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April 20, 1992

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
Request for Temporary Waiver of Compliance
Limit Switch Maintenance - Safety Injection System
San Onofre Nuclear Generating Station, Unit 1

Reference: Letter, H. E. Morgan (SCE) to USNRC Document Control Desk,
Amendment Application 188, Supplement 2, dated September 9, 1991

The purpose of this letter is to request a Temporary Waiver of Compliance from the requirements of Technical Specification (TS) 3.0.3 without fully complying with the requirements of TS 3.3.1, "Safety Injection System and Containment Spray Systems - Operating Status," Sections A(1) and A(3) for a period of 72 hours. Approval of this request will be necessary to avoid an unnecessary plant shutdown while repairing the position indication of solenoid valve SV-2900, associated with the Safety Injection (SI) System, as discussed below. SCE requests that this temporary waiver of compliance commence at 0800 on April 27, 1992, consistent with the scheduled repair of SV-2900.

A. Requirements For Which The Waiver Is Requested:

TS 3.3.1, defines the operability requirements for the SI System (SIS). The objective of this TS is to ensure availability of the SIS while the reactor is critical. TS 3.3.1.A(1) and A(3) require, in part, that two trains of SI and associated valves be operable whenever the reactor is critical, but does not provide an ACTION statement in the event one train becomes inoperable.

TS 3.0.3 requires, in part, that when a limiting condition for operation is not met, except pursuant to associated ACTION requirements, unit shutdown shall be initiated within one hour.

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Unit 1 is provided with two independent trains of SI which, upon actuation, inject borated water from the Refueling Water Storage Tank (RWST) to the Reactor Coolant System using the Main Feedwater Pumps (MFWP).

In order to utilize the MFWPs for SI, each MFWP and its feedwater train are equipped with two hydraulically operated suction and discharge isolation valves which close on SI to isolate the MFWP from its condensate supply and feed water piping. Each corresponding SI train is similarly provided with two hydraulically operated pump suction and discharge isolation valves which open on SI to connect the MFWP suction to the flow path from the RWST, and to connect the MFWP discharge to the SI system.

The MFWP isolation valves are a double disc gate design. Because the MFWP SI discharge isolation valves (HV-851A and HV-851B) are normally exposed to relatively high pressure on the MFWP side of the valves, pressure can become trapped between the two valve discs. This pressure can potentially increase the frictional force between the two discs and their seats above the force developed by the actuator on an open signal. Any trapped pressure could either delay or prevent valve opening depending on the circumstances. To relieve the pressure, each MFWP discharge SI isolation valve is equipped with a 1" pressure relief path controlled by a normally closed, 125 volt D.C., solenoid valve (SV-2900 for HV-851A and SV-3900 for HV-851B). SV-2900 and SV-3900 receive an open signal before the associated MFWP discharge SI isolation valve receives its open signal. Proper operation of the solenoid valves in the "open" direction is necessary for the associated discharge valves to be considered fully operable, and in the "close" direction to satisfy containment isolation requirements.

Recent anomalies with SV-2900 position indication will require maintenance to correct. Remote control room valve position indication is necessary to ensure that both the SI function and containment isolation function have been met. This indication circuitry is also utilized to verify proper valve stroking since the design does not afford local position indication. In order to initiate corrective maintenance, SV-2900 would have to be considered inoperable and, since no ACTION requirements are provided in TS 3.3.1 for this situation, TS 3.0.3 would be applicable. As such, a temporary waiver from the shutdown requirements of TS 3.0.3 is requested for a period not to exceed 72 hours in order to avoid an unnecessary plant shutdown which would otherwise be required to repair SV-2900. Although SV-2900 continues to perform its required safety function, including providing reasonable assurance of position indication, SCE considers it prudent to correct the position indication deficiency in a planned and controlled manner. In the absence of this corrective maintenance, further degradation of the position indication may render SV-2900 inoperable, thus forcing a plant shutdown within one hour.

B. Circumstances Surrounding the Situation:

On January 21, 1992, during the performance SV-2900 inservice testing (IST), the "close" indicating light did not extinguish immediately upon receipt of an open signal. However, the "open" indicating light illuminated immediately, and the electronic timer indicated a valve opening time of 0.08 seconds, which is consistent with recent test data (the maximum allowable stroke time limit

is 2 seconds). The valve solenoid cover was tapped during troubleshooting and the "close" light extinguished. The valve was subsequently stroked three times with satisfactory indicating light performance and consistent stroke times well within the acceptance criterion. Subsequent testing on January 24th and 28th demonstrated similar anomalies associated with the "close" indication light. We have concluded from available information that, while the valve continues to satisfy both its "open" and "close" safety function, and is therefore Operable, the "close" position indication mechanism (i.e., reed switch) contains an intermittent malfunction which may further degrade. If further degradation were to occur, direct valve position indication in the "close" direction may be lost, thus rendering the valve inoperable.

