

# ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

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SUBJECT: Special rept: on 881206, inoperability of seismic monitoring instrument discovered.

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January 16, 1989

U.S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, DC 20555

RE: Docket No. 50-410  
SPECIAL REPORT

Gentlemen:

In accordance with the Nine Mile Point Unit 2 (NMP2) Technical Specification (TS) 3.3.7.2, Action Statement a., we are submitting the following Special Report concerning the inoperability of the Seismic Monitoring Instrumentation (Specifically - the Triaxial Peak Accelerograph, Primary Containment Recirculation Pump Motor).

EXECUTIVE SUMMARY

The Triaxial Peak accelerograph, Primary Containment Recirculation Pump Motor is installed and maintained as required by the NMP2 TS. This unit appears to exhibit premature failure and a consequent faulty reading due to high background vibration. Thus, no TS credit is being taken for this unit.

An accelerograph will be mounted in an alternate location designated by Niagara Mohawk Power Corporation (NMPC) Engineering. This unit is expected to function properly and provide information on seismic activity. The selected location is not the location specified in the NMP2 TS. Thus, NMPC is not taking credit for meeting TS requirements with this accelerograph.

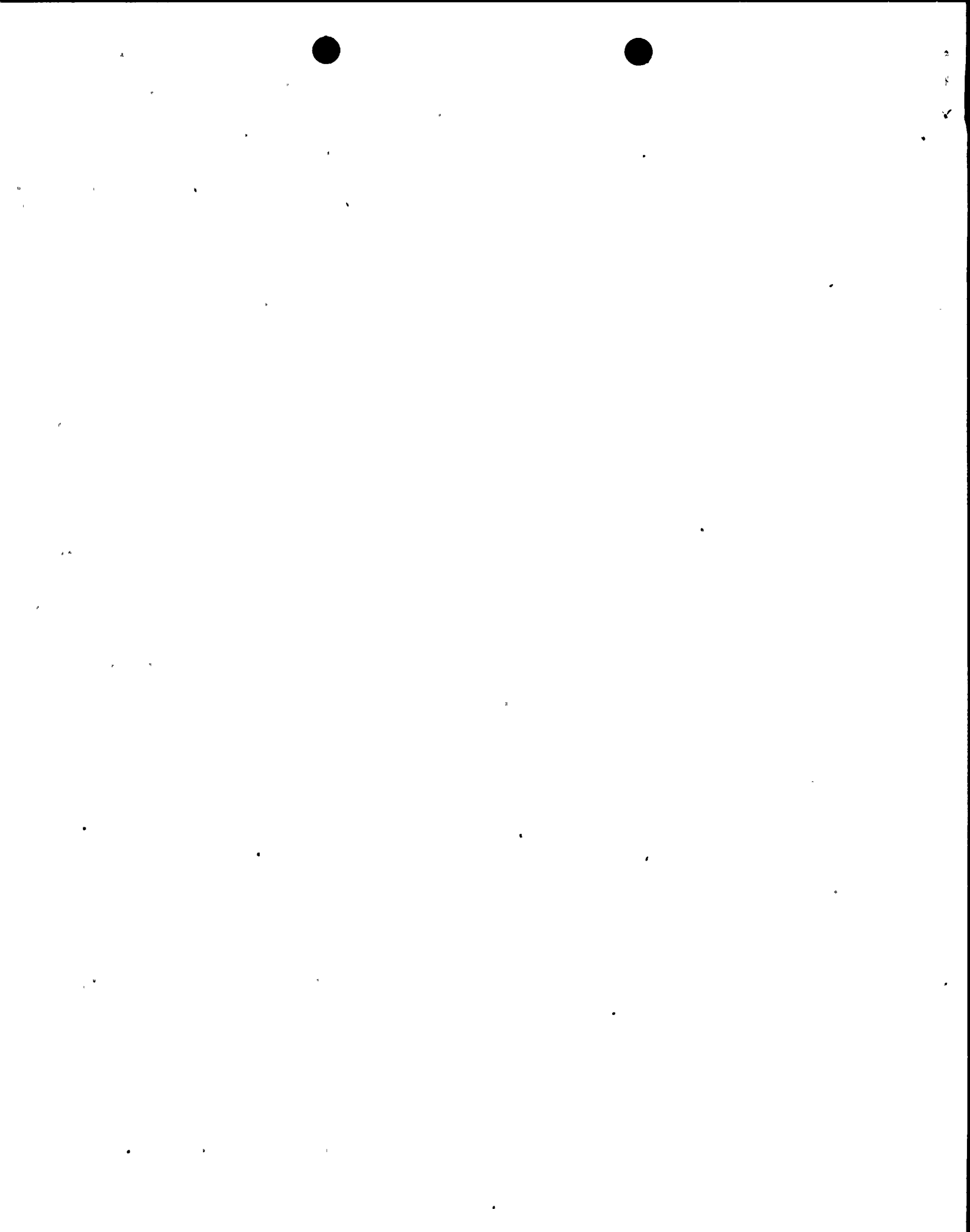
NMPC plans to have an acceptable location for this accelerograph and an appropriate change to the TS by the end of the first refueling outage.

EVENT DESCRIPTION

On December 6, 1988 at 1400 hours with the reactor in cold shutdown (Operational Condition 4), reactor coolant at approximately 108 degrees Fahrenheit and atmospheric pressure, the Triaxial Peak Accelerograph (2ERS-PAC2C) was declared inoperable. It was found inoperable during the performance of procedure N2-ISP-ERS-R102 (Operating Cycle Channel Calibration of Seismic Monitoring Triaxial Peak Accelerographs Instrument Channels). The vertical channel flexure arm was broken, the transverse axial sensitivity was found to be out of specification, and the vertical permanent record plate was found to have indications resulting from equipment operational vibrations.

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#### CAUSE OF EVENT

The cause of the broken vertical channel flexure arm and of the indications on the vertical record plate was Reactor Recirculation pump (2RCS-PIA) normal vibration.

The loss of transverse axial sensitivity was due to instrument wear.

#### ACTIONS TAKEN

A Problem Report was written on December 6, 1988 for the indications on the vertical permanent record plate. The vertical channel flexure arm was replaced on December 23, 1988. The transverse axial sensitivity was returned to specification on December 23, 1988 by replacing the transverse platform sensor assembly.

The Problem Report was written to have NMPC Engineering perform an indepth analysis of this installation and consider relocating 2ERS-PAC2C. The Problem Report's Description stated that: The vertical channel of 2ERS-PAC2C is exposed to vibration that exceeds the amplitude values expected in an earthquake. Thus, the indications caused by reactor recirculation pump vibration, during normal operation, would obscure any subsequent earthquake indication on the record plate. [The As Found amplitude on this plate was 3-4 millimeters or around 4 gravity accelerations (4g's).]

NMPC Engineering determined from the startup tests that the vertical movement during normal plant operation would be a maximum of 0.1 millimeters steady state (This is within acceptable limits). They concluded that this constant vertical vibration loosened the flexure arm and eventually caused it to break. As the arm loosened it created an increasing amplitude on the record plate and thus the 3-4 millimeters measured by the Instrument and Control (I&C) Technicians. (A 3-4 millimeter amplitude on this plate would represent about 4g's if the recorder were operating properly.)

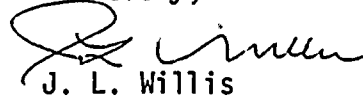


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NMPC Engineering will develop a temporary modification to move 2ERS-PAC2C to a motor control center (MCC) cabinet in the NMP2 Secondary Containment (This cabinet is in the North Auxiliary Bay at the 240 foot elevation) The I&C technicians will periodically examine the record plates to determine if this location has an acceptably low level of background vibration. It is expected to be acceptable. If it turns out to be so, 2ERS-PAC2C will remain at this location and a Technical Specification change will be submitted to the Nuclear Regulatory Commission to change Table 3.3.7.2-1, item 2.c to reflect this new location. If it is not satisfactory, then another new location will be found.

Sincerely,



J. L. Willis  
General Superintendent  
Nuclear Generation

JLW/AD/cjm  
(1504u)

XC: Regional Administrator, Region 1,  
W. A. Cook, Resident Inspection



10-1-1952