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

Gentlemen:

SUBJECT: Docket Nos. 50-206, 50-361, and 50-362
Topical Report SCE-9001, "PWR Reactor Physics Methodology Using CASMO-3/SIMULATE-3"
San Onofre Nuclear Generating Station
Units 1, 2, and 3

REFERENCES:

1. Ashok C. Thadani, U. S. Nuclear Regulatory Commission, to G. Papanic, Jr., Yankee Atomic Electric Company, March 21, 1990, "Acceptance for Referencing of Topical Report YAEC-1363, CASMO-3G Validation."

2. Ashok C. Thadani, U. S. Nuclear Regulatory Commission, to G. Papanic, Jr., Yankee Atomic Electric Company, February 20, 1990, "Acceptance for Referencing of Topical Report YAEC-1659, SIMULATE-3, Validation Verification."

Southern California Edison (SCE) requests NRC review and approval of the enclosed Topical Report SCE-9001, "PWR Reactor Physics Methodology Using CASMO-3/SIMULATE-3." The report demonstrates SCE's capability to implement and apply the CASMO-3/SIMULATE-3 computer program package. The report summarizes the results of SCE's benchmark calculations and the 95/95 tolerance limits derived for key core physics parameters.

The NRC has previously reviewed the CASMO-3 and SIMULATE-3 programs and found them acceptable in the Safety Evaluation Reports (SERs) for the Yankee Atomic Electric Company Topical Reports YAEC-1363 and YAEC-1659 (References 1 and 2). SCE's use of the programs in generating Topical Report SCE-9001 is consistent with the three conditions imposed in the SERs. Specifically, (1) SIMULATE-3 was used only in conjunction with the CASMO-3 and TABLES-3 programs, (2) SIMULATE-3 was used only for PWR steady-state physics analysis, and (3) SCE's topical report validates the use of these programs for several types of PWR fuel designs.

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Topical Report SCE-9001 compares the results of the CASMO-3/SIMULATE-3 models to measurements from San Onofre Units 1, 2, and 3, Arkansas Nuclear One - Unit 2, and three Babcock & Wilcox critical experiments. The analyses were performed over a wide range of plant operating conditions from ambient temperature to full-power. The excellent agreement between the measured and calculated values presented in the topical report validates SCE's application of the computer programs for PWR analysis. SCE intends to use the CASMO-3/SIMULATE-3 programs in licensing applications including reload designs, inputs to safety analyses, calculation of startup predictions, generation of core physics data books, and setpoint updates for both the reactor protection and monitoring systems.

SCE requests NRC approval of Topical Report SCE-9001 by April 1, 1991. NRC approval by this date will permit SCE to apply the methodology to the San Onofre Units 2 and 3 Cycle 6 fuel reloads. SCE is prepared to support a meeting, if deemed necessary, to discuss the topical report with the NRC Staff.

If you have any question regarding this request, please feel free to call me.

Very truly yours,

Enclosure

cc: J. B. Martin, Regional Administrator, NRC Region V
C. Caldwell, NRC Senior Resident Inspector, San Onofre Units 1, 2 & 3