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September 5, 1984

Director, Office of Nuclear Reactor Regulation
Attention: Mr. W. A. Paulson, Acting Chief
Operating Reactors Branch No. 5
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Gentlemen:

Subject: Docket No. 50-206
Proposed Change No. 127 to the Technical Specifications
San Onofre Nuclear Generating Station
Unit 1

By letter dated July 23, 1984 you requested additional information regarding the subject proposed change which was submitted as Amendment Application No. 118 by letter dated May 17, 1984. The enclosure to this letter provides the requested information.

If you have any questions or desire additional information, please contact me.

Very truly yours,

M O Medford

Enclosures

cc: E. McKenna, NRR, San Onofre Unit 1 Project Manager
A. E. Chaffee, NRC, Resident Inspector
J. B. Martin, NRC, Region V, Regional Administrator
J. O. Ward, California Department of Health Services

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ENCLOSURE

Additional Information Regarding P.C. 127
San Onofre Nuclear Generating Station
Unit 1

1. Regarding proposed Table 3.5.7-1, we note the following differences between the proposed Action Statements and the corresponding Action Statements of the Westinghouse Standard Technical Specifications, Table 3.3-3, or the Action Statements in the present Facility Specifications:

Action Statement	SCE Proposed	Standard Technical Specifications
F	Restore to operable in 72 hours	Restore to operable in 48 hours
G	Restore to operable in 72 hours	No delay; be in HOT STANDBY in 6 hours, HOT SHUTDOWN in following 6 hours

	SCE Proposed	SCE Present
I	HOT SHUTDOWN in 36 hours	COLD SHUTDOWN in 30 hours

Please provide technical justification for each of these differences or submit a revised request conforming to the Standard Technical Specifications (F and G) and present requirements (I).

Response

Action Statement F of Table 3.5.7-1 identifies the required actions when the Auxiliary Feedwater System (AFWS) manual actuation circuitry has only one of the two required channels operable. The two manual actuation channels provide two separate initiation signals to the AFWS, one for the motor driven pump train and one for the steam driven pump train. This is a design which is different from that of the Standard Plant on which the Standard Technical Specifications (STS) are based. The San Onofre Unit 1 configuration results in a situation where one train of the AFWS would be inoperable (though only for manual actuation) when one of the manual

actuation channels is inoperable. As described in the response to Item 2 below, the appropriate action time when one train of AFWS is inoperable is 72 hours. Therefore, this same 72 hour period is applied to the timing requirements for Action Statement F.

Action Statement G of Table 3.5.7-1 identifies the required actions when the AFWS automatic actuation circuitry has only one of the two required channels operable. The two automatic actuation channels provide two separate initiation signals to the AFWS, one for the motor driven pump train and one for the steam driven pump train. This is also a design which is different from that of the Standard Plant on which the STS are based. The San Onofre Unit 1 configuration results in a situation where one train of the AFWS would be inoperable (though only for automatic actuation) when one of the automatic actuation channels is inoperable. As described in the response to Item 2 below, the appropriate action time when one train of AFWS is inoperable is 72 hours. Therefore, this same 72 hour period is applied to the timing requirements for Action Statement G.

Action Statement I of Table 3.5.7 identifies the required actions when the steam generator water level-low circuitry has more than one channel inoperable. Since the San Onofre Unit 1 design does not accomodate the tripping of a channel, the operator is required to assume continuous surveillance of steam generator water level and actuate the AFWS manually if necessary. This condition is allowed for 7 days after which a shutdown is required if one of the required channels has not been returned to operability. Since this is not a STS technical specification, a reasonable period of time was established to accomplish a controlled cooldown to a mode (Mode 4, Hot Shutdown) where the AFWS operability is not required. This reasonable period was determined to be 6 hours to Hot Standby, plus an additional 6 hours to Hot Shutdown using the general Limiting Conditions for Operation of the STS Section 3.3.3 as a guide. The 36 hours mentioned in the existing proposed change is a typographical error as is the last sentence in that action item (i.e., "Basis: Design does not accomodate tripped position."). Since, as mentioned above, the AFWS is not required in Mode 4, there is no reason to proceed down to Mode 5, Cold Shutdown. Accordingly, Table 3.5.7-1 has been revised and is provided in Attachment 1 with a double bar in the margin to indicate the revision.

2. Regarding proposed specification 3.4.3.B we note this change, if approved, would permit one AFW pump to be inoperable for up to 72 hours. We further note that such a period of inoperability is permitted by the Standard Technical Specifications for AFW systems having three pumps. Since the San Onofre-1 AFW system presently has only two pumps, allowing plant operation for up to 72 hours with only one operable pump is clearly inconsistent with the Standard Technical Specifications and present facility specification 3.4.1(4). Therefore, please provide justification for the 72 hours period or revise your application to provide a period consistent with your present technical specifications.

Response

As indicated in the request for information above, the San Onofre Unit 1 AFWS consists of two 100% pumps each providing flow to all three steam generators. Each pump has the capability to provide the minimum required AFWS flow of 250 gpm for the design basis feedline rupture event as described in our submittals dated March 6, 1981 and November 18, 1981 in response to the NRC staff review of action items resulting from TMI. Since the revisions to the AFWS Technical Specifications provided in Proposed Change No. 127 have been to a great extent modeled after the STS, we attempted to find an appropriate model of a system with only two 100% pumps. The model which was chosen was the Emergency Core Cooling System (ECCS) Technical Specifications 3/4.5.2 and 3/4.5.3 of the STS. In these technical specifications the Action Statements allow a 72 hour relaxation of the single failure criterion to provide for continued operation with one train of ECCS inoperable. A similar action time is provided for in our existing Safety Injection System Technical Specifications of Section 3.3. In addition communication with members of the NRR staff has indicated that the 72 hour relaxation of the single failure criterion is based on research conducted for the NRC by Science Applications Incorporated (SAI) in 1975 for ECCS components. It was also indicated that the 72 hour criterion was subsequently applied to other system with two 100% pumps. It was therefore concluded that a 72 hour Action Statement allowing for continued operation with one train of AFWS inoperable was appropriate at San Onofre Unit 1 and consistent with the STS for systems of this design.

It should also be noted that the design basis feedline rupture event of the Standard Plant requires that a minimum of two auxiliary feedwater pumps remain operable because of the flow distribution established when the main steam isolation valves (MSIV's) close and an unequal pressure distribution is created between the lines leading to the intact loops and the line leading to the broken loop. This results in a flow equal to one pump's capacity going out the break with a flow equal to the other pump's capacity providing flow to the intact steam generators. The 72 hour Action Statement allowed time period for the inoperability of one pump is clearly a relaxation of the single failure criterion equivalent to that granted for the ECCS systems as described above. At San Onofre Unit 1, the absence of MSIV's results in an equal flow distribution allowing the flow capacity of one pump to be sufficient to meet the acceptance criteria for the design basis event, as described in the analysis for this event provided to the NRC in the submittals referenced above. For these additional reasons a relaxation of the single failure criterion for the AFWS for 72 hours is considered appropriate for the design of this system at San Onofre Unit 1.

3. Regarding the proposed revision to present sections 4.1.9.E and 4.1.9.C.2, although we support clear definition of test requirements (which this change proposes to provide), we find it difficult to reconcile "72 hours after entering MODE 3" with the present requirement of "as soon as steam becomes available". If steam is available upon entry into MODE 3, we consider a delay of three days in testing the AFW

system to be excessive. This is because: (1) periods of extended outage (30 days or more) frequently involve intense plant activity, some of which might inadvertently affect the AFW system, and (2) the basic policy, noted above, that with a two pump configuration, AFW pump inoperability should not be permitted for in excess of 24 hours. Therefore, we believe a more appropriate interval for requiring verification of the operability of the steam-driven AFW pump is 24 hours.

Therefore, please provide justification for the 72 hour period or revise your application to provide a "window" more consistent with your present technical specifications. We further note that comparable wording should be provided in both 4.1.9.C.2 and 4.1.9.E.

Response

As indicated in response to Item 2 above, a 72 hour period of inoperability for one AFWS pump at San Onofre Unit 1 is appropriate and consistent with the STS. Since operation in Modes 1, 2 and 3 is allowed with the 72 hour action statement, a period of 72 hours, when initially entering Mode 3 is also appropriate to allow for testing of the steam driven AFWS pump prior to declaring the pump operable. Technical Specification 4.1.9.C.2 has been revised to use the same wording as the new 4.1.9.D and is provided as Attachment 2 with a double bar in the margin to indicate the revision.

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