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April 17, 1991

Mr. John B. Martin  
Regional Administrator  
U. S. Nuclear Regulatory Commission, Region V  
1450 Maria Lane, Suite 210  
Walnut Creek, California 94596

Subject: Docket No. 50-206  
Temporary Waiver of Compliance  
Inability to Insert Control Rod Banks 1 and 2  
San Onofre Nuclear Generating Station, Unit 1

The purpose of this letter is to document the basis for a Temporary Waiver of Compliance from the requirements of Technical Specification (TS) 3.5.3, "Control and Shutdown Rod Misalignment," Action B.2. Verbal approval of this request was obtained from Mr. K. Perkins (USNRC-RV) in a telephone discussion with the undersigned on April 16, 1991. The conditions requiring this waiver were corrected at 1940 on April 16 and the Unit returned to full TS compliance.

A. Requirements for which the waiver was requested:

TS 3.5.3 defines the operability requirements for control and shutdown rods including the amount of allowable misalignment between an individual rod and its group position during STARTUP and POWER operation. The objective of this TS is to ensure that the effects of rod misalignment do not exceed the core design margins. The TS requires in part, that during POWER OPERATION, all rods be operable and maintained within 35 steps of their bank position. In the event that more than one rod is inoperable, Action B.2 requires a shutdown of the unit to HOT STANDBY conditions within 6 hours.

A temporary waiver of the shutdown requirements of Action B.2 was requested in order to avoid an unnecessary plant shutdown which would have been otherwise required since all operability requirements for the control rod banks were not fully satisfied. A defective electrical relay prevented rod insertion by the Rod Control (RC) System. (These rod banks remained fully capable of insertion on manual or automatic reactor trip.) Granting this temporary waiver of compliance had the effect of avoiding a plant shutdown until the defective

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relay in the system was replaced and the system determined to be operable. During the effective period of the waiver, the rod alignment was maintained within TS limits.

B. Circumstances Surrounding the Situation:

On April 16, 1991, with Unit 1 at about 90 % power and after successful completion of routine TS surveillance testing to determine control rod operability, at about 0430, a RC system interlock relay (which prevents simultaneous control signals for insertion and withdrawal of control rod banks 1 and 2) failed. The failure mode of the relay effectively caused the RC System logic to be in the withdraw mode, thereby precluding RC System control rod bank insertion. At the time of the failure, the position of all rods and banks were within the limits of applicable TSs. Furthermore, reactor power and power distribution were within the limits of applicable TSs.

Prompt approval of this waiver was requested in order to preclude an unnecessary reactor shutdown since it was considered to be safer to maintain the unit in the present configuration during the brief period required to effect repairs than to place the unit in a shutdown transient which would normally be performed with control rod insertion. The need for this waiver was unavoidable since failure of the relay was not predicted and a replacement could not be obtained, installed and the RC system tested within the TS 3.5.3 action time limits.

C. Compensatory Actions Necessary:

Unit 1 has a short core with a low power density which is not subject to significant spatial xenon oscillation. As such, axial power control is not normally a concern and rod insertion is not expected to be necessary to satisfy limits on axial power distribution. However, it was considered prudent to monitor axial offset more closely than normal because of the limited ability to correct such a variation, should it occur. Therefore, the determination that axial offset limits were satisfied was performed at least twice per shift.

D. Preliminary Evaluation of the Safety Significance of this Request:

Continued operation without the capability of inserting control banks using the RC System was of minimal safety significance since:

1. The plant was in a stable configuration which satisfied all applicable TS requirements (except as described above) and safety analyses.
2. The unit remained fully capable of being automatically or manually tripped by the Reactor Protection System.
3. The Unit 1 core design is such that spontaneous power oscillations are very strongly self-dampening.

4. There are no automatic rod control inhibit features that were affected by the problem. Rod control was maintained in manual mode. Temperature control would have been maintained by boration or dilution.
5. Should a power reduction have been necessary, it could have been fully accomplished using boration alone while remaining within TS limits.

E. Justification for the Duration of the Waiver:

The temporary waiver of compliance was requested and approved for a period of 36 hours, commencing at 0430 on April 16, 1991 and ending at 1630 on April 17, 1991. This provided sufficient time to replace the faulty relay and to demonstrate that the RC System functions as designed. In this regard, the failed relay was replaced and the RC System determined to be functioning correctly at 1940 on April 16, 1991.

The duration of this waiver is considered justified since there was negligible safety significance associated with operation in Mode 1 in this configuration.

F. Basis for No Significant Hazards Conclusion:

10 CFR 50.92 defines that no significant hazards will occur if operation of the facility in accordance with the temporary waiver of compliances does not:

1. Involve a significant increase in the probability or consequences of an accident previously evaluated; or
2. Create the possibility of a new or different kind of accident from any accident previously evaluated; or
3. Involve a significant reduction in a margin of safety.

As previously discussed, the normal plant configuration for operation in Mode 1 was unchanged with the exception that the RC System was unable to drive the control rod banks in the inward direction. The inability of the RC System to insert rod banks did not increase the probability or consequences of an accident previously evaluated; nor create the possibility of a new or different kind of accident from any previously evaluated; nor did it represent a significant reduction in a margin of safety.

G. Basis for No Irreversible Environmental Consequences:

This request does not involve a change in the installation or use of the facilities or components located within the restricted areas as defined in 10 CFR 20. It has been determined that this temporary waiver of compliance involves no significant increase in the amounts, and no significant change in the types of any effluent that may be released offsite and that there is no

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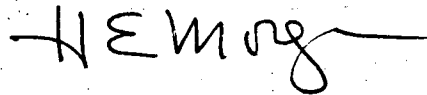
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significant increase in individual or cumulative occupational radiation exposure. Accordingly, this temporary waiver of compliance meets the eligibility criteria for categorical exclusion set forth in 10 CFR Section 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the granting of the temporary waiver of compliance.

The San Onofre Nuclear Generating Station Onsite Review Committee has reviewed and approved this Request for Temporary Waiver of Compliance.

If you have any questions or comments, or if you would like additional information, please let me know.

Sincerely,

A handwritten signature in black ink, appearing to read "HEMING", with a long horizontal flourish extending to the right.

cc:

R. P. Zimmerman, USNRC, Region V  
C. W. Caldwell, USNRC Senior Resident Inspector  
George Kalman, USNRC Project Manager, Unit 1