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SUBJECT: Submits addl info & requests minor mods to util 840125 & 0427 Proposed Change Notices 8 & 97,revising Tech Specs re containment isolation valves & hydrogen monitors, respectively,to Licenses NPF-10 & NPF-15.

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October 16, 1986

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 Nos. 50-361 and 50-362
San Onofre Nuclear Generating Station
Units 2 and 3

Southern California Edison Company's (SCE) letters dated April 27, 1984 and January 25, 1984, submitted Proposed Changes NPF-10/15-8 (PCN-8) and NPF-10/15-97 (PCN-97) to the San Onofre Nuclear Generating Station (SONGS) Units 2 and 3 Technical Specifications. PCN-8 revises Technical Specification (TS) 3/4.6.3 "Containment Isolation Valves." PCN-97 revises TS 3/4.6.1.7 "Hydrogen Monitors." These proposed changes have been discussed with the NRC Staff. The purpose of this letter is to provide additional information requested by the Staff and request minor modifications to the proposed changes as submitted.

PCN-8 revises TS 3/4.6.3 "Containment Isolation Valves." The major change made by PCN-8 is to restructure Table 3.6-1 "Containment Isolation Valves." Currently, Table 3.6-1 is divided into four sections: Containment Isolation, Containment Purge, Manual, and Other. The proposed Table 3.6-3 maintains these divisions. However, the criteria used for categorizing valves into these divisions has changed. In addition, valves associated with the secondary system are removed entirely from the table. The relocation of valves in the table was not readily apparent from the original submittal. At the request of the Staff, the disposition of valves currently included in Table 3.6-1, which are either removed or relocated by the proposed change is provided in Enclosure 1. This enclosure also identifies other technical specifications which apply to valves which have been relocated to Section D of the proposed table. Section D includes those valves whose post accident functional position may be other than closed and are part of systems whose operability requirements are defined by other technical specifications.

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The proposed change would revise surveillance requirement 4.6.3.1 to reference specification 4.0.5, "In-Service Inspection," as the bases for determining operability of valves listed in Table 3.6-1. A question was raised as to whether or not the ISI Program, conducted in accordance with ASME Section XI, would permit degradation of response times beyond those specified in the technical specifications or assumed in the accident analyses. The SONGS 2 and 3 ISI Program, which has been submitted for NRC approval, identifies response times which are specified in the technical specifications or otherwise preserve the assumptions of the safety analyses as protected values. For response times so identified, degradation beyond the specified value is not permitted without prior NRC approval.

In addition to the changes requested by PCN-8, SCE requests the following changes, which are described below and included in the enclosures, be made:

1) Revision of Surveillance Requirement 4.6.3.4

PCN-8 requested the addition of surveillance 4.6.3.4 which requires that the manual isolation valves specified in Section C of Table 3.6-1 be demonstrated operable as required by 10CFR50, Appendix J and at least once per 31 days by verifying each valve is secured closed or blind flanged and that check valves specified in Section C of Table 3.6-1 be demonstrated operable pursuant to 10CFR50, Appendix J. As discussed with the Staff, SCE requests that this surveillance requirement be revised to require that manual isolation valves and check valves specified in Section C of Table 3.6-1 be demonstrated operable in accordance with Specification 4.6.1.1.a and 4.6.1.2.d. These specifications require verification at least once per 31 days that each valve is secured closed or blind flanged and require leak rate testing consistent with the requirements of 10CFR50, Appendix J. This change is editorial in that it restates these requirements in Technical Specification 3/4.3.6.3. In addition, SCE requests that the footnote which indicated that certain valves are not subject to Type C Testing, and is deleted by PCN-8, be reinstated on the proposed Table 3.6-1 for those valves to which it currently applies.

2) 3.0.4 Exception

SCE requests that an exception to the requirements of Specification 3.0.4 be added to the proposed Action 1 of Specification 3.6.3. We note that a 3.0.4 exception has been granted in technical specifications for Susquehanna Unit 2, Byron Unit 1, Limerick Unit 1, Washington Nuclear Unit 2, and La Salle Unit 2. A 3.0.4 exception would allow mode changes

to be made while relying on the provisions of the action statements. Since the action statements allow unlimited operation while in compliance with them, there is no increment in safety to be gained by restricting upward mode changes while relying on the action requirements. From the standpoint of containment isolation, the plant is equally safe while complying with the action requirements as it would be if the full operability requirements of the LCO are met.

3) Deletion of Deactivated

The proposed Technical Specification 3.6.3 Action 1b requires that an affected penetration be isolated by the use of at least one "deactivated" automatic valve secured in the isolation position. The proposed change amplifies what is meant by secured. For the purposes of this action, secured is defined as locked, sealed, or otherwise prevented from unintentional operation. SCE considers that this definition of "secured" provides adequate protection against spurious or unintententional opening of a closed valve. SCE requests that the word "deactivated" be deleted from Technical Specification 3.6.3 Action 1.b, and from surveillance requirements 4.6.1.1a. The word "deactivated" can be interpreted to mean that an automatic valve must be closed and deenergized, for example, with its main circuit breaker locked open. While this effectively prevents the valve from unintentional operation, it also in many cases deenergizes the position indication circuits. Verification of the position of valves inside containment, for example, would not be possible during operation in this condition. SCE considers that there are several ways of preventing valves from spurious or unintentional operation short of deactivating them by racking out the breaker. Relying on the word "secured" as defined in the proposed change will provide the necessary facility to maintain position indication while taking measures to secure the valves in the closed position.

