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SUBJECT: Provides response to RAI re NRC GL 96-05, "Periodic Verification for Motor Operated Valves," dtd 981229.

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Pacific Gas and Electric Company

Lawrence F. Womack
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March 25, 1999

PG&E Letter DCL-99-031

U.S. Nuclear Regulatory Commission
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Washington, DC 20555-0001

Docket No. 50-275, OL-DPR-80
Docket No. 50-323, OL-DPR-82
Diablo Canyon Units 1 and 2
Response to Request for Additional Information Regarding NRC Generic Letter 96-05, "Periodic Verification for Motor Operated Valves," dated December 29, 1998

Gentlemen:

This letter provides PG&E's response to the NRC's letter, "Request for Additional Information Regarding Generic Letter 96-05 Program at Diablo Canyon (TAC Nos. M97040 and M97041)," dated December 29, 1998. PG&E's initial response to Generic Letter 96-05, "Periodic Verification of Design-Basis Capability of Safety-Related Motor-Operated Valves," was submitted in PG&E Letter DCL-96-223, dated November 18, 1996. Additional information was provided in DCL 98-124, dated September 8, 1998.

Attachment B provides the additional information requested by the NRC staff.

1/1

Sincerely,

A073

Lawrence F. Womack

cc: Steven D. Bloom
Ellis W. Merschoff
David L. Proulx
Diablo Distribution

Attachments
TLH/A0479173

Attachment A
PG&E Letter DCL-99-031

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of PACIFIC GAS AND ELECTRIC COMPANY	)	Docket No. 50-275 Facility Operating License No. DPR-80
Diablo Canyon Power Plant Units 1 and 2	)	Docket No. 50-323 Facility Operating License No. DPR-82

AFFIDAVIT

Lawrence F. Womack, of lawful age, first being duly sworn upon oath says that he is Vice President - Nuclear Technical Services of Pacific Gas and Electric Company; that he has executed PG&E's supplemental response to NRC Generic Letter 96-05, "Periodic Verification for Motor Operated Valves," on behalf of said company with full power and authority to do so; that he is familiar with the content thereof: and that the facts stated therein are true and correct to the best of his knowledge, information, and belief.

Lawrence F. Womack
Vice President - Nuclear Technical Services
Nuclear Power Generation

Subscribed and sworn to before me this 25th day of March 1999.
County of San Luis Obispo
State of California

Notary Public

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION REGARDING NRC GENERIC LETTER 96-05, "PERIODIC VERIFICATION FOR MOTOR OPERATED VALVES"

NRC Question 1:

In NRC Inspection Report No. 50-275 & 323/95-01 dated March 2, 1995, and NRC letter dated August 3, 1995, the NRC staff closed its review of the motor-operated valve (MOV) program implemented at the Diablo Canyon Nuclear Power Plant in response to Generic Letter (GL) 89-10, "Safety-Related Motor-Operated Valve Testing and Surveillance." In the inspection report, the NRC staff requested that additional information be provided to clarify selected program commitments. The licensee replied to the inspection report and addressed its long-term plans in its letter dated May 5, 1995. For example, the licensee noted that (1) the feedwater isolation valves and the pressurizer power-operated relief valve (PORV) block valves would be qualified using the Electric Power Research Institute (EPRI) MOV Performance Prediction Program (PPM); (2) valves that use the PPM would be modified, if necessary, to achieve a conclusive prediction; (3) a review of valve grouping in accordance with guidance in GL 89-10, Supplement 6, would be completed by June 30, 1995; (4) differential pressure testing would be evaluated to determine the effects of assembling valves using Neolube; and (5) all appropriate documents would be modified by June 30, 1995, to include a margin for valve degradation. The licensee should discuss the completion of these GL 89-10 close-out actions.

PG&E Response to Question 1:

The response to the five questions identified above are:

1. The feedwater isolation valves (FWIV) and the pressurizer power operated relief (PORV) block valves were successfully qualified using the EPRI Performance Prediction Program. Qualification was completed by Diablo Canyon Power Plant (DCPP) engineering personnel and is documented in Engineering Calculations J095 and J096. These calculations were approved in August 1995.

2. No modifications were required to achieve predictable results for the FWIVs or the PORV block valves.

3. The grouping required by Generic Letter (GL) 89-10, Supplement 6, was completed June 16, 1995. The grouping is maintained by DCPP engineering personnel. Procedure MA1.ID1, "Program Plan for Compliance With Generic Letter 89-10 (MOV Surveillance and Testing)," identifies the grouping rules, which are consistent with those stated in GL 89-10, Supplement 6.

4. Testing was performed in-plant on 2-FCV-95 on June 25, 1996. This testing was designed to determine what, if any, adverse impact the application of Neolube (and subsequent removal), had on previous differential pressure (DP) tests. The valve was tested under similar conditions to previous tests. Results showed previous tests were not affected by the application of Neolube.

5. The documentation necessary to perform DP test evaluations was revised to include a margin for degradation. This criterion is specified in procedure ICE-12, "I&C Engineering Procedure for Preparation of Motor Operated Valve Sizing and Switch Setpoint Calculations."

NRC Question 2:

The JOG program focuses on the potential age-related increase in the thrust or torque required to operate valves under their design-basis conditions. In the NRC safety evaluation dated October 30, 1997, on the JOG program, the NRC staff specified that licensees are responsible for addressing the thrust or torque delivered by the MOV motor actuator and its potential degradation. The licensee should describe the plan at Diablo Canyon for ensuring adequate ac and dc MOV motor actuator output capability, including consideration of recent guidance in Limitorque Technical Update 98-01 and its Supplement 1.

PG&E Response to Question 2:

Several elements of MA1.ID1 address the thrust or torque delivered by the motor actuator and the potential for degradation. For example, the procedure currently includes the following elements.

1. An inspection is performed once every fuel cycle (two years), which includes a check of the actuator and valve stem. The limit and torque switch condition is visually verified. Motor cavity, main gearbox, and limit switch grease conditions and levels are checked; the valve stem cleaned and lubricated; and accessible actuator subcomponents inspected.
2. Safety-related actuators are overhauled based on operating environment, maintenance experience, or condition monitoring. The actuator is disassembled, cleaned and inspected, reassembled, set and tested.
3. The thrust or torque required to stroke the valve is calculated using the latest maximum design basis condition and applicable vendor information.
4. The structural weak links of the MOV, and actuator thrust or torque capability are identified. Weak links are reviewed to verify they will withstand the maximum appropriate thrust or torque in combination with appropriate seismic loads.
5. The actuator motor capacity is evaluated to verify that, at design basis degraded voltage, it can actuate the MOV under maximum design basis DP.

6. MOV failures and performance are trended to anticipate degraded MOV conditions.
7. DCPP performs a Periodic Verification Program to detect degradation. The program establishes a test frequency based on safety significance, available margin, control logic, and operating history.

After the receipt of Limitorque's Technical Update 98-10 and Supplement 1, MOV sizing calculations were revised to include the revised equations. This was completed on August 15,1998.