitters	Exceeds qualified life	Replace with new qualified transmitter	FCR 86-008
4 Foxboro pressure transmitters	Replacement of cover O-ring overdue	Replace cover O-rings and recalibrate	NCR 85-2828 (no FCR required)
8 Rosemount pressure transmitters	Replacement of calib/amplifier board overdue	Replace the boards	NCR 85-2815, 2816, 2817, 1820
5 Rosemount level, flow or pressure transmitters	No record of recent calibration	Recalibrate transmitters	

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

<u>EQUIPMENT</u>	<u>DISCREPANCY</u>	<u>RESOLUTION</u>	<u>REFERENCE DOCUMENT</u>
32 Asco Solenoid valves	Coil replacement overdue	Replace coils	NCR 85-2585 thru 2590; NCR 86-0250 thru 0257
34 Limitorque motor operators	No record of recent lube inspection	Lube inspections re-performed	NCR 86-0098 thru 0131
5 ITT Gen. Controls damper motor oper.	Replacement of non-metallic components overdue	Replace non-metallic components	NCR 85-2830, 2831
1 Rosemount press. diff. transmitter	Existing transmitter (model 1151) not qualified	Replace transmitter with a new transmitter (model 1153)	FCR 85-340
16 Namco limit switches	Electr. connectors not qualified for postulated environs.	Replace limit switches, including qualified electrical connections	FCR 85-316
2 Rosemount sump level transmitters	Transmitter installation not suitable for postulated environments.	Provide new enclosures about each transmitter	FCR 85-339
22 Rosemount level, flow, and pressure transmitters	Installed configuration does not match tested configuration	Provide weepholes in conduit	FCR 86-029
16 SOR pressure switches	Installed configuration does not match tested configuration	Provide moisture seal	FCR 86-016

Legend: FCR = Facility Change Request
NCR = Non Conformance Report

Failure Data: This is the first report of this problem. A previous LER 85-023 (NP-33-85-28) reported errors in the High Energy Line Break (HELB) analysis.



January 31, 1986

Log No. KA86-54
File: RR 2 (NP-33-86-04)

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

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

Gentlemen:

LER No. 86-006
Davis-Besse Nuclear Power Station Unit 1
Date of Occurrence: January 26, 1986

Enclosed is Licensee Event Report 86-006 which is being submitted in accordance with 10CFR50.73, to provide 30 day written notification of the subject occurrence.

Yours truly,

A handwritten signature in cursive script that reads "Louis F. Storz".

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

LFS/syc

Enclosure

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

Mr. Walt Rogers
DB-1 NRC Resident Inspector

Handwritten initials "IE22" with a vertical line through the "2" and a small mark below it.