

May 10, 2007

Mr. John S. Keenan
Senior Vice President and Chief Nuclear Office
Pacific Gas and Electric Company
Diablo Canyon Power Plant
P.O. Box 770000
San Francisco, CA 94177-0001

SUBJECT: DIABLO CANYON POWER PLANT UNIT 1 - PRESSURIZER SURGE, SPRAY, SAFETY, AND RELIEF NOZZLE WELD SUSCEPTIBILITY TO PRIMARY WATER STRESS-CORROSION CRACKING (TAC NO. MD4149)

Dear Mr. Keenan:

This letter acknowledges the receipt of information from Pacific Gas and Electric Company pertaining to the pressurizer surge, spray, safety, and relief nozzle and safe end welds at Diablo Canyon Power Plant (DCPP), Unit 1.

The discovery, in October 2006, of five circumferential indications in three Alloy 82/182 dissimilar metal (DM) welds on the pressurizer at the Wolf Creek Generating Station (Wolf Creek) raised safety concerns based on the size and location of the indications. At Wolf Creek, three indications were in the pressurizer surge nozzle-to-safe end weld, and two separate indications were in the safety and relief nozzle-to-safe end welds. These findings also indicated that significant concerns might exist with the inspection schedules for addressing the pressurizer weld concerns issued by the industry-sponsored Materials Reliability Program (MRP), in "Primary System Piping Butt Weld Inspection and Evaluation Guideline (MRP-139)."

The U.S. Nuclear Regulatory Commission (NRC) is concerned about the pressurizer surge nozzle-to-safe end weld indications, as this is the first time that multiple circumferential primary water stress-corrosion cracking (PWSCC) indications have been identified in a weld. This condition calls into question the degree of safety margin present in past structural integrity evaluations for flawed DM welds susceptible to PWSCC, since multiple stress-corrosion cracking flaws may grow independently and ultimately grow together, significantly reducing the time from flaw initiation to leakage or rupture.

Based on discussions with the NRC staff, licensees of plants susceptible to this condition have committed to enhanced inspection frequency and reactor coolant system leakage monitoring until actions to mitigate the potential of PWSCC in the affected welds have been completed.

In your letter dated January 31, 2007 (Agencywide Documents Access and Management System (ADAMS) Accession Number ML070370394), you stated that the pressurizer surge, spray, safety, and relief nozzle and safe end welds do not contain Alloy 82/182 at DCPP, Unit 1.

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As a result, your response adequately addresses the concerns that the NRC has at this time regarding PWSCC susceptibility of these welds.

This completes the NRC staff efforts on TAC No. MD4149 for the review associated with this issue. If you have any questions regarding this matter, please contact the DCPD Project Manager, Alan Wang, at (301) 415-1445.

Sincerely,

/RA/

Catherine Haney, Director
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-275

cc: See next page

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Diablo Canyon Power Plant, Units 1 and 2

cc:

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

Sierra Club San Lucia Chapter
ATTN: Andrew Christie
P.O. Box 15755
San Luis Obispo, CA 93406

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
1055 Monterey Street, Suite D430
San Luis Obispo, CA 93408

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

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 & Pavillion
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011-8064

Antonio Fernández, Esq.
Pacific Gas & Electric Company
P.O. Box 7442
San Francisco, CA 94120

City Editor
The Tribune
3825 South Higuera Street
P.O. Box 112
San Luis Obispo, CA 93406-0112

Director, Radiologic Health Branch
State Department of Health Services
P.O. Box 997414, MS 7610
Sacramento, CA 95899-7414

Mr. James D. Boyd, Commissioner
California Energy Commission
1516 Ninth Street (MS 31)
Sacramento, CA 95814

Mr. James R. Becker, Vice President
Diablo Canyon Operations
and Station Director
Diablo Canyon Power Plant
P.O. Box 56
Avila Beach, CA 93424

Jennifer Tang
Field Representative
United States Senator Barbara Boxer
1700 Montgomery Street, Suite 240
San Francisco, CA 94111