Southern California Edison Company

23 PARKER STREET

IRVINE, CALIFORNIA 92718

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WALTER C. MARSH
MANAGER OF NUCLEAR REGULATORY AFFAIRS

TELEPHONE
(714) 454-4403

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

Gentlemen:

Subject: **Docket Nos. 50-361 and 50-362**
Component Cooling Water System
TAC Nos. 71194 and 71195
San Onofre Nuclear Generating Station
Units 2 and 3

References: 1) Letter from Harold B. Ray (SCE) to the Document Control Desk dated December 30, 1992; Subject: Docket Nos. 50-361 and 50-362, Proposed Technical Specification Change No. NPF-10/15-418, Component Cooling Water Safety Related Makeup System, San Onofre Nuclear Generating Station, Units 2 and 3.

2) Letter from F. R. Nandy (SCE) to the Document Control Desk dated July 30, 1990; Subject: Docket Nos. 50-361 and 50-362 Component Cooling Water System, TAC Nos. 71194 and 71195, San Onofre Nuclear Generating Station, Units 2 and 3.

This letter provides the analysis summary of the Primary Plant Make-up Storage (PPMS) tank upgrade to support the NRC review of Proposed Technical Specification Change No. NPF-10/15-418 (PCN 418) submitted by Reference 1.

DISCUSSION

In Reference 2, Southern California Edison (SCE) committed to provide a dedicated Seismic Category I source of emergency make-up water to the Component Cooling Water (CCW) system by the end of the Cycle 7 refueling outage for each Unit. To provide this make-up water source SCE upgraded the PPMS tank, T-056 for Unit 2 during the recently completed Unit 2 Cycle 7 refueling outage, and will complete the upgrade of T-055 for Unit 3 during the upcoming Unit 3 Cycle 7 refueling outage.

These tanks were originally designed to American Petroleum Institute (API) -620 Standard, 5th Edition, constructed and tested to API-650 Standard, 5th Edition, and were classified as Quality Class III and Seismic Category II components.

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These tanks are being upgraded with physical modifications to meet the requirements of Quality Class II, Seismic Category I, and American Society of Mechanical Engineers (ASME) Section III Class 3 Code with the exception of N-stamp and Code inspection. Materials, design, fabrication, installation, examination, testing, overpressure protection, and welding requirements of the API codes were reconciled with the requirements of the ASME Code (1989 Edition with no Addenda).

As part of the upgrade effort of the Unit 2 PPMS tank, SCE conducted a survey of the original shell plate seam welds to satisfy the ASME Code requirement for the extent of spot radiographic examinations. The radiographic examination results revealed welding defects in excess of the code allowables. The survey was expanded, and more defects were discovered. A list of these defects is provided in the enclosed report.

Because the welding on the Unit 2 PPMS tank shells did not meet the ASME Code requirements, it was necessary to demonstrate these welds are capable of withstanding a Design Basis Earthquake plus other simultaneous loads. Based on the examination results, a statistical analysis was performed to establish the maximum flaw size with a high confidence level. The statistical analysis was followed by a fracture mechanics evaluation to show that the existing flaws are acceptable with a substantial factor of safety. Calculation number M-DSC-280 documents the seismic upgrade analyses and code reconciliation, including a detailed explanation of the statistical and fracture mechanics analyses, for the Unit 2 tank. Calculation M-DSC-269 documents the seismic upgrade analysis for the Unit 3 tank. When the radiographic survey results become available, a code reconciliation analysis similar to the Unit 2 tank analysis will be performed for the Unit 3 tank, if necessary. Included in the enclosure to this letter are summaries of the seismic upgrade analysis and ASME Code reconciliation.

Consistent with this upgrade, both PPMS tanks will be added to the San Onofre Section XI testing program.

INTERIM ADMINISTRATIVE CONTROLS

Pending completion of the NRC review of PCN 418, the following administrative controls have been implemented to address Seismic Category I make-up to the CCW system:

1) The new Seismic Category I make-up system, which uses the PPMS tanks, will be maintained consistent with PCN 418 and the Design Basis of the system.

2) The Seismic Category I firewater tankers will be maintained in place to provide make-up to the CCW system. (The Seismic Category I tankers are qualified for CCW system leak rates up to 6 gpm.)

3) If the CCW system leak rate exceeds 6 gpm or if the Seismic Category I firewater tankers are inoperable, SCE will take credit for the availability of the new Seismic Category I make-up system, which uses the PPMS tanks, provided the leak rate is within the capability of the new

system. Actions will be taken to reduce the leak rate as soon as practical.

4) If required make-up is not available from either the Seismic Category I tankers or the PPMS tanks, SCE will declare the appropriate train(s) of CCW inoperable and enter Technical Specification 3/4.7.3, "Component Cooling Water System."

SCE intends to follow the same implementation plan for Unit 3. Please let me know if you have any questions or would like additional information.

Very truly yours,

Walter C. Marsh

Enclosure

cc: B. H. Faulkenberry, Regional Administrator, NRC Region V
J. J. Russell, Acting NRC Senior Resident Inspector, San Onofre Units 1, 2&3
M. B. Fields, NRC Project Manager, San Onofre Units 2 and 3