



**Pacific Gas and
Electric Company®**

John S. Keenan
Senior Vice President
Generation & Chief Nuclear Officer

77 Beale Street, Mailcode B3
San Francisco, CA 94105

Mailing Address
Mail Code B32, Room 3235
P. O. Box 770000
San Francisco, CA 94177

415.973.4684
Internal: 223.4684
Fax: 415.973.2313

August 7, 2007

PG&E Letter DCL-07-077

Mr. James E. Dyer
Director, Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Docket No. 50-323, OL-DPR-82
Diablo Canyon Unit 2
Mitigation of Alloy 600/82/182 Pressurizer Butt Welds in 2008

- References:
1. PG&E Letter DCL-07-009 from John S. Keenan, Senior Vice President - Generation and Chief Nuclear Officer of Diablo Canyon Power Plant, to U. S. NRC, "Inspection and Mitigation of Alloy 600/82/182 Pressurizer Butt Welds," dated January 31, 2007
 2. PG&E Letter DCL-07-019 from John S. Keenan, Senior Vice President - Generation and Chief Nuclear Officer of Diablo Canyon Power Plant, to U. S. NRC, "Additional Commitments Related to Inspection and Mitigation of Alloy 600/82/182 Pressurizer Butt Welds," dated February 20, 2007
 3. Letter from James E. Dyer, Director of Office of Nuclear Reactor Regulation (U. S. NRC), to John S. Keenan, Senior Vice President - Generation and Chief Nuclear Officer of Diablo Canyon Power Plant, "Confirmatory Action Letter, Diablo Canyon Power Plant, Unit No. 2 (TAC No. MD4150)," dated March 15, 2007
 4. Electric Power Research Institute Final Report, "Advanced FEA Evaluation of Growth of Postulated Circumferential PWSCC Flaws in Pressurizer Nozzle Dissimilar Metal Welds, (MRP-216): Evaluations Specific to Nine Subject Plants," EPRI, Palo Alto, CA: 2007; 1015383 dated July 31, 2007
 5. Nuclear Energy Institute Letter to James E. Dyer, Director of Office of Nuclear Reactor Regulation (U. S. NRC), "Transmittal of EPRI Report," dated August 1, 2007

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In the Reference 1 submittal, Pacific Gas and Electric (PG&E) provided the plans and schedule for the mitigation of pressurizer Alloy 600/82/182 butt welds for Diablo Canyon Power Plant (DCPP) Unit 2. In that submittal, PG&E stated that, based on the current refueling outage schedule, PG&E would complete the mitigation action during the DCPP Unit 2 Fourteenth Refueling Outage (2R14) currently scheduled to begin February 4, 2008 (i.e., beyond the industry-sponsored Materials Reliability Program MRP-139 implementation deadline of December 31, 2007).

Reference 2 provided regulatory commitments regarding the DCPP Unit 2 schedule for mitigation actions, enhanced reactor coolant system (RCS) leakage monitoring, and inspection reporting requirements. Also, specific to DCPP Unit 2, a commitment was made to accelerate the mitigation actions, currently scheduled during the 2R14 outage, into 2007 if the results of ongoing analytical work do not demonstrate to the NRC that the current schedule is adequate. These regulatory commitments were confirmed in the Reference 3 Confirmatory Action Letter (CAL).

EPRI's advanced finite element analysis, Reference 4, was recently completed and submitted by Reference 5. The analysis, which is applicable to DCPP Unit 2, assumed the existence of large circumferential cracks in all the analyzed locations. This assumption is very conservative considering industry field inspections and experience that has shown a relatively low number of primary water stress corrosion cracking (PWSCC) indications in these components. With this conservatism, the analysis concluded that there is significant time for crack growth between the onset of detectable leakage and development of critical flaw size. The rolled and welded stainless steel liners within the spray, safety, and relief nozzles, which are designed to seal the low alloy steel nozzle and dissimilar metal weld from the pressurizer vapor space, have not been credited in the analysis.

This letter confirms that the Reference 4 EPRI Advanced Finite Element Analysis report bounds the DCPP Unit 2 pressurizer Alloy 82/182 welded pipe/nozzle components. PG&E has reviewed the report and verified that the inputs address DCPP Unit 2 weld configurations and loads, that the analysis and conclusions are applicable to the DCPP Unit 2 design, and that all welds representative of DCPP Unit 2 are adequately addressed by the crack growth analyses and associated sensitivity cases. Finally, the analytical results applicable to DCPP Unit 2 satisfy the leakage evaluation criteria presented in the report.

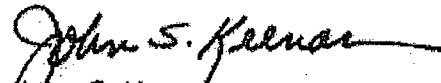
Therefore, PG&E concludes the analytical results presented in Reference 4, and the current DCPP Unit 2 enhanced leakage monitoring program, provide a reasonable and adequate basis for performing mitigation activities during DCPP 2R14, currently scheduled to begin February 4, 2008, as committed to in Reference 2, after which time DCPP Unit 2 will fully satisfy the MRP-139 inspection/mitigation requirements for pressurizer Alloy 600/82/182 components.

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If you have any questions concerning this submittal, please contact Stan Ketelsen at 805-545-4720.

Sincerely,



John S. Keenan
Senior Vice President - Generation and Chief Nuclear Officer

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cc: Michael A. Brown, DCPN NRC Resident Inspector
Bruce S. Mallett, NRC Region IV
Sandra Shewry, Director, California Department of Health Services
Alan B. Wang, Project Manager, Office of Nuclear Reactor Regulation
Diablo Distribution