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Manager of
Nuclear Regulatory Affairs

April 13, 2004

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D. C. 20555

Subject: **Docket No. 50-361**
Report of Change in Peak Cladding Temperature
San Onofre Nuclear Generating Station, Unit 2

Reference: SCE letter to NRC dated December 15, 2003, Subject: Docket Nos. 50-361 and 50-362, 2002 Emergency Core Cooling System Annual 10 CFR 50.46 Report, San Onofre Nuclear Generating Station, Units 2 and 3

Dear Sir or Madam:

This letter transmits a report of a change to Peak Cladding Temperature (PCT) for the limiting Large Break Loss-of-Coolant Accident (LBLOCA) analysis for San Onofre Unit 2. The change in PCT is not due to any change or error in the evaluation model, but is a result of two facility changes that affect input to the LBLOCA analysis. SCE is, nevertheless, reporting this change to the NRC. The most recent Emergency Core Cooling System Annual 10 CFR 50.46 Report was submitted to the NRC in the referenced letter.

Description of Changes

During the Unit 2 Cycle 13 refueling outage, a number of Steam Generator (SG) tubes were plugged. In order to conservatively bound the number of tubes actually plugged, SCE has revised the number of SG tubes assumed to be plugged from 1000 tubes per SG to 1380 tubes per SG. For the purposes of this analysis, all sleeved tubes are conservatively assumed to be plugged. The LBLOCA analysis includes a determination of the LBLOCA PCT as a function of SG tube plugging and Linear Heat Rate (LHR). The relationship is shown in UFSAR Figure 15.10-1. The result of the increase in assumed number of plugged SG tubes is an approximate PCT increase of 65 °F. In order to mitigate the effect of this increase in PCT, SCE has lowered the maximum LHR allowed by Licensee Controlled Specification (LCS) 3.2.100 from 12.8 kW/ft to 12.7 kW/ft. This change results in an approximate 30 °F reduction in PCT. These changes became effective on March 16, 2004.

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As a result of these two facility changes, PCT for Unit 2 has increased by a net 35 °F, from 2135 °F to 2170 °F.

The Large Break LOCA analysis uses the evaluation model approved in June 1985. The limiting LBLOCA PCT for Unit 2 does not exceed the 10 CFR 50.46(b)(1) acceptance criterion of 2200 °F. In addition, the maximum cladding oxidation and maximum core-wide cladding oxidation values are below the corresponding 10CFR50.46 acceptance criteria of 17% and 1%, respectively.

As Unit 3 currently has fewer than 1000 plugged tubes per SG, this issue currently only applies to Unit 2.

The Small Break LOCA analysis is not affected by the change in SG tube plugging or the change to LHR, as bounding values were used in the SBLOCA analysis. The PCT for the Small Break LOCA remains unchanged from the value of 1903 °F as reported in the Referenced report. This value continues to be bounded by the LBLOCA and the 10CFR50.46 acceptance criterion of 2200 °F.

The post-LOCA long term cooling (LTC) analysis is not affected by the change in SG tube plugging or the change to LHR, as bounding values were used in the LTC analysis. Therefore, the results and conclusions of the current analysis remain applicable to Unit 2 Cycle 13.

Conclusion

The effect of SG tube plugging and the change to the limit on LHR are within the scope of the existing LBLOCA analysis, and compliance with the requirements of 10CFR50.46 is maintained.

If you have any questions or need additional information on this subject, please contact Mr. J. Rainsberry at (949) 368-7420.

Sincerely,

cc: B. S. Mallett, Regional Administrator, NRC Region IV
B. M. Pham, NRC Project Manager, San Onofre Units 2, and 3
C. C. Osterholtz, NRC Senior Resident Inspector, San Onofre Units 2 & 3