

May 24, 1985

MEMORANDUM FOR: Karl Kniel, Chief
Generic Issues Branch
Division of Safety Technology
Office of Nuclear Reactor Regulation

FROM: Karl V. Seyfrit, Chief
Reactor Operations Analysis Branch
Office for Analysis and Evaluation
of Operational Data

SUBJECT: PLANT OPERATING EXPERIENCE HAVING POTENTIAL SIGNIFICANCE
TO THE RESOLUTION OF USI A-46

AEOD has recently completed an engineering evaluation concerning nuclear plant operating experience involving system disturbances caused by bumped electro-mechanical components. Our engineering evaluation report on this subject, which has been enclosed for your information, found that enclosed switches, relays, transmitters and possibly relays in circuit breakers are among the most sensitive electro-mechanical devices in a nuclear plant. A physical disturbance will frequently change the output states of these components. Bumped components have resulted in reactor scrams, safety system isolations, trips and initiations, and loss of power to safety systems. Follow-up investigations of several bumped components which tripped or disabled a safety system, found that the component did not appear to meet current seismic qualification standards in all cases. The data collected indicates that enclosed switches, relays, transmitters and possibly relays in circuit breakers would be among the most sensitive (i.e., most likely to change state) electro-mechanical components in a plant during a major seismic disturbance.

Based on our review and evaluation, we would suggest that the results of this study be considered by the members of your staff responsible for the resolution of USI A-46, "Seismic Qualification of Equipment in Operating Plants." In particular, as noted in the report, we would suggest that the aforementioned classes of components, and their potential for causing unacceptable system transients or conditions, be considered by the NRC staff during the Phase II review of the proposed resolution of USI A-46.

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If you or any members of your staff have any questions regarding this matter, please contact Stuart Rubin (X24436) of my staff.

/s/

Karl V. Seyfrit, Chief
Reactor Operations Analysis Branch
Office for Analysis and Evaluation
of Operational Data

Enclosure:
As Stated

cc w/enclosure:
V. Noonan, NRR

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