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SUBJECT: Application to amend License NPF-10 changing Tech Specs re ESF to remove pressurizer pressure-low activation from component cooling water noncritical isolation valves. Description of change & existing Tech Specs encl.

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December 20, 1982

Director, Office of Nuclear Reactor Regulation
Attention: Mr. George W. Knighton, Branch Chief
Licensing Branch No. 3
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Gentlemen:

Subject: Docket No. 50-361
San Onofre Nuclear Generating Station
Unit 2

Enclosed for your review and approval is a copy of a proposed change to Technical Specification 3/4.3.2, Table 3.3-5 ENGINEERED SAFETY FEATURES RESPONSE TIMES. The proposed change allows removal of Pressurizer Pressure-Low actuation from the Component Cooling Water (CCW) non-critical loop containment isolation valves and CCW critical/non-critical loop isolation valves. These valves will continue to be actuated by other signals including Containment Pressure-High.

Removal of the Pressurizer Pressure-Low actutation from these valves will permit the CCW system to continue cooling non-critical loop loads such as the Reactor Coolant Pump (RCP) motors and seals and the Control Element Drive Mechanism (CEDM) windings during events which would not otherwise require shedding of these heat loads from the CCW system. Continued cooling of the RCP seals and CEDM winding will minimize cumulative damage caused by unnecessary interruptions of CCW. Minimization of such cumulative damage to the RCP seals will increase the availability of the RCPs and reduce the probability of RCP seal failures.

NRC approval of the proposed change is required on an expedited basis to enable completion of the required design changes during the current outage. A formal request for an amendment to Operating License NPF-10 detailing this proposed change will be transmitted to the NRC during the week of January 17, 1983. This change has been determined to be a Class II change in accordance with 10 CFR 170.22. Accordingly, a check for $1,200.00 will be included with the formal request.

If you have any questions concerning the enclosed information, please call me.

Very truly yours,

K P Baskin

B001

Enclosure

cc: Harry Rood, NRC (to be opened by addressee only)

DESCRIPTION OF PROPOSED CHANGE NPF-10-60 AND SAFETY ANALYSIS
OPERATING LICENSE NPF-10
SAN ONOFRE NUCLEAR GENERATING STATION, UNIT 2

This is a request to revise Appendix "A" Technical Specification 3.3.2, Table 3.3-5. This request deletes Items 2.a.(5)(b) and 3.a.(4)(b) and replaces them with new Item 3.b.(3), and modifies NOTE 3.

Exiting Specification

See Attachment A.

Proposed Specification

See Attachment B.

Reason for Proposed Change

This change removes the Pressurizer Pressure-Low actuation from Component Cooling Water (CCW) non-critical loop containment isolation valves HV-6211 and HV-6216 and CCW critical/non-critical loop isolation valves HV6212, HV6213, HV6218 and HV6219. These valves will continue to be actuated by Containment Pressure-High (and for the critical/non-critical loop isolation valves, low-low CCW surge tank level) in order for the CCW system to continue to respond correctly to high energy events within containment. Removal of the Pressurizer Pressure-Low signal to these valves will permit the CCW system to continue cooling non-critical loop loads (primarily the Reactor Coolant Pump (RCP) motors and seals, and the Control Element Drive Mechanism (CEDM) windings) during events which do not otherwise require isolation of the non-critical loop. For the RCP motors and seals and the CEDM windings, this change will minimize cumulative damage experienced due to loss of cooling; for the RCP seals, this change will thereby minimize the possibility of excessive RCS leakage resulting from seal failure.

Safety Analysis

The proposed change described above will remove the Pressurizer Pressure-Low actuation from the CCW non-critical loop containment isolation valves and CCW critical/non-critical loop isolation valves. These valves will continue to be actuated by Containment Pressure-High (and for the critical/non-critical loop isolation valves, low-low surge tank level). Consequently, the proposed change will only affect the response of the CCW system for those events which result in Pressurizer Pressure-Low but not Containment Pressure-High within the time assumed by existing analyses. Such events are pressurizer pressure control system failures, main steam or feedwater system control system or piping failures outside containment, and small steam, feedwater and reactor coolant system piping failures inside containment. The change in CCW system response to such events is discussed below:

Insofar as the effect on CCW system heat removal capability, it is noted that the non-critical loop loads are less than that of the critical loop-aligned Shutdown Cooling Heat Exchanger (SDCHX) and Containment Emergency Coolers. Since the SDCHX CCW valves do not open until

Containment Pressure-High-High, and the Containment Emergency Coolers do not have a significant heat load until sufficient energy has been blown into containment to exceed Containment Pressure-High, the CCW heat load for the post-SIAS/pre-CIAS configuration is much less than the design basis heat load. Although total CCW flow is higher than normal in this combined configuration, and pump head and hence per-component flow about 10% lower, the much lower than design basis heat loads result in sufficiently lower CCW temperatures to more than offset the slightly reduced flow. Hence, there is no reduction of CCW critical loop heat removal capability.

Insofar as the effect on CCW system integrity, all CCW non-critical loop piping which is impacted by reactor coolant, steam or feedwater system piping in the small break range (i.e., 2 inch through 16 inch piping ruptures which could result in Pressurizer Pressure-Low but not Containment Pressure-High within the time assumed by existing analyses) have a larger diameter than the initiating pipe; consequently, damage to CCW non-critical loop piping will be limited to moderate energy cracks rather than complete ruptures. Previous analyses have demonstrated that isolation of the non-critical loop on low-low surge tank level (a 1E signal) will protect the associated critical loop for moderate energy cracks in non-critical loop piping.

Removal of Pressurizer Pressure-Low actuation from the CCW non-critical loop containment isolation valves and CCW critical/non-critical loop isolation valves does reduce the diversity of actuation for these components; however, removal of this signal will eliminate cumulative damage to RCP seals and motors due to loss of cooling, during events which do not otherwise require isolation of the CCW non-critical loop. Minimizing such cumulative damage will increase the availability of RCPs for non-LOCA events and reduce the probability of excessive RCS leakage resulting from RCP seal failure. Further, the above discussion demonstrates acceptable consequences without Pressurizer Pressure-Low actuation of these valves.

Accordingly, it is concluded that: (1) Propose Change NPF-10-60 does not present signifcant hazard considerations not descibed or implicit in the Final Safety Analysis; (2) there is reasonable assurance that the health and safety of the public will not be endangered by the proposed change; and (3) this action will not result in a condition which signifcantly alters the impact of the station on the environment as described in the NRC Final Environmental Statement.

FRN:6560

ATTACHMENT A

(Existing Specification)

Table 3.3-5 (continued)

INITIATING SIGNAL AND FUNCTION	RESPONSE TIME (SEC)
2. Pressurizer Pressure-Low	
a. SIAS	
(1) Safety Injection	
(a) High Pressure Safety Injection	31.2*
(b) Low Pressure Safety Injection	41.2*
(2) Control Room Isolation	Not Applicable
(3) Containment Isolation (NOTE 3)	11.2* (NOTE 2)
(4) Containment Spray (Pumps)	25.6*
(5) Containment Emergency Cooling	
(a) CCW Pumps	31.2*
(b) CCW Valves (Note 4a)	21.2
(c) CCW Valves (Note 4b)	23.2*
(d) Emergency Cooling Fans	21.2*
3. Containment Pressure-High	
a. SIAS	
(1) Safety Injection	
(a) High Pressure Safety Injection	41.0*
(b) Low Pressure Safety Injection	41.0*
(2) Control Room Isolation	Not Applicable
(3) Containment Spray (Pumps)	25.4*
(4) Containment Emergency Cooling	
(a) CCW Pumps	31.0*
(b) CCW Valves (Note 4a)	21.0
(c) CCW Valves (Note 4b)	23.0*
(d) Emergency Cooling Fans	21.0*
b. CIAS	
Containment Isolation	10.9* (NOTE 2)
4. Containment Pressure - High-High	
CSAS	
Containment Spray	21.0*

Table 3.3-5 (Continued)

INITIATING SIGNAL AND FUNCTION	RESPONSE TIME (SEC)
13. Control Room Toxic Gas (Butane/Propane)	
TGIS	
Control Room Ventilation - Isolation Mode	36 (NOTE 5)
14. Control Room Toxic Gas (Carbon Dioxide)	
TGIS	
Control Room Ventilation - Isolation Mode	36 (NOTE 5)
15. Fuel Handling Building Airborne Radiation	
FHIS	
Fuel Handling Building Post-Accident Cleanup Filter System	Not Applicable
16. Containment Airborne Radiation	
CPIS	
Containment Purge Isolation	2 (NOTE 2)
17. Containment Area Radiation	
CPIS	
Containment Purge Isolation	2 (NOTE 2)

NOTES:

1. Response times include movement of valves and attainment of pump or blower discharge pressure as applicable.
2. Response time includes emergency diesel generator starting delay (applicable to AC motor operated valves other than containment purge valves), instrumentation and logic response only. Refer to table 3.6-1 for containment isolation valve closure times.
3. All CIAS-Actuated valves except MSIVs and MFIVs.
4a. CCW non-critical loop isolation valves 2HV-6212, 2HV-6213, 2HV-6218 and 2HV-6219 close.
4b. Containment emergency cooler CCW isolation valves 2HV-6366, 2HV-6367, 2HV-6368, 2HV-6369, 2HV-6370, 2HV-6371, 2HV-6372, and 2HV-6373 open.
5. Response time includes instrumentation, logic, and isolation damper closure times only.
6. The provisions of Specification 4.0.4 are not applicable for entry into Mode 3.

* Emergency diesel generator starting delay (10 sec.) and sequence loading delays for SIAS are included.

** Emergency diesel generator starting delay (10 sec.) is included.