

August 27, 2009

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

Subject: **Docket Nos. 50-361 and 50-362**
Design Report for Structural Weld Overlays on
Reactor Coolant System Hot Leg Dissimilar Metal Welds
San Onofre Nuclear Generating Station, Units 2 and 3

- References:
- 1) Letter from A. E. Scherer (SCE) to the U. S. Nuclear Regulatory Commission dated November 12, 2008; Subject: Docket Nos. 50-361 and 50-362, Revision to Third Ten-Year Inservice Inspection (ISI) Interval Requests ISI-3-27 and ISI-3-28, Use of Structural Weld Overlay and Associated Alternative Repair Techniques, San Onofre Nuclear Generating Station, Units 2 and 3 (ADAMS Accession No. ML083220131)
 - 2) Letter from M. T. Markley (NRC) to R. T. Ridenoure (SCE), dated January 23, 2009, Subject: San Onofre Nuclear Generating Station, Units 2 and 3 - RE: Relief Requests ISI-3-27, Revision 1 and ISI-3-28, Revision 1, for the Application of Weld Overlay on Dissimilar and Similar Metal Welds (TAC Nos. ME0108 and ME0109)

Dear Sir or Madam:

The Design Report for the Structural Weld Overlays for the San Onofre Units 2 and 3 Reactor Coolant System (RCS) Hot Leg Dissimilar Metal Welds is provided as an enclosure to this letter. Southern California Edison (SCE) committed to provide this report by letter dated November 12, 2008 (Reference 1).

Reference 1 requested a Revision to previously approved Third Ten-Year Inservice Inspection (ISI) Interval Relief Requests ISI-3-27 and ISI-3-28. These relief requests supported implementation of Structural Weld Overlays on the Dissimilar Metal Welds in the San Onofre Units 2 and 3 RCS Hot Leg. During implementation of these weld overlays in the Unit 3 Cycle 15 Refueling outage, SCE discovered that the Unit 3 Hot Leg Surge Line included additional Code-allowed Weld buildup that had not been previously identified. To resolve this, the design of the associated weld overlay was modified to increase the length of the overlay, thereby including an additional weld. The purpose of Revision 1 to ISI-3-27 and ISI-3-28 was to include this additional weld in the scope of the Relief Requests.

Due to the emergent nature of the overlay design modification, a complete revision to the weld overlay design analysis was not available at the time of submittal of Reference 1. In support of Reference 1, the ASME Section III and Fatigue Crack Growth calculations were reviewed and compared against the geometry of the modified weld overlay. It was conservatively concluded that the previous analysis would remain valid for the modified geometry, and the modified weld overlay configuration would be acceptable for a minimum of one cycle.

The final analysis has now been completed and the summary is included in the enclosed Design Report. Table 5-1 of this report shows the actual limiting crack growth results for each of the nozzles repaired.

Revision 1 to ISI-3-27 and ISI-3-28 was approved by the U. S. Nuclear Regulatory Commission by Reference 2 (ADAMS Accession No. ML083640375) for the duration of the third ten-year ISI interval.

There are no new commitments or required actions resulting from this letter.

If you have any questions regarding this information, please feel free to contact Ms. Linda T. Conklin at (949) 368-9443.

Sincerely,



Enclosure

cc: E. E. Collins, Regional Administrator, NRC Region IV
R. Hall, NRC Project Manager, San Onofre Units 2 and 3
G. G. Warnick, NRC Senior Resident Inspector, San Onofre Units 2 and 3

Enclosure
Design Report for
Structural Weld Overlays
San Onofre Nuclear Generating Station
Units 2 and 3
Reactor Coolant System Hot Leg
Dissimilar Metal Welds