4) Surveillance Requirement 4.6.1.1A

This surveillance requirement applies to all penetrations regardless of whether they are listed in Table 3.6-1 or not. As a result, this surveillance requirement would continue to apply to the main steam system related valves deleted from Table 3.6-1, since these valves continue to be associated with containment penetrations. While the valves associated with the main steam system mitigate the consequences of a main steam line break inside containment

from challenging containment integrity, these valves do not serve the same containment integrity function as is covered by Specification 3.6.1. Therefore, SCE requests that surveillance requirements 4.6.1.1A be revised to apply only to the penetrations listed in Table 3.6-1.

5) Check Valves

The check valves located inside containment and associated with penetrations which are assumed to be closed under design basis accident conditions are moved to Section A of Table 3.6-1. Consistent with 10 CFR 50 Appendix A, GDC 55 and 56, check valves inside containment can be considered to be automatic isolation valves. Therefore, it is appropriate that these valves be included in Section A of Table 3.6-1. Since check valves are self-actuated and do not receive ESFAS signals and have no response time requirements associated with them, check valves are exempted from surveillance requirements which verify ESFAS actuation and response times. Operability of check valves is verified by the ISI Program (TS 4.0.5) and in accordance with 10 CFR 50, Appendix J.

Enclosures 2 and 3 include the revisions to PCN-8 as discussed above.

PCN-97 revised TS 3/4.6.1.7 "Hydrogen Monitors." One of the revisions made by PCN-97 was to substitute different concentrations of calibration gases for the post LOCA hydrogen monitors. Specifically, PCN-97 would supply calibration with 0% and 4% hydrogen calibration gases rather than the 2% and 4% concentrations currently specified. These revisions are requested based on manufacturer's recommendations and to reduce the amount of time the containment isolation valves for the calibration gases are open. The manufacturer's recommendations for the calibration gases are documented in the manufacturer's letter (Enclosure 4).

The information provided above regarding PCN-8 and PCN-97 addresses NRC staff questions relating to these proposed changes. Should you require any additional information regarding these proposed changes, please call me.

Very truly yours,

M. D. Medford

cc: H. Rood (NRC) (to be opened by addressee only)
J. B. Martin (Regional Administrator, Region V)
F. R. Huey (USNRC Senior Resident Inspector, Units 1, 2, and 3)

ENCLOSURE 1

Proposed Change NPF-10/15-8 made major revisions to Technical Specification Table 3.6-1 "Containment Isolation Valves." In reviewing this change, the NRC Staff indicated difficulty in identifying the disposition of each valve currently listed in the table. The following provides the disposition of each valve which no longer appears in the same position in Table 3.6-1:

SECTION A: "CONTAINMENT ISOLATION" (CIAS)

PENETRATIONS 18 AND 19

Containment mini purge inlet and outlet isolation valves HV9821, HV9823, HV9824 and HV9825 are removed from Section A of Table 3.6-1. These valves are currently listed in Section B of Table 3.6-1. The proposed change eliminates this redundancy.

PENETRATIONS 28 AND 29

The steam generator feedwater isolation valves HV4052 and HV4048 are removed from Table 3.6-1. The response times for these valves are included in Table 3.3-5 of Technical Specification 3/4.3.2 "ESFAS Instrumentation" under MSIS.

PENETRATIONS 32 AND 33

Main steam isolation valves HV8204 and HV8205 are removed from Table 3.6-1 as Technical Specification 3.7.1.5 "Main Steam Isolation Valves" provides specific requirements for the MSIV. In addition, MSIV response times are included in Table 3.3-5 of Technical Specification 3/4.3.2 "ESFAS Instrumentation."

SECTION B: CONTAINMENT PURGE (CPIS)

No changes were made to Section B of Table 3.6-1.

SECTION C: MANUAL ISOLATION VALVES

PENETRATION 8

Isolation valve HV9200 for the charging line to the regenerative heat exchanger is relocated to Section D of Table 3.6-1 since the safe post accident position for this valve may be other than closed.

PENETRATIONS 10A, 27A, 40A, AND 73A

The isolation valves for the containment pressure detectors HV0352A, HV0352B, HV0352C, and HV0352D are relocated to Section D of table 3.6-1 since their safe position is open.

PENETRATION 10C

For Unit 2 only, Penetration 10C is redesignated as Penetration 10B to correct an existing error. The isolation valves for the integrated leak rate test pressure sensors are included in these penetrations and remain in Section C of Table 3.6-1.

PENETRATIONