

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Davis-Besse Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 3 4 6	PAGE (3) 1 OF 0 1 3
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TITLE (4)
Seismic Trigger Does Not Meet Technical Specification Frequency Range

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 6	8	8	0 0 1	0	2	0 5			0 5 0 0 0
		8 8			0 0			8 8			0 5 0 0 0

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)

OPERATING MODE (9) 1	20.402(b)	20.406(e)	50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10) 0 8 0	20.406(a)(1)(i)	50.38(c)(1)	50.73(a)(2)(v)	73.71(e)
	20.406(a)(1)(ii)	50.38(c)(2)	50.73(a)(2)(viii)	<input checked="" type="checkbox"/> OTHER (Specify in Abstract below and in Text, NRC Form 366A)
	20.406(a)(1)(iii)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	Special Report
	20.406(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	
	20.406(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME J. C. Stotz, Associate Nuclear Engineer, Technical Planning	TELEPHONE NUMBER AREA CODE 4 1 9 2 4 9 - 5 0 0 0
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS
B	I	N	V	I	S	T	1	0	0
				N					

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE) NO

EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR

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

On January 6, 1988 while preparing to do the required calibration, it was determined that the seismic trigger that has been installed since June 1977, does not have the frequency range response that is listed in Technical Specification 3.3.3.3. It does meet Regulatory Guide 1.12 referenced in the basis section of this specification. The original trigger installed prior to June 1977 did meet the frequency range response but was replaced when it failed a surveillance test (LER 77-13). The replacement model was a Teledyne Geotech Model SP215C version 36180-01-01 as opposed to the 36180-01-26 version that had failed.

The trigger has been removed, calibrated off-site, and reinstalled. It is considered functional but not Technical Specification operable. Since the original Teledyne Geotech model is no longer made a new trigger will be obtained which will meet the Technical Specification (T.S.) range so that the system can be declared T.S. operable. Procedures are now in place which would require similar changes to the Seismic Monitoring System to receive a 10CFR50.59 safety review/evaluation.

Technical Specification amendment request will be submitted to the NRC to reduce the overly conservative frequency range to one that will not only meet the Regulatory Guides but one that can be met by a standard design that is available.

This finding is being reported as a condition prohibited by Technical Specifications under 10CFR50.73(a)(2)(i)(B) and as a Special Report per 6.9.2.

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

Description of Occurrence:

On January 6, 1988 it was determined that the seismic trigger (Teledyne Geotech model SP215C, version 36180-01-01) had a tested frequency range of 0.021 to 15.5 Hz. This frequency range did not meet the Technical Specification (T.S.) 3.3.3.3 frequency range requirement of 0.053 to 20 Hz.

The seismic trigger and as a result the seismic monitoring system (IN) was declared inoperable which placed the unit in the action statement of Technical Specification 3.3.3.3. The action statement requires that with the system inoperable for 30 days a Special Report be submitted within the next 10 days.

This finding is being reported as a condition prohibited by Technical Specifications under 10CFR50.73(a)(2)(i)(B) and to meet the Special Report requirements of T.S.6.9.2.

Designation of Apparent Cause of Occurrence:

The originally installed seismic trigger was a Teledyne Geotech model SP215C, version 36180-01-26, with a frequency range response of 0.053 to 20 Hz. A changeout was made in June 1977 when the original trigger failed a surveillance test (LER 77-13). The different version re-installed was functionally similar, which contributed to the changeout being performed inappropriately under the Maintenance Work Order System and not the Modification Program. Thus a 10CFR50.59 review was not performed to confirm the replacement met Technical Specification requirements.

Analysis of Occurrence:

The seismic trigger has no direct safety related function. It monitors a sensor (which detects ground motion) at a site remote from the containment and auxiliary building. If the sensor signal exceeds the preset value of the trigger "event" level, the recording unit is actuated. The data from this and other sensors mounted in the plant is then recorded on cassette tape for use in analyzing the effects of the "event" on the plant structures. Control room annunciators and alarms are unaffected by trigger operation.

The Technical Specification Bases states that the seismic instrumentation is consistent with the recommendations of Regulatory Guide 1.12, April, 1974. Regulatory Guide 1.12 recommends a frequency range of 1 to 10 Hz via reference to ANSI N18.5, "Earthquake Instrumentation Criteria for Nuclear Power Plants". Therefore the installed seismic trigger with a frequency range of 0.021 to 15.5 Hz meets both the Updated Safety Analysis Report and Regulatory Guide 1.12 requirements. Therefore, this condition does not have any actual or potential safety significance.

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

Corrective Action:

The installed seismic trigger was removed on January 14, 1988 and sent to the vendor to complete the calibration test requirements of Surveillance Requirement 4.3.3.3.1. The unit was reinstalled after the calibration test and is considered functional but not T.S. operable.

A change to the Technical Specification will be expedited to the NRC to reduce the frequency range. This will allow Toledo Edison to declare operable the currently installed equipment which satisfies Regulatory Guide 1.12.

As a parallel path a new trigger that will meet the present Technical Specification frequency range will be obtained to allow the seismic instrument to be declared operable. The new trigger will be installed upon receipt, which is currently expected to be no later than June 1, 1988.

The overconservative value in the Technical Specifications compared to the Regulatory Guide was previously identified in the ongoing Technical Specification Verification Program (program described in Licensee Event Report 87-003). This review did not identify that the installed model did not meet the Technical Specification requirement. The Control of Work Procedure, AD 1844.02 and the Safety Evaluation Procedure, NG-NE-304, which exist now, identify the types of work that require the modification process be followed and the safety review process that is required for a modification, respectively. This will assure that necessary design documents including Technical Specifications are revised to reflect the plant configuration.

Failure Data:

This is the first report of the seismic trigger problems since Licensee Event Report (LER) 77-013. LER 86-035 had reported that testing of the seismic instruments was not adequate. However, neither LER identified the frequency range difference.

REPORT NO: NP-33-88-02

PCAQ NO(s): 88-0010



February 5, 1988

Log No: KA88-0076
File: (NP-33-88-02)

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

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

Gentlemen:

LER No. 88-001
Davis-Besse Nuclear Power Station Unit No. 1
Date of Occurrence January 6, 1988

Enclosed is Licensee Event Report 88-001, 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/ed

Enclosure

cc: Mr. A. Bert Davis
Regional Administrator
USNRC Region III

Mr. Paul Byron
DB-1 NRC Resident Inspector

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