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SUBJECT: Requests temporay waiver of compliance from requirements of  
 Tech Specs 3.8.9.1, "Shutdown Cooling & Coolant  
 Recirculation - High Water Level," & Tech Specs 3.8.9.2,  
 "Shutdown Cooling & Coolant Recirculation - Low Water...."

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October 9, 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. 50-361  
Request for Temporary Waiver of Compliance  
Low Pressure Safety Injection Pump Suction Check Valve Testing  
San Onofre Nuclear Generating Station, Unit 2

- References:
- 1) Letter, R. M. Rosenblum (SCE) to USNRC Document Control Desk, Inservice Testing Program for Pumps and Valves, dated July 31, 1991
  - 2) Letter, J. E. Dyer (USNRC) to H. B. Ray (SCE), et. al., Safety Evaluation of Licensee Responses to Staff's Technical Evaluation Report Items and Revised Relief Requests to the IST Program for Pumps and Valves, dated October 2, 1991
  - 3) Letter, L. E. Kokojko (USNRC) to H. B. Ray (SCE), et. al., Safety Evaluation Report of the Testing Program for Pumps and Valves, dated September 24, 1990

The purpose of this letter is to request a Temporary Waiver of Compliance from the requirements of Technical Specifications (TS) 3.8.9.1, "Shutdown Cooling and Coolant Recirculation - High Water Level," and TS 3.8.9.2, "Shutdown Cooling and Coolant Recirculation - Low Water Level," in order to perform a full flow Inservice Test (IST) of the Low Pressure Safety Injection (LPSI) pump suction header check valves. This testing is to be performed per the requirements of 10 CFR 50.55a(g) as described in reference 1) and, as approved by the NRC on October 2, 1991, by reference 2).

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## A. Requirements for which the waiver is requested:

TS Limiting Conditions for Operation (LCO) 3.9.8.1 and 3.9.8.2 define the operability requirements for the Shutdown Cooling System (SCS) during refueling operations (Mode 6) while the water level above the top of the reactor vessel flange is at least 23 feet or less than 23 feet, respectively. The objective of this TS is to ensure that: 1) sufficient cooling is available to remove decay heat, 2) water in the reactor vessel is maintained below 140 F, 3) sufficient coolant circulation is maintained in the reactor core to minimize the effects of a boron dilution incident, and 4) boron stratification is prevented.

To meet the above objectives, TS 3.9.8.1 requires that at least one SCS train be operable and in operation when the water level is at least 23 feet above the top of the vessel flange. In the event that a SCS train is not operable and in operation, this TS requires suspension of activities involving an increase in decay heat load or a decrease of the Reactor Coolant System (RCS) boron concentration, and the immediate initiation of corrective action to return a SCS to operable and operating status as soon as possible. Additionally, containment penetrations with direct access to the outside atmosphere must be closed within four hours. This TS also permits SCS operation to be suspended for up to one hour per eight hour period for core alterations in the vicinity of the reactor vessel hot legs.

Similarly, TS 3.9.8.2, requires that two SCS trains be operable with at least one train in operation when the water level is less than 23 feet above the top of the vessel flange in order to meet the above objectives. In the event that one SCS train is not operable, immediate action is required to either restore the inoperable SCS to operable status or, to increase the water level above the top of the reactor vessel flange to at least 23 feet as soon as possible. (Increasing the water level as required effectively causes TS 3.9.8.2 to be exited and TS 3.9.8.1 to be entered and to satisfy its LCO). Without a SCS train in operation, this TS requires a suspension of activities involving a decrease of the Reactor Coolant System (RCS) boron concentration, and the immediate initiation of corrective action to return a SCS to operable and operating status as soon as possible. Additionally, containment penetrations with direct access to the outside atmosphere must be closed within four hours.

TS 4.0.5 requires, in part, that inservice inspection and testing of ASME Code Class 2 valves be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code as required by 10 CFR 50.55a(g), except where specific relief has been granted by the NRC.

The full flow testing being described in this submittal is a new requirement resulting from the evolution of the IST program for Pumps and Valves for these check valves as described in the references. SCE evaluated the feasibility of full flow testing the check valves and concluded that such a test could be performed for a very brief time by pumping water from the RWST to the refueling cavity using one LPSI pump at a time while the plant is in Mode 6 with the reactor vessel head removed. SCE requested approval of a Valve Relief Request to perform the full flow LPSI suction header check valve full

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flow test at a refueling interval by reference 1) in July 1991. The NRC approved the Valve Relief Request by reference 3) in October 1991.

