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November 4, 1992

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

Gentlemen:

Subject: **Docket No. 50-206**
Relief Request Regarding Hydrotesting of CCW System
San Onofre Nuclear Generating Station, Unit 1

Reference: Letter dated August 7, 1992, from R. M. Rosenblum (SCE) to the NRC, "Relief Request, Ten-Year Inservice Inspections"

Enclosed for your approval is a relief request regarding inservice inspection (ISI) of the component cooling water (CCW) system for SONGS 1. This relief request substitutes an inservice leak test for the 10-year hydrostatic test required by Section XI of the ASME Code. In the referenced letter we had informed you of our intention to submit this relief request.

This submittal is in accordance with the provisions of 10 CFR 50.55a(g) and Section 4.7 (Inservice Inspection Requirements) of the SONGS 1 Technical Specifications. We propose to conduct the alternative inservice leak test by November 30, 1992, which is the current expiration date for the second ten-year ISI interval for SONGS 1. We request your approval of this relief request by November 30, 1992.

If you have any questions or need more information please call me.

Very truly yours,

Walter C. Marsh

Enclosure

cc: J. B. Martin, Regional Administrator, NRC Region V
J. O. Bradfute, NRC Project Manager, San Onofre Unit 1
C. W. Caldwell, NRC Senior Resident Inspector, San Onofre Units 1, 2&3
R. F. Dudley, Jr., Section Chief, Non-Power, Decommissioning, and Environmental Project, Directorate of Reactor Projects - 3, 4 and 5

A047

SONGS 1 ISI PROGRAM FOR THE SECOND 10-YEAR INTERVAL

RELIEF REQUEST FROM HYDROTESTS ON COMPONENT COOLING WATER SYSTEM

SYSTEM: Component Cooling Water System

ASME CODE CLASS: 3

RELIEF REQUEST AND PROPOSED ALTERNATIVE:

Relief is requested from the requirement to perform hydrostatic tests on portions of the Component Cooling Water (CCW) System. These hydrostatic tests are currently required by Section XI of the ASME Code once in each 10-year inspection interval at 1.1 times the system design pressure. However, SONGS 1 was originally not designed nor constructed to the ASME Code requirements. As a result, hydrotesting is not practical for four test packages, as further discussed under "Basis for Relief." An inservice leak test at nominal operating pressure and temperature is proposed as an alternative.

CODE REQUIREMENT:

Subsection IWD of ASME Code Section XI defines rules and requirements for inservice inspection of Class 3 pressure-retaining components. Paragraph IWD-2410 in Article IWD-2000 of the code (1974 edition, including Summer 1975 Addenda) states in part:

"100% of the components shall have been tested and examined in accordance with IWA-5000, IWD-5000, and IWD-2600 by the expiration of each inspection interval."

Article IWA-5000 defines the requirements for system pressure tests including the hydrostatic tests. Paragraph IWA-5210 of this article states:

"The pressure-retaining components shall be visually examined while the system is under the hydrostatic test pressure and temperature. The test pressure and temperature shall be maintained for at least four hours prior to the performance of the examinations."

Paragraph IWD-5200 in Article IWD-5000 states in part:

"The system test pressure shall be at least 1.10 times the system design pressure."

BASIS FOR RELIEF:

The SONGS 1 CCW system is not train separated. It relies heavily on common components and lines, with very few header isolation valves. During normal plant operation, the CCW system is required to continuously transfer heat to

the salt water cooling system from safety-related and nonsafety-related components that receive heat from the reactor coolant system. It also serves as a barrier between potentially radioactive systems and the salt water cooling system.

There are seventeen hydrotest packages applicable to the CCW system. These packages enable different portions of the CCW system to be hydrotested at different times. For thirteen packages there is no need for relief. For the remaining four packages relief is needed, since their scope requires the entire CCW system to be taken out of service, impairing the safety functions of this system. While it is possible to subdivide each package so that individual components can be hydrotested, this method does not provide 100% hydrotesting of the CCW system.

The alternative inservice leak test is consistent with the approach used for testing ASME Code Class 1 and 2 systems and it provides 100% coverage of the CCW system. It is conducted at nominal operating temperature and pressure and so can be conducted while the plant is in normal operation and the CCW system is in service.

SONGS 1 will be permanently shut down on November 30, 1992, and then defueled within a few months. We plan to perform the alternative inservice leak rate test described in this request prior to November 30, 1992. After the unit has been shut down, the safety function of the CCW system will be limited to decay heat removal and the system will not be required for accident mitigation. Once the fuel is removed from the reactor vessel and placed in storage in the spent fuel pool, the safety-related function of the CCW system will be to transfer decay heat from the spent fuel pool cooling system to the salt water cooling system. Should the CCW system fail, makeup water can be provided to the spent fuel pool from other safety-related sources to maintain adequate fuel cooling. The decay heat removal requirement for the spent fuel will decrease continuously with time. Thus, the integrity of the CCW system will be less important to plant safety in the defueled reactor condition.

The four test packages for which relief is requested are described below, and their boundaries are illustrated on the attached Piping & Instrumentation Diagrams (P&ID's).

Test Package CCW-4 (P&ID No. 5178310)

The boundaries for this test package include the miniflow lines for the three pumps CCW-G-15A, CCW-G-15B, and CCW-G-15C joining into a common miniflow line back to the surge tank (CCW-C-17), and all three pump discharge lines joining into a common supply header which then branches into the two CCW heat exchangers (CCW-E-20A and CCW-E-20B). The pump miniflow lines upstream of isolation valves CCW-326, CCW-327, CCW-329, CCW-346, CCW-347 and CCW-349 are hydrostatic tested per test packages CCW-1, CCW-2 and CCW-3, for which no relief is needed. However, piping downstream of these isolation valves is common to all three pumps. This piping cannot be isolated without removing miniflow from all three pumps, which is not acceptable.

Test Package CCW-5 (P&ID Nos. 5178310, 5178311 and 5178312)

The boundaries for this test package include the CCW heat exchanger outlets which are joined to a common discharge header which in turn supplies individual heat exchangers located outside of containment. Due to the common discharge of the heat exchanger outlets and supply header, testing on package CCW-5 cannot be performed without removing the entire CCW system from service. Removal of the entire CCW System from service during normal plant operation would impair its safety functions.

Test Package CCW-10 (P&ID NO. 5178310 and 5178311)

The boundaries for this test package include outlets from various heat exchangers joining into a common return header which in turn is connected to each CCW pump suction and the surge tank. The common return header which connects to each CCW pump suction and the surge tank cannot be tested without removing the entire CCW system from service. Removal of the entire CCW system from service during normal plant operation is not acceptable, as explained above.

Test Package CCW-11 (P&ID No. 5178310)

This test package includes the CCW surge tank and all of its connections as well as the vent lines from all three CCW pumps which join into a common vent line that returns to the surge tank. The vent lines will be tested as part of hydrotesting on the CCW pumps. However, due to the common line connections to the surge tank, the tank cannot be isolated for a static head test without removing the entire CCW system from service. Since it is not acceptable for the safe operation of the plant to remove the entire CCW system from service, relief from the static test of the surge tank is requested.

Attachments: Test package CCW-4
Test package CCW-5
Test package CCW-10
Test package CCW-11

CCW.AA2