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January 25, 2000

PG&E Letter DCL-00-011

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Docket No. 50-275, OL-DPR-80
Docket No. 50-323, OL-DPR-82
Diablo Canyon Units 1 and 2
Additional Information Regarding Revision of Technical Specification Bases 3/4.7.3 and 3/4.7.12

Dear Commissioners and Staff:

By letter dated May 7, 1997 (PG&E Letter DCL-97-083, "Revision of Technical Specification Bases 3/4.7.3 and 3/4.7.12 - Change Component Cooling Water System Design Basis Temperature"), PG&E submitted for your information a revision of the Bases to Technical Specifications (TS) 3/4 7.3, "Vital Component Cooling Water System," and 3/4.7.12, "Ultimate Heat Sink." The revision increased the maximum temperature at which the component cooling water system can operate after a design basis accident to 140°F for up to 6 hours, returning to 120°F, thereafter. This change reflected upgraded qualifications of equipment to function with a higher cooling water temperature. An administrative change to relocate the temperature limit from the TS 3/4.7.12 Bases to the TS 3/4.7.3 Bases was also made for better consistency. These changes were also incorporated in the Improved TS 3.7.7, "Vital Component Cooling Water (CCW) System," and 3.7.9, "Ultimate Heat Sink," Bases.

During a conference call on August 4, 1999, to discuss the TS Bases change, the NRC asked questions identified during their review of the change relating to cavitation of the heat exchanger outlet valves. The NRC also requested that PG&E discuss the impact of the increased postaccident CCW temperature profile on the time required to bring the plant to a safe condition following an accident. The PG&E responses are included in the attached enclosure.

If you have any further questions, please contact Patrick Nugent at (805) 545-4872.

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Sincerely,

Lawrence F. Womack

cc: Edgar Bailey, DHS
Steven D. Bloom
Ellis W. Merschoff
David Proulx
Diablo Distribution

Enclosure

Additional Information Regarding Revision of Technical Specification Bases 3/4.7.3 and 3/4.7.12

Question 1:

Does installation of the component cooling water (CCW) pressurization system impact cavitation at the heat exchanger outlet valves? Cavitation at the heat exchanger outlet valves could potentially be considered a new failure mode and therefore a potential unreviewed safety question (a malfunction not previously evaluated). Was cavitation addressed in the response to Generic Letter 96-06, "Assurance of Equipment Operability and Containment Integrity During Design-Basis Accident Conditions."

PG&E Response to Question 1:

Cavitation was addressed in PG&E's response to Generic Letter (GL) 96-06. The component cooling water (CCW) pressurization system was conservatively assumed to not be in operation for the cavitation evaluation.

PG&E's 120-day response to GL 96-06 (PG&E Letter DCL-97-012, "120-Day Response to NRC Generic Letter 96-06, 'Assurance of Equipment Operability and Containment Integrity During Design-Basis Accidents Conditions,'" dated January 28, 1997), in addressing the potential for waterhammer or two-phase flow, discussed the potential for cavitation in the CCW system downstream of the valves where CCW flow exits the containment fan cooler units during normal operation and postaccident conditions. PG&E's evaluation identified the potential for cavitation at this location. The evaluation concluded that minor cavitation could occur; however, the impact of the cavitation would not be significant enough to affect the ability of the CCW system to fulfill its design basis function.

The 120-day response also discussed the potential for cavitation in the auxiliary saltwater (ASW) system where the flow exits the CCW heat exchangers. The evaluation also concluded that minor cavitation could occur; however, the impact of the cavitation would not be significant enough to affect the ability of the ASW system to fulfill its design basis function.

License Amendments (LAs) 134 and 132, for Diablo Canyon Power Plant Units 1 and 2, respectively, dated May 13, 1999, authorized revision to the licensing basis as described in the Final Safety Analysis Report Update to incorporate the modification to the CCW system to pressurize the system with nitrogen. In its

safety evaluation for the LAs, the NRC stated that PG&E's resolution of the GL 96-06 waterhammer and two-phase flow issues was acceptable.

Question 2:

How does increasing the post-accident CCW temperature profile affect the time required to bring the plant to a safe condition following an accident?

PG&E Response to Question 2:

The new CCW postaccident temperature limit profile applies only to operation after a loss-of-coolant accident (LOCA) or main steamline break (MSLB).

No time restrictions have been established for plant cooldown after a LOCA or MSLB. However, since the CCW system is now qualified to operate at a higher supply temperature (and the ASW system flow and supply temperature parameters have not changed), more heat can be transferred from the reactor coolant system (RCS) and containment than before.

This means that if the CCW system were to heat up to the new limit of 140°F for 6 hours followed by 120°F thereafter the RCS and containment are capable of being cooled down faster than when the maximum supply temperature profile was 132°F for 20 minutes followed by 120°F thereafter.

The CCW system analyses predict a postaccident CCW system temperature profile of less than 140°F/120°F. The new 140°F/120°F temperature limit was established to demonstrate margin between what the CCW system analyses predict and what the equipment can safely accommodate.