

PHILADELPHIA ELECTRIC COMPANY

LIMERICK GENERATING STATION
P. O. BOX A
SANATOGA, PENNSYLVANIA 19464

July 12, 1988

Mr. William T. Russell
Administrator
Region I
U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Subject: Special Reporting Requirement for Inoperable
Seismic Monitoring Instrumentation at
Limerick Generation Station

Reference: Technical Specification 3.3.7.2 and 6.9.2

Dear Mr. Russell:

This special report is being submitted pursuant to the requirements of Limerick Technical Specifications 3.3.7.2 and 6.9.2 which state:

SEISMIC MONITORING INSTRUMENTATION:

3.3.7.2 The seismic monitoring instrumentation shown in Table 3.3.7.2-1* shall be OPERABLE.

4.3.7.2.1 Each of the above required seismic monitoring instruments shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL FUNCTIONAL TEST, and CHANNEL CALIBRATION operations at the frequencies shown in Table 4.3.7.2-1.

APPLICABILITY: At all times.

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ACTION:

- a. With one or more of the above required seismic monitoring instruments inoperable for more than 30 days, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 10 days outlining the cause of the malfunction and the plans for restoring the instrument(s) to OPERABLE status.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SPECIAL REPORTS

6.9.2 Special Reports shall be submitted to the Regional Administrator of the Regional Office of the NRC within the time period specified for each report.

DESCRIPTION OF EVENT:

On June 2, 1988 six (6) triaxial time history accelerographs, which comprise a portion of Limerick's Seismic Monitoring System, were declared administratively inoperable due to inadequate 18-month calibration surveillance tests. The triaxial time-history accelerographs produce a record of the time varying acceleration at the sensor location. This data is used directly for analysis and comparison with reference information.

The 18-month calibration surveillance tests were developed based on instructions originally supplied in vendor manuals which required the use of a system calibration key switch for instrument calibration. On June 2, 1988, following a conversation with the system supplier, Kinematics Inc., it was discovered that the vendor has revised their requirements and that the system calibration key switch is no longer used for calibration of the accelerographs. The vendor now recommends accelerograph calibration using a known acceleration input to determine the instrument's sensitivity with the calibration key switch used as a functional check. This has not been performed during previous 18-month calibration surveillance tests.

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CONSEQUENCES OF THE EVENT:

There was no impact on normal operations, as a result of this condition. The capability for the control room to receive notification of a seismic event is unaffected by the administratively inoperable instrumentation because the control room receives signals from other components of the seismic monitoring system which have been calibrated properly and therefore accurately sense seismic activity.

In the event of seismic activity exceeding the Operating Basis Earthquake acceleration level at the containment base slab, administrative controls require a plant shutdown. The plant's ability to adequately analyze the acceleration level of the containment base slab immediately following a seismic event is affected by the administratively inoperable accelerographs. A proper calibration of the containment base slab accelerograph would be first required to determine the base slab acceleration level. Following this calibration the measured response spectra could then be compared to the Operating Basis Earthquake response spectra to ascertain the severity of the seismic event. If the measured response spectra exceeded the Operating Basis Earthquake spectra additional seismic event damage analysis would be required. Therefore, the remaining accelerographs would require calibration in order to perform a detailed analysis of the seismic event.

CAUSE OF THE EVENT:

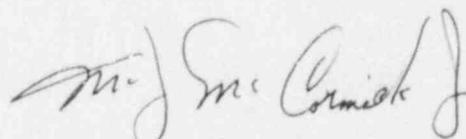
The cause for the declaring the six (6) triaxial time-history accelerographs administratively inoperable was deficient calibration surveillance tests. Originally supplied vendor manuals denote "calibration capability by means of a key switch". Limerick developed 18-month calibration surveillance tests utilizing the key switch. Recent conversations with the vendor revealed the key switch operation as a functional check of the accelerographs, and that tilt-table testing, which induces acceleration inputs on the sensors, should be used for the 18-month calibrations.

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CORRECTIVE ACTIONS:

The applicable 18-month calibration surveillance tests are being revised, in accordance with the vendor's new requirements, to incorporate tilt-table testing of the accelerographs. These procedures will be revised by August 31, 1988. Upon approval, these surveillance tests will be performed on the four(4) accelerographs which are accessible at power before December 31, 1988. The remaining two(2) accelerographs, which are mounted in the drywell, will be calibrated properly during the next outage which permits sufficient drywell accessibility.

Should you require additional information, please do not hesitate to contact us.



Very truly yours,

M. J. McCormick, Jr.
Plant Manager

RWG:lc

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