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July 13, 1988

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

Gentlemen:

Subject: Docket No. 50-206
PORV Discharge Piping Analysis
San Onofre Nuclear Generating Station
Unit 1

- References:
1. Letter, M. O. Medford, SCE, to U. S. Nuclear Regulatory Commission, NUREG-0737, Item II.D.1 - Performance Testing of Relief and Safety Valves, January 7, 1988
 2. Letter, M. O. Medford, SCE, to J. A. Zwolinski, NRC, NUREG-0737 Item II.D.1 - Performance Testing of Relief and Safety Valves, October 1, 1985

Reference 1 provided responses to NRC questions on previous Southern California Edison (SCE) submittals for the post-TMI item regarding adequacy of the PORVs and Safety Valves at San Onofre Nuclear Generating Station, Unit 1 (SONGS 1). The letter committed to provide the results of an analysis of water discharge through the SONGS 1 PORV discharge piping. Accordingly, the following information is offered.

Thermal-hydraulic and structural models of the PORV discharge piping system were developed and benchmarked for SCE by Sargent and Lundy Engineers. Force time-histories due to valve actuation for a high pressure liquid discharge case were generated. The case used was the feedline rupture event, the results of which were provided to the NRC as part of SCE's Reference 2 response to NRC question number 5. In addition a low pressure case to model a pressurization event due to mass input to the reactor coolant system during water-solid operation, with resultant PORV discharge due to overpressure mitigation system operation, was performed. A direct integration time-history structural analysis was then performed to determine piping responses and loads. A comparison of the results of this effort to the one previously performed for design-basis steam discharge case concluded that the steam

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discharge case bounds the postulated water discharge case for most of the components evaluated. Those cases where the water discharge case was not bounded by the steam discharge case were within the stress allowables for the piping or support. Therefore, the discharge piping system is determined to be qualified for the postulated water discharge events.

If you have any questions, please let me know.

Very truly yours,

A handwritten signature in black ink, appearing to read "M. D. Medford". The signature is written in a cursive style with a large, sweeping initial "M".

cc: J. B. Martin, Regional Administrator, NRC Region V
F. R. Huey, NRC Senior Resident Inspector, San Onofre Units 1, 2 and 3