



**CENTERIOR
ENERGY**

PERRY NUCLEAR POWER PLANT

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VICE PRESIDENT - NUCLEAR

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PY-CEI/NRR-1486 L

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

Perry Nuclear Power Plant
Docket No. 50-440
Inoperable Seismic Monitoring
Instrumentation - Special Report

Dear Sir:

Attached is a Special Report concerning inoperable Seismic Monitoring Instrumentation. This report satisfies the conditions of Perry Technical Specifications 3.3.7.2 and 6.9.2.

If you have any questions, please feel free to call.

Sincerely,

Michael D. Lyster

MDL:NJL:sc

Attachment

cc: USNRC Project Manager
USNRC Resident Office
USNRC Region III
Director, Office of Resource Management

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Operating Companies
Cleveland Electric Illuminating
Toledo Edison

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SPECIAL REPORT
SEISMIC RECORDER INOPERABILITY

March 15, 1992, a small earthquake ($M_c=3.5$) occurred four (4) miles west of the Perry Nuclear Plant and was recorded by the plant's strong motion instrumentation. This event was reported to the NRC in a Seismic Event Report, dated March 25, 1992 (Reference letter PY-CEI/NRR-1471 L). Seismic instrumentation was calibrated within 30 days following the seismic event, as required by Technical Specification 4.3.7.2.2. On March 23, three instruments were removed from the drywell for calibration as required by Technical Specifications. These instruments, the High Pressure Coolant Spray (HPCS) Piping Triaxial Peak Accelerograph (D51-R130), the Reactor Recirculation Pump Triaxial Peak Accelerograph (D51-R120), and the Reactor Recirculation Piping Support Triaxial Response Spectrum Recorder (D51-R170) were calibrated, but not returned to their locations within 30 days.

With Refueling Outage 3 in progress, the monitors located in high traffic areas, and the possibility of damage during drywell work, the decision was made to not install these instruments until the completion of major drywell outage work. By preventing damage to the seismic instruments Perry is decreasing the possibility for false readings during actual events caused by inadvertent bumping of the instrumentation. The three channels were declared inoperable and the unit entered Technical Specification Action Statement 3.7.2, which states the channel remains inoperable for more than thirty days, requires that a special report be submitted to the Commission within the next 10 days. The thirty day time limit was exceeded on April 22, 1992.

The triaxial peak accelerograph recorders are designed to sense and record low frequency accelerations in three orthogonal directions. Three diamond tipped scribes trace a permanent record on metal plates by a series of sensitive adjustable components. The recorders are self contained and the plates are easily removed for analysis after a seismic event. The triaxial response spectrum recorder also senses and records low frequency accelerations. It is composed of three detector assemblies which are identical but have orientations in three different planes (east-west, north-south, vertical). The recorder uses reed stylus mechanisms to trace metal plates. Each detector has twelve reeds, each with its own plate, corresponding to various frequencies for a total of 36 reeds. The plates can be removed and analyzed for a frequency spectrum after a seismic event. Both types of recorders are passive in nature and are used for data collection.

We do not anticipate these out-of-service instruments to significantly degrade our ability to detect/record seismic motion within the plant. The Perry Plant is a fully instrumented Regulatory Guide 1.112 facility. With these three instruments unavailable, we would still have several instrumented locations including both a triaxial response spectrum recorder and (a strong motion triaxial time-history accelerograph) at the Containment base mat. Both have the ability to alarm at the Control Room. The strong motion triaxial accelerograph provides a permanent paper/magnetic record locally at the electrical equipment room, and the triaxial response spectrum recorder provides spectral information directly to the Control Room. In the event of detecting an earthquake during this refueling time period, we would have the ability to adequately record the event and take appropriate action.