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SUBJECT: Responds to violations noted in Insp Repts 50-275/94-27 & 50-323/94-27.Corrective actions:Electrical Maint Procedure MP E-64 will be revised to perform electrical testing prior to intentional manual exercising of breakers.

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Gregory M. Rueger
Senior Vice President and
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January 27, 1995

PG&E Letter DCL-95-021

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

Docket No. 50-275, OL-DPR-80
Docket No. 50-323, OL-DPR-82
Diablo Canyon Units 1 and 2
Reply to Notice of Violation in NRC Inspection
Report Nos. 50-275/94-27 and 50-323/94-27

Gentlemen:

NRC letter dated December 30, 1994, transmitting Inspection Report Nos. 50-275/94-27 and 50-323/94-27, contained a Notice of Violation that cited one Severity Level IV violation for Units 1 and 2 regarding preconditioning of circuit breakers required for containment penetration protection. The letter further clarified that preconditioning is of concern since degradation of breaker performance may not be identified during the subsequent surveillance testing. PG&E's response to the Notice of Violation is provided in the enclosure.

Sincerely,

Warner Fujimoto for

Gregory M. Rueger

Enclosure

cc: Edward T. Baker
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NCR N0001882

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ENCLOSURE

REPLY TO NOTICE OF VIOLATION IN
NRC INSPECTION REPORT NOS. 50-275/94-27 AND 50-323/94-27

On December 30, 1994, as part of NRC Inspection Report Nos. 50-275/94-27 and 50-323/94-27, NRC Region IV issued a Notice of Violation citing one Severity Level IV violation for Diablo Canyon Power Plant Units 1 and 2. The statement of violation and PG&E's response follow.

STATEMENT OF VIOLATION

"During an NRC inspection conducted on October 16 through November 26, 1994, a violation of NRC requirements was identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 10 CFR Part 2, Appendix C, the violation is listed below:

> 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," states, in part,
>
> "Activities affecting quality shall be prescribed by documented instructions, procedures... of a type appropriate to the circumstances."
>
> Contrary to the above, as of November 30, 1994, surveillance testing of molded case circuit breakers used for containment penetration protection performed under licensee procedures Surveillance Test Procedure M-83A, "Penetration Overcurrent Protection," and MP E-64.1A, "AC and DC Molded Case Circuit Breaker Test Procedure," were not appropriate to the circumstances in that they did not require a demonstration of the operability of the breakers in the as-found condition. The procedure exercised the breakers manually prior to trip current testing required by Technical Specification 4.8.4.2.a.2.
>
> This is a Severity Level IV violation applicable to Units 1 and 2. (275 and 323/9427-03)

REASON FOR THE VIOLATION

PG&E agrees with the violation as stated in the inspection report.

Diablo Canyon uses molded case circuit breakers (MCCBs) as containment penetration protection for 120-volt AC, 480-volt AC, and 125-volt DC circuits. Diablo Canyon's MCCB testing program, as described in Electrical Maintenance Procedure MP E-64.1A, "AC and DC Molded Case Circuit Breaker Test Procedure," meets or exceeds National Electrical Manufacturers Association (NEMA) Standard AB4-1991, "Guidelines for Inspection and Preventive Maintenance of Molded Case Circuit Breakers Used in Commercial and Industrial Applications," and Nuclear Maintenance Applications Center (NMAC) Report NP-7410, "Breaker Maintenance, Molded Case Circuit Breakers."

Technical Specification 4.8.4.2 requires periodic verification that the containment penetration overcurrent protection is operable. This surveillance requirement is met by the performance of Surveillance Test Procedure (STP) M-83A, "Penetration Overcurrent Protection," on 10% of containment electrical penetration protection MCCBs at a refueling outage frequency. During this test, the instantaneous trip unit is verified in-situ by applying a pulse of current of approximately 5 to 10 cycles in duration at the high tolerance limit of the instantaneous trip band, and the breaker is verified to trip instantaneously (i.e., while the pulse is applied). Testing for a three-phase circuit breaker is performed on one phase at a time, since all three phases actuate the common instantaneous trip unit linkage mechanism. Therefore, electrical trip testing of one phase effectively cycles the remaining phases and trip unit linkages.

To provide for personnel safety, manual cycling of the MCCB to the "OFF" position is required to clear the associated electrical circuit. In addition, NMAC Report NP-7410 indicates MCCBs that have not been cycled for many years may not operate freely and may respond slower than expected to an overload or fault. To ensure Diablo Canyon MCCBs operate freely, all Diablo Canyon MCCBs are manually exercised on an outage frequency.

For MCCBs with interchangeable instantaneous trip units, if the manual exercising of the breaker indicates that the common contact operating mechanism is not operating smoothly, the trip unit is removed to allow access to the common contact operating mechanism. The common contact operating mechanism is actuated independently by either the manual MCCB mechanism or by the instantaneous trip unit operating linkage. The common contact operating mechanism is lubricated and the instantaneous trip unit re-installed. PG&E agrees that the practice of removing the instantaneous trip unit does have the

potential to directly influence the instantaneous trip response of the breaker since the instantaneous trip unit operating linkage may no longer be in an as-found condition due to vibratory induced movement of the linkage.

For MCCBs with non-interchangeable instantaneous trip units, an engineering evaluation of the MCCBs mechanical and electrical operating mechanisms and previous maintenance history was performed, and PG&E believes that mechanical cycling does not affect the instantaneous trip unit portion of the MCCB. The instantaneous trip unit, which is independent of the handle mechanism, operates the common contact operating mechanism that physically releases/opens the load contacts. The load contacts physically make or break the circuit, must withstand electrical arcs during opening and closing breaker operations, allow current flow during normal operation, and provide current interruption under faulted or overload conditions. The speed at which the contacts open has no effect on sensing an overload or faulted circuit condition and initiating a MCCB trip. PG&E recognizes that the mechanical exercising of the breakers has the potential to influence the operating speed of the common contact operating mechanism that opens the MCCB load contacts. However, PG&E concludes that this potential reduction in the speed of the load contacts opening does not have a significant effect on the instantaneous fault clearing time of the MCCB, and has no effect on the STP M-83A results.

As discussed above, some mechanical and electrical cycling of the molded case circuit breakers cannot be avoided. PG&E agrees that revising the sequence of testing to require electrical testing prior to intentional mechanical cycling of the breaker will provide more accurate testing of the circuit breaker operating mechanisms.

CORRECTIVE STEPS TAKEN AND RESULTS ACHIEVED

Applicable industry standards (NEMA AB4-1991, NMAC NP-7410, and IEEE 308-1971) were reviewed, industry standards organizations (NEMA and NMAC) were contacted, and vendor circuit breaker manuals and overcurrent test equipment vendor instruction manuals were reviewed to evaluate the above concern and to identify any potential adverse effects that will occur by switching the testing and manual cycling sequence for the MCCB test program.

CORRECTIVE STEPS THAT WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

Electrical Maintenance Procedure MP E-64.1A will be revised to perform electrical testing prior to intentional manual exercising of the breakers. This revision will also ensure that breakers with removable instantaneous trip units that electrical testing is performed prior to removing the trip unit to access the common contact operating mechanism to lubricate the trip linkage.

DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Procedure MP E-64.1A will be revised prior to the next refueling outage when the Technical Specification surveillance testing is required to be performed.