Since TS 3.3.1 does not currently provide an allowed outage time for the inoperability of one SI train, immediate entry into TS 3.0.3 will be required to perform the necessary maintenance. To prevent unnecessary entries into TS 3.0.3 for situations such as this, a supplemental request to amend the Technical Specifications (Amendment Application No. 188) was previously submitted on September 9, 1991 (see reference). This request is currently being reviewed by SCE and NRR. Section D, below, further describes the proposed changes.

Approval of this temporary waiver of compliance is requested for a period not to exceed 72 hours commencing at 0800 on 4/27/92 to preclude an unnecessary reactor shutdown. It is considered safer to maintain the unit in operation during the period required to perform the corrective maintenance rather than to place the unit in a shutdown transient.

C. Compensatory Actions Necessary:

During the effective period of this waiver, all required systems and components of the unaffected train will be maintained operable. As described below, SV-2900 will be maintained functional during the repair period and, barring any unforeseen problems which may arise during the maintenance activity, all other components associated with this train of SI will be maintained functional. SV-2900 will be returned to service as soon as possible following the necessary repair.

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

The control circuitry associated with SV-2900 (with the exception of the disconnected position indication switches) will remain energized for the duration of the proposed repair. Therefore, the capability of SV-2900 to open and subsequently close in response to a SI actuation signal is expected to remain unaffected. Except for performing post-maintenance testing following repair, which will require cycling the valve open and closed, SV-2900 will remain closed, thus maintaining its containment isolation function. Although not expected to occur, it is possible that while working on SV-2900, in an energized state, a short circuit may occur resulting in an inadvertent circuit de-energization. In this case, other SI Train A components would be affected since several circuits are fed from a common circuit breaker. However, such an occurrence would not affect the redundant SI Train B, and actions would be taken to promptly restore power to the affected Train A circuitry. In no case

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would operation beyond the 72 hours, allowed by this temporary waiver request, be permitted without complying with the appropriate LCO 3.0.3 shutdown requirements.

Continued operation of SONGS Unit 1 for a period of 72 hours, while performing repairs on SV-2900, is of no safety significance for the following reasons:

- o Unit 1 is provided with two independent and redundant trains of Emergency Core Cooling System (ECCS). Either train is capable of mitigating any event requiring the use of the ECCS. As discussed above, the alternate train will be maintained fully operable.
- o Consistent with this capability, SCE had previously concluded that a TS change was appropriate to preclude unnecessary entries into TS 3.0.3. In this regard, the referenced letter submitted a proposed TS change which would modify the existing TS 3.3.1 to be consistent with the Standard TSs (STS) for ECCS. The STS typically allows ECCS components to be inoperable for a 72 hour period. During this time, the single failure criterion is relaxed. It is our understanding that NRR does not disagree with the application of the STS 72-hour ACTION statement to ECCS Components, as contained in the proposed change.
- o A probabilistic risk assessment was performed to provide a best estimate of the risk attributable to this repair. This assessment concluded that work associated with replacing the reed switch (assuming the valve's circuit remains energized and that any breaker inadvertently tripped is reset promptly) would result in a mean core damage frequency increase of less than $1E-8$ per year.
- o The compensatory measures described above provide added assurance that required ECCS functions will be satisfied in the remote event that they are required.

E. Justification for the Duration of the Waiver:

The requested duration of this waiver is considered justified since there is no safety significance associated with operation in Modes 1 or 2 in this configuration. In addition, the requested duration is consistent with that allowed by the STS for ECCS, and is consistent with our proposed change to TS 3.3.1 presently under review by the NRC.

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

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3. Involve a significant reduction in a margin of safety.

As previously discussed, the plant is provided with two redundant and independent SI trains. Short term inoperability of one of two independent SI trains does not significantly 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 does it represent a significant reduction in a margin of safety.

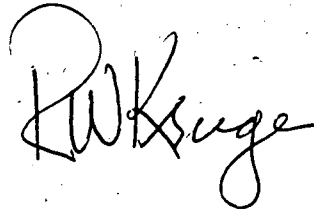
G. Basis for No Irreversible Environmental Consequences:

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 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,



cc:

R. P. Zimmerman, USNRC, Region V

George Kalman, NRC Senior Project Manager, San Onofre Unit 1

J. O. Bradfute, NRC Project Manager, San Onofre Unit 1

C. W. Caldwell, NRC Senior Resident Inspector, San Onofre Units 1, 2&3