October 18, 2000

Mr. Gregory M. Rueger
Senior Vice President, Generation and
Chief Nuclear Officer
Pacific Gas and Electric Company
Diablo Canyon Nuclear Power Plant
P. O. Box 3
Avila Beach, CA 94177

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION - TECHNICAL SPECIFICATION 3.5.5, "EMERGENCY CORE COOLING SYSTEMS (ECCS) - SEAL INJECTION FLOW" - DIABLO CANYON NUCLEAR POWER PLANT, UNIT NOS. 1 AND 2 (TAC NOS. MA9160 AND MA9161)

Dear Mr. Rueger:

In a letter dated June 8, 2000, Pacific Gas and Electric Company submitted a request to revise Technical Specification 3.5.5, "Emergency Core Cooling Systems (ECCS) - Seal Injection Flow," to replace the description of the seal injection flow with a description representative of the method used to establish and verify reactor coolant pump seal injection flow limits. This was consistent with the industry Standard Technical Specification Change Traveler TSTF-337, which was denied by the NRC. The NRC staff has reviewed your submittal and identified the need to request additional information in order to complete the staff's review. The enclosed request describes the specific information requested by the NRC.

This request was discussed with Mr. Pat Nugent of your staff on October 12, 2000. A mutually agreeable target date of December 15, 2000, for your response was established. If circumstances result in the need to revise the target date, please call me at the earliest opportunity. If you have any questions regarding this matter, please contact me at (301) 415-1313.

Sincerely,

/RA/

Steven D. Bloom, Project Manager, Section 2
Project Directorate IV & Decommissioning
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-275
and 50-323

Enclosure: Request for Additional Information

cc w/encl: See next page

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REQUEST FOR ADDITIONAL INFORMATION

CONCERNING TECHNICAL SPECIFICATION CHANGES FOR

EMERGENCY CORE COOLING SYSTEMS - SEAL INJECTION FLOW

PACIFIC GAS AND ELECTRIC COMPANY

DIABLO CANYON NUCLEAR POWER PLANT, UNIT NOS. 1 AND 2

1. Proposed Limiting Condition for Operation (LCO) 3.5.5, "Reactor coolant pump seal injection flow resistance shall be within limits," is incomplete because the word "limits" is undefined by the LCO. Although you further define the word "limits" in the Bases, 10 CFR 50.36(a) states that, "...A summary statement of the bases or reasons for such specifications...shall not become part of the technical specifications." Therefore, you may not rely on the Bases sections to complete the LCO. Please provide the limit you are proposing (i.e., 0.2117 ft/gpm^2) in the LCO to make it complete.

2. On page 3 of Enclosure A to your submittal, you stated that "the minimum RCP seal flow resistance analyses is based on the RCP seal injection flow rate of 40 gpm." However, in other places in your submittal, including page 3 of Enclosure A, you stated that "the ECCS model utilizes a hydraulic flow resistance for the RCP seal injection flow path to determine the seal flow rather than specifying an actual flow rate." Please provide a description of the RCP seal flow resistance analyses and how they are used in development of the ECCS model.

3. On page 3 of Enclosure A to your submittal, you stated that "the differential pressure across the manual seal injection throttle valves is measured using the pressurizer pressure corrected to the discharge of the RCP seal injection flow path at the RCP balancing chamber." Please provide a description of how this correction is made. On page 4 you provided a value of 31.8 psid to account for the pressure difference between the reactor coolant pressure (RCP) seal injection and the measured pressurizer pressure due to frictional losses and elevation change. Please provide a description of how this value is derived. Please explain the relationship of the two differential pressures discussed in this item.

4. On page 4 of Enclosure A to your submittal, you provided the formula that you used to calculate the RCP seal injection line resistance. The formula includes three measured parameters (charging header pressure, reactor coolant system pressure, and RCP seal injection flow). Please discuss how instrumentation uncertainty for instrumentation used in the surveillance is accounted for in your calculation.

5. On page 4 of Enclosure A to your submittal, you stated that "if it is necessary to change the RCP seal injection line hydraulic flow resistance, the position of the manual seal injection throttle valves are adjusted to provide the desired resistance value." As stated earlier in the submittal, the flow resistance is an assumed value in the ECCS model. Please explain why/when a change to the RCP seal injection line hydraulic flow resistance would be necessary.

6. On page 5 of Enclosure A to your submittal, you stated that "for both the minimum and maximum ECCS analyses, a higher filter dP is more conservative." Your submittal provides sufficient information to support this statement as related to the minimum ECCS analyses (e.g., LOCA). However, you did not provide an explanation of how the RCP seal injection line hydraulic flow resistance is modeled in the maximum ECCS analyses (e.g., inadvertent safety injection and steam generator tube rupture). Please provide an explanation of how seal injection flow is accounted for (modeled) in the maximum ECCS analyses to support your statement that a higher filter dP is more conservative for both the minimum and maximum ECCS analyses.

7. The change to LCO 3.5.5, Required Action A.1, and SR 3.5.5.1 to delete the reference to the charging flow control valve being full open appears incomplete. The methodology described in your submittal requires the pressure of the centrifugal charging pump discharge header to be measured downstream of the flow control valve to ensure that the measurement is not biased in the non-conservative direction due to the additional resistance that the flow control valve would contribute. Therefore, while the staff agrees that you could delete the reference to the valve being fully open to make the requirement consistent with your methodology, the staff believes that you should also include wording regarding what measurements need to be taken and where the measurements should be taken (e.g., CCP discharge header pressure downstream of charging flow control valve FCV-128) to more accurately describe the required measurements in your methodology.

8. The note in Surveillance Requirement (SR 3.5.5.1) allows you to not perform the SR until 4 hours after RCS pressure has stabilized between 2215 and 2255 psig. Your change to the note would allow you to not perform the SR until 4 hours after RCS pressure has stabilized at exactly 2235 psig. RCS pressure may not be controlled at exactly 2235 psig during plant operation. RCS pressure may vary within a range around the nominal value of 2235 psig. Therefore, your change to the note, if strictly interpreted, could lead to situations where you may never be required to perform the surveillance (e.g., if RCS pressure is not kept at exactly 2235 psig for a four hour period). It is not clear why you need to change the wording in the note. Please explain why you feel that a change to the note is necessary and, if you believe that a change is necessary, please revise your requested change to address the situation discussed.

9. You proposed changes to the Bases section that discuss a situation which may result in the need for performing SR 3.5.5.1 (i.e., valving in a clean filter). Per 10 CFR 50.36, surveillance requirements are to be included in the technical specifications, not in the Bases to the technical specifications. Please include a SR to cover the identified situation. In addition, please identify any other changes in the flow path that could result in a similar potential need to perform SR 3.5.5.1 (e.g., other valves in the flow path which, if repositioned, could invalidate the results of a previous surveillance) and include these situations in the proposed SR as well.