



February 14, 1975

Mr. Edson G. Case, Acting Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Case:

ABNORMAL OCCURRENCE NO. 251-75-1A
SUPPLEMENTAL REPORT DATE: FEBRUARY 14, 1975
OCCURRENCE DATE: JANUARY 3, 1975

PRESSURIZER PRESSURE PROTECTION CHANNEL II
LEAD/LAG CONTROLLER FAILURE

A. Introduction

This supplemental report presents the results of tests performed to determine the cause of the Pressurizer Lead/Lag Controller failure.

B. Problem and Investigation Action

Background

Abnormal Occurrence Report No. 251-75-1 reported the occurrence of a zero-shift in Pressurizer Lead/Lag Controller PM-456A. The zero-shift was corrected by adjusting the controller.

Additional Investigative Action

Approximately three weeks later, on January 27, 1975, results of functional tests on Controller PM-456A revealed that a zero-shift had occurred again. The measured controller output was 1.170 volts compared to an expected output of 1.075 volts. Immediate corrective action was to adjust the controller and perform tests to demonstrate satisfactory operation.

Approximately six hours later, on January 27, 1975, the controller output was checked and a barely detectable zero-shift noted. Although the magnitude of this zero-shift was small, the controller was replaced with a calibrated spare controller.

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Extensive tests of the failed controller determined that a capacitor in the amplifier had failed open. Failure of this capacitor would allow alternating current to be superimposed on the amplifier direct current signal. This would increase the amplifier output signal and cause a zero-shift in the controller output signal.

C. Designation of Apparent Cause of Occurrence

Evaluation of test results concluded that the cause of Abnormal Occurrence No. 251-75-1 was the failure of a capacitor in the amplifier of the Lead/Lag Controller.

D. Analysis of Occurrence

The maximum zero-shift error measured was 0.095 volts from the expected value of 1.075 volts. This is equivalent to an error of 19 psi at steady-state conditions.

If the pressure signal to the controller decreases rapidly, the Lead/Lag Controller output signal falls rapidly. This will cause a reactor trip at a higher pressure than the steady-state setting.

The incidents analyzed and presented in the Turkey Point Unit Nos. 3 and 4 Final Safety Analysis Report assume a value of 30 psi for steady state fluctuations in primary pressure and measuring error. A reactor trip is assumed to be actuated from any two out of three channels at a pressure of 1685 psig.

The reactor was protected at all times by two redundant, operable channels. Therefore, neither reactor safety nor the health and safety of the public were jeopardized by this occurrence.

E. Corrective Action

The faulty Lead/Lag Controller was replaced with a calibrated spare controller.

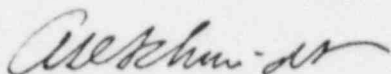
F. Failure Data

Review of Instrument and Control maintenance records show this was the first failure of a Lead/Lag Controller caused by a

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capacitor failure in the amplifier. There was no evidence
of a generic failure.

Very truly yours,



A. D. Schmidt
Vice President
Power Resources

VTC/cpc

cc: Mr. Norman C. Moseley
Jack R. Newman, Esquire