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SUBJECT: Forwards CE NPSD-550, "Risk Evalution of Removal of Shutdown Cooling Sys Autoclosure Interlock," to support Amend Applications 101 & 86 to Licenses NPF-10 & NPF-15, respectively re Generic Ltr 88-17 on loss of DHR.

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May 7, 1991

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

Gentlemen:

Subject: Docket Nos. 50-361 and 50-362
Amendment Application Nos. 101 and 86
Change to Technical Specification 3/4.5.2
ECCS Subsystems - T_{avg} Greater Than or Equal to 350°F.
Emergency Core Cooling Systems (TAC Nos. 69774 and 69745)
San Onofre Nuclear Generating Station
Units 2 and 3

References: 1) Generic Letter 88-17, "Loss of Decay Heat Removal"

2) Letter from Harold B. Ray (SCE) to NRC dated April 15, 1991, Subject: Amendment Application Nos. 101 and 86 Change to Technical Specification 3/4.5.2 ECCS Subsystems - T_{avg} Greater Than or Equal to 350°F, Emergency Core Cooling Systems (TAC Nos. 69774 and 69745)

3) Letter from P. R. Nelson (ABB) to Operations Subcommittee, Analysis Subcommittee, (Task 582 Participants) dated April 30, 1991, Subject: "Clarification of Operator Error Probability used in CE NPSD-550"

In accordance with our commitment in reference 2, enclosed is the Combustion Engineering Owners' Group (CEOG) report "Risk Evaluation of Removal of the Shutdown Cooling System Auto Closure Interlock" and an associated clarification report (reference 3).

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This report and clarification support the recommendations of reference 1, Generic Letter 88-17, and of the CEOG to remove the Shutdown Cooling System Auto-Closure Interlock. This report was referenced in support of our license amendment application Nos. 101 and 86 for San Onofre Units 2 and 3, respectively. These applications propose changes to Technical Specification 3/4.5.2 ECCS Subsystems - T_{avg} Greater Than or Equal to 350°F, Emergency Core Cooling Systems.

If you need additional information on this Technical Specification change request, please let me know.

Very truly yours,

R M Rosenblum

Enclosures

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

ABB
ASEA BROWN BOVERI

April 30, 1991
CEOG-91-260

Operations Subcommittee
Analysis Subcommittee
(Task 582 Participants)

Subject: Clarification to Test of CE NPSD-550

Attachment: Clarification of Operator Error Probability Used in CE NPSD-550

Reference: "Risk Evaluation of Removal of Shutdown Cooling System Auto-Closure Interlock," CE NPSD-550.

Gentlemen:

Attached for your information and use is a clarification to a specific section of the referenced report, i.e., quantification of operator error that leads to loss of shutdown cooling during refueling operations.

The need for the clarification was discovered during a review of the referenced report by Southern California Edison. Ruppert Weston (ABB-CE) has developed the attached clarification. Please call Ruppert at (203) 285-3262 if you have any questions on this information.

Sincerely,

Peter R. Nelson

Peter R. Nelson
Assistant Project Manager
C-E Owners Group

PRN/mnw

cc J. W. Pfeifer, C-E
P. W. Richardson, C-E

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CLARIFICATION OF OPERATOR ERROR PROBABILITY USED IN CE NPSD-550

The following is provided as clarification of the qualification of operator error that leads to loss of shutdown cooling during refueling operations.

As noted in CE NPSD-550 (Page 4-17), this type of operator error was explicitly modeled in the fault trees and quantified using expression (4-3). Upon closer review, the value of 0.22 represents the probability that the operator errs given loss of shutdown cooling and not the conditional probability for the given expression. Consequently, the following modification to the operator error probability that was used in CE NPSD-550 is provided.

The probability of an operator erring while performing maintenance or test is obtained using the method described in Reference 12. It includes error of omission and failure to recover.

Omission Error:	HEP=	0.001 Operator errs in using written procedures Table 20-7 (Item #1)
And		
Recovery Error:	HEP=	0.1 Checker fails to detect error during maintenance or test operation Table 20-22 (Item #1)

The probability, that the operator errs and shutdown cooling is lost, is therefore 1.00E-04. An error factor of 3.0 is assumed.

The operator probability used in CE NPSD-550 is approximately twice as large as this revised estimate. As shown in CE NPSD-550, this type of operator error is an insignificant contributor to the unavailability of shutdown cooling. With the revised estimate for operator error, the contribution to shutdown cooling unavailability would become even less. Consequently, the results and conclusions of CE NPSD-550 are still valid for the revised estimate of operator error probability.

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