UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

August 21, 1991

Docket Nos. 50-275
and 50-323

Mr. J. D. Shiffer
Senior Vice President
Nuclear Power Generation
Pacific Gas and Electric Company
77 Beale Street, Room 1451
San Francisco, California 94106

Dear Mr. Shiffer:

SUBJECT: RELIEF FROM THE REQUIREMENTS OF THE DIABLO CANYON INSERVICE TESTING (IST) PROGRAM TO MEASURE PUMP BEARING TEMPERATURE

Background

By letter dated May 17, 1991, Pacific Gas and Electric Company (PG&E) requested relief from the requirement of ASME Section XI, Subsections IWP-3300 and IWP-3500(b) to annually measure the bearing temperature of all pumps in the IST program. The request was made pursuant to 10 CFR 50.55a(g) and NRC Generic Letter (GL) 89-04, "Guidance on Developing Acceptable Inservice Testing (IST) Programs."

PG&E's Basis for Requesting Relief

In lieu of measuring pump bearing temperatures annually, PG&E proposed to measure bearing vibration on a quarterly basis. The vibration testing would be conducted in accordance with the requirements and acceptance criteria specified in ASME Operation and Maintenance Pump Standard ASME OM-6. In support of the request for relief, PG&E stated that it has been demonstrated that pump bearing temperature rise occurs only a short time prior to bearing failure, making it improbable that annual bearing temperature measurements would effectively identify bearing degradation. Additionally, PG&E stated that many pumps in the Diablo Canyon IST Program are operated on recirculation flow for the purposes of the annual ASME Section XI test. Running the pumps until stable bearing temperatures are achieved requires excessive pump running time on recirculation flow (approximately 1 to 1.5 hours), which has been shown to contribute to pump degradation. In summary, PG&E stated that measuring pump bearing vibration in accordance with ASME OM-6 will provide a better indication of pump degradation than the presently used combination of ASME Section XI bearing vibration and temperature measurements, and will minimize the potential for pump degradation resulting from operation on recirculation flow.

Mr. J. D. Shiffer
Pacific Gas and Electric Company

Diablo Canyon

Evaluation

The NRC staff has evaluated PG&E's request for relief and agrees that the temperature at the pump bearings will not increase significantly until immediately before a bearing failure. Therefore, the likelihood of detecting an impending bearing failure with a single annual bearing temperature measurement is very small. The staff finds that the quarterly pump vibration measurements provide more information about the degradation of the bearing than the annual bearing temperature measurement. On this basis the staff finds PG&E's relief request to be acceptable.

Conclusion

The NRC staff hereby grants the relief requested by PG&E from the requirement of ASME Section XI, Subsections IWP-3300 and IWP-3500(b) to annually measure the bearing temperature of all pumps in the IST program. The staff concludes that relief may be granted as requested pursuant to 10 CFR 50.55a(a)(3)(i) because the alternate testing proposed by PG&E provides an acceptable level of quality and safety.

Sincerely,

Harry Rood

Harry Rood, Senior Project Manager
Project Directorate V
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

cc:
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Mr. J. D. Shiffer
Pacific Gas and Electric Company

Diablo Canyon

cc:

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Sincerely,

ORIGINAL SIGNED BY

Harry Rood, Senior Project Manager
Project Directorate V
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Office of Nuclear Reactor Regulation

cc:
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