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AUTH.NAME AUTHOR AFFILIATION
ROSENBLUM,R.M. Southern California Edison Co.
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SUBJECT: Responds to Generic Ltr 89-19, "Safety Implication of Control Sys in LWR Nuclear Power Plants."

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March 20, 1990

R. M. ROSENBLUM
MANAGER OF
NUCLEAR REGULATORY AFFAIRS

TELEPHONE
(714) 587-5420

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

Gentlemen:

Subject: Docket Nos. 50-361 and 50-362
Response to Generic Letter 89-19, "Safety Implication of Control Systems in LWR Nuclear Power Plants"
San Onofre Nuclear Generating Station
Units 2 and 3

This letter provides the Southern California Edison (SCE) response to Generic Letter 89-19, "Safety Implication of Control Systems in LWR Nuclear Power Plants" (GL 89-19).

As a result of the technical resolution of Unresolved Safety Issue (USI) A-47, "Safety Implications of Control Systems in LWR Nuclear Power Plants," the NRC has recommended in GL 89-19 that all Pressurized Water Reactor (PWR) plants should provide automatic steam generator overfill protection. This conclusion was based on safety assessments completed by NRC contractors. The results of these studies are summarized in NUREG-1217, "Evaluation of Safety Implications of Control Systems in LWR Nuclear Power Plants." As referenced in NUREG-1217, the safety assessment results for Combustion Engineering (CE) plants are documented in NUREG/CR-3958, "Effects of Control System Failures on Transients, Accidents and Core-Melt Frequencies at a CE PWR." This study, based on the Calvert Cliffs design, concluded that the estimated core melt frequency associated with steam generator overfill events at CE plants was approximately 4×10^{-6} per year. The NRC has concluded that this estimated increase in core melt frequency justifies implementation of a Steam Generator Overfill Protection System (SGOPS) in CE PWRs.

SCE has reviewed the recommendations of GL 89-19. Through this review, we have determined that detailed design studies and safety assessments must be completed before a decision can be made on implementation of a SGOPS at San Onofre Units 2 and 3. Detailed evaluations are needed because we have identified plant specific differences between Calvert Cliffs and San Onofre Units 2 and 3. These differences could potentially result in the estimated risk for steam generator overfill events at San Onofre Units 2 and 3 being significantly lower than Calvert Cliffs. Two of these plant specific differences are that San Onofre Units 2 and 3: 1) do not have Power Operated Relief Valves and 2) have main steam lines designed to withstand higher

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seismic loadings. In addition, implementation of a SGOPS may increase the probability of loss of feedwater events at San Onofre Units 2 and 3 due to inadvertent actuation of the SGOPS. The overall impact on plant safety from reducing steam generator overfill events and potentially increasing loss of main feedwater transients must be evaluated.

SCE considers the appropriate framework to evaluate steam generator overfill events and the safety impact of implementing a SGOPS is the Individual Plant Examination (IPE). The IPE is required to be performed by Generic Letter 88-20 (GL 88-20), "Individual Plant Examination (IPE) for Severe Accident Vulnerabilities." SCE will be completing a full plant "Level 1" Probabilistic Risk Assessment (PRA) in response to GL 88-20. This PRA will systematically address all potential accident scenarios applicable to San Onofre Units 2 and 3, as well as the associated uncertainties. As the NRC stated in Enclosure 2 to GL 89-19, overfill events can affect plant safety in several ways which have not been addressed in plant designs. This is because overfill events are not normally analyzed. This leads to large uncertainty in plant response and was the main reason the NRC used to justify the conservative assumptions in the Calvert Cliffs PRA. Overfill and other transient uncertainties will be explicitly addressed within the IPE. Thus a more complete understanding of plant safety and appropriate plant specific modifications to improve overall plant safety can be obtained. SCE will submit the results of our IPE by September 1, 1992.

If you require additional information on this response to GL 89-19, please let me know.

Respectfully submitted,

OFFICIAL SEAL
MICHELE R. KAHAL
NOTARY PUBLIC - CALIFORNIA
PRINCIPAL OFFICE IN
ORANGE COUNTY
My Commission Exp. Dec. 28, 1990

By: R M Rosenblum

R. M. Rosenblum
Manager of Nuclear Regulatory Affairs

Subscribed and sworn to before me this 20 day of March 1990.

Michele R. Kahal

Notary Public in the State of California

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