At the present time in the refueling outage, the Unit 2 reactor has been refueled thereby requiring that either TS 3.9.8.1 or TS 3.9.8.2 be satisfied as described above. However, in order to obtain the LPSI flow necessary to perform the full flow IST of the LPSI pump suction header check valves, it will be necessary to: 1) re-align one SCS train to the LPSI Safety Injection mode, 2) reduce the refueling cavity and spent fuel pool levels to approximately 19 feet above the top of the reactor vessel flange to provide sufficient receiving volume for the pumped water to preclude overflowing the refueling cavity, 3) stop the operating SCS train, and 4) run the LPSI pump train aligned to the safety injection mode to obtain the flow necessary for the check valves to fully open. Following testing of one LPSI train, one SCS train would be promptly restored to operation while preparing to test the opposite train or to perform a retest if necessary. Although SCE expects to maintain the water level less than 23 feet above the top of the reactor vessel flange during testing, it is possible for that level to be exceeded.

A temporary waiver of compliance is requested from the requirements of TS 3.9.8.1 and TS 3.9.8.2 for the periods necessary to prepare and perform the check valve full flow tests and to restore the requisite SCSs to operability and operation. (Although it is anticipated that a waiver from the requirements of TS 3.9.8.1 will not be necessary, it is nevertheless requested in the event that the refueling cavity level exceeds 23 feet during testing). It is anticipated that shutdown cooling would be interrupted for no greater than 15 minutes during each test cycle. The test cycle would be repeated as necessary to test the suction check valves of both trains at full flow. It is requested that this waiver be effective for a period of 24 hours from the beginning of the testing which is currently scheduled to commence at 1600 on October 10, 1991.

During development of the testing methodology, it was recognized that performing the full flow check valve test with fuel in the reactor as described in reference 2) would be contrary to the requirements of TS 3.9.8.1 or 3.9.8.2 (depending on the water level above the reactor) since the test would require that one train of SCS be removed from operation. At the time the TS requirements were recognized to impact the proposed IST, fuel was already being loaded into the reactor. The potential consequences of performing the test with fuel in the core are considered to be less than the potential risks and consequences of defueling the reactor in order to perform the test. Because the full flow testing requirements described herein were only recently incorporated into our IST program, the opportunity to perform the testing with the core off-loaded was not recognized.

Action on this request for a temporary waiver of compliance is required to preclude: 1) defueling the reactor which would require extending the refueling outage approximately three weeks, and 2) increasing the potential for fuel handling accidents by the additional fuel handling operations.

B. Circumstances Surrounding the Current Situation:

As described in Section A above.

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C. Compensatory Actions Necessary:

In order to assure that the above described objectives of TS 3.9.8.1 and TS 3.9.8.2 are satisfied during performance of the full flow check valve test: 1) the RWST boron concentration will be maintained greater than or equal to that of the RCS (approximately 2500 ppm), 2) the periods in which a SCS train is not in operation will be limited, 3) containment penetrations with direct access to the outside atmosphere will be closed, and 4) RCS temperature will be monitored and maintained below 120 F.

D. Preliminary Safety Significance Evaluation:

During the effective period of the waiver, the above described compensatory measures provide assurance that performance of the full flow LPSI pump suction header check valve test is of no safety consequence. Specifically:

- o Limiting the time in which SCS is not in operation maintains sufficient mixing to prevent boron stratification in the RCS and to minimize the effects of a potential boron dilution incident.
- o Use of adequately borated RWST water for injection into the RCS during the test provides assurance that the test itself cannot lead to a boron dilution event.
- o At the present time, the increase in RCS temperature without SCS in operation due to decay heat is estimated to be about 2.6 degrees F per hour. The present RCS temperature is less than 100 degrees F. During the testing, one train of SCS will always be capable of being placed in operation within approximately 10 minutes and the train being tested can be re-aligned to SCS operation in less than one hour. For any foreseeable eventuality, there is sufficient time to restore at least one train of shutdown cooling to operation prior to exceeding 140 degrees F.
- o During the performance of the test, borated water will be introduced to the RCS increasing its inventory and effectively providing a source of core cooling.

E. Justification for the Duration of this Action:

Although it is anticipated that testing of both trains of LPSI pump suction header check valves can be completed in approximately eight hours, SCE is requesting that the temporary waiver of compliance be granted for a period of 24 hours to provide sufficient time to correct any unforeseen difficulties which may interfere with timely completion of the testing. The duration of the requested waiver is considered justified since there is no safety significance to this testing.

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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 compliance 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, SCE has concluded that performing the above described check valve testing will 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 do they represent a significant reduction in a margin of safety.

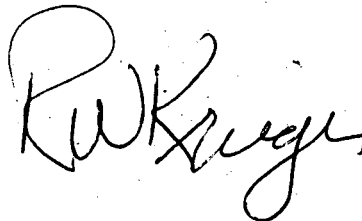
G. Basis for No Irreversible Environmental Consequences:

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 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  
C. W. Caldwell, USNRC Senior Resident Inspector  
L. E. Kokajko, USNRC Project Manager, Unit 2 and 3