

April 14, 2000

Mr. Gregory M. Rueger
Senior Vice President and General Manager
Pacific Gas and Electric Company
Diablo Canyon Nuclear Power Plant
P. O. Box 3
Avila Beach, CA 93424

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION - DIABLO CANYON
METHODOLOGY FOR ESTABLISHING PRESSURE/TEMPERATURE AND LOW
TEMPERATURE OVERPRESSURE PROTECTION LIMITS - DIABLO CANYON
POWER PLANT, UNITS 1 AND 2 (TAC NOS. MA5614 AND MA5615)

Dear Mr. Rueger:

In a letter dated November 24, 1999, as supplemented by letter dated March 16, 2000, Pacific Gas and Electric Company (PGE), submitted its request for approval of methodology for establishing pressure/temperature and low temperature overpressure protection limits using WCAP 14040-NP-A in accordance with Generic Letter 96-03 for Diablo Canyon Power Plant, Units 1 and 2. The staff has reviewed your submittal and has identified the need to request additional information in order to determine the acceptability of your request. The enclosure describes the specific information requested.

The enclosed request was discussed with Mr. Terry Grebel of your staff on April 13, 2000. A mutually agreeable target date of April 30, 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 and 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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Diablo Canyon Power Plant, Units 1 and 2

cc:

NRC Resident Inspector
Diablo Canyon Nuclear Power Plant
c/o U.S. Nuclear Regulatory Commission
P.O. Box 369
Avila Beach, CA 93424

Dr. Richard Ferguson, Energy Chair
Sierra Club California
1100 11th Street, Suite 311
Sacramento, CA 95814

Ms. Nancy Culver
San Luis Obispo
Mothers for Peace
P.O. Box 164
Pismo Beach, CA 93448

Chairman
San Luis Obispo County Board of
Supervisors
Room 370
County Government Center
San Luis Obispo, CA 93408

Mr. Truman Burns
Mr. Robert Kinoshian
California Public Utilities Commission
505 Van Ness, Room 4102
San Francisco, CA 94102

Mr. Steve Hsu
Radiologic Health Branch
State Department of Health Services
P.O. Box 942732
Sacramento, CA 94327-7320

Diablo Canyon Independent Safety
Committee
ATTN: Robert R. Wellington, Esq.
Legal Counsel
857 Cass Street, Suite D
Monterey, CA 93940

Regional Administrator, Region IV
U.S. Nuclear Regulatory Commission
Harris Tower & Pavilion
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011-8064

Christopher J. Warner, Esq.
Pacific Gas & Electric Company
Post Office Box 7442
San Francisco, CA 94120

Mr. David H. Oatley, Vice President
Diablo Canyon Operations and
Plant Manager
Diablo Canyon Nuclear Power Plant
P.O. Box 3
Avila Beach, CA 93424

Telegram-Tribune
ATTN: Managing Editor
1321 Johnson Avenue
P.O. Box 112
San Luis Obispo, CA 93406

Mr. Ed Bailey, Radiation Program Director
Radiologic Health Branch
State Department of Health Services
P.O. Box 942732 (MS 178)
Sacramento, CA 94327-7320

Mr. Robert A. Laurie, Commissioner
California Energy Commission
1516 Ninth Street (MS 31)
Sacramento, CA 95814

REQUEST FOR ADDITIONAL INFORMATION
CONCERNING TECHNICAL SPECIFICATION CHANGES FOR
LOW TEMPERATURE OVERPRESSURE PROTECTION SETPOINTS
PACIFIC GAS AND ELECTRIC COMPANY
DIABLO CANYON UNIT 1

There are similarities between Diablo Canyon Units 1 and 2, therefore, only Unit 1 is discussed.

Consider the following:

- Ref. 1, pg. 28/29, the limiting element is Weld 3-442C, peak fluence for 32 EFPYs, $f=1.54 \times 10^{19} \text{ n/cm}^2$
 - Ref. 2, pg. 6-13, $M/C=1.16$, using ENDF/B-IV. This accounts for capsules' Y, S and cavity data. The peak value for 32 EFPYs (Table 6-18) $f=1.54 \times 10^{19}$.
 - Ref. 3, pg. 8-7 (Table 8.1-4) peak fluence 32 EFPYs $f=1.39 \times 10^{19} \text{ n/cm}^2$.
 - Ref. 3, pg. 7-3, (Table 7.1-1) capsule Y is reported to have $M/C=.83$. Compare this to the results of Ref. 1. There is a 33% difference.
 - The dosimetry reported in Ref. 3 seems to be highly irregular. For example pg. 6-32 (Table 6.2-8) at the midplane, 48° in the azimuth (the closest available to 45°) lists M/C values of: .877, .763, .962, .990, .561 and .714. Likewise (Table 6.3-8) pg. 6-52 has M/C values of: .780, .826, .741, .746, .870, .495 and .700.
 - The situation at the top and bottom of the beltline is even more diverging.
 - The trend in this cavity dosimetry has been reversed (in terms of M/C) by 40% or more at the midplane and more at the top and bottom of the beltline.
 - The adjusted values show an M/C about 1.0.
1. Given that cavity dosimetry was part of the Ref. 1 fluence calculation and it was estimated after cycle 5 when low leakage was established, where does the difference in the estimated EOL fluence come from? Is it justified?
 2. Do you consider the Ref. 3 dosimetry to be credible and why?
 3. Provide the covariance matrix and the values of the other components and discuss the adjustments performed to the measured values in view of the severity of the adjustments.
 4. How and which of the adjusted values were averaged to produce the final value?

5. In Ref. 3 pg. 3-3, second paragraph you state that the source distribution for the forward calculation was generic for 4-loop plants. In pg. 3-15 you state that the spectrum was ". . . obtained from the plant specific calculation for each dosimetry location." Are both of these statements true?
6. Ref. 3, pg. 3-17 lists flux normalization uncertainty and flux group uncertainties ($E > 0.0055$ MeV) as 30%. Please explain where these values come from and what role they play in the adjustment process.

REFERENCES

1. Letter from D.H. Oatley, Pacific Gas and Electric to US NRC "Request for NRC Approval of Diablo Canyon Methodology for Establishing Pressure/temperature and Low Temperature Overpressure Protection Limits Using WCAP-14040NP-A in Accordance with Generic Letter 96-03," November 24, 1999.
2. WCAP-113750, "Analysis of Capsule Y from the Pacific Gas and Electric Company Diablo Canyon Unit 1 Reactor Vessel Radiation Surveillance Program," E. Terek, et al, Westinghouse Electric Corporation, July 1993.
3. WCAP-114284, "Pacific Gas and Electric Company Reactor Cavity Neutron Measurement Program for Diablo Canyon Unit 1 - Cycles 1 through 6," S. Anderson, Westinghouse Electric Corporation, January 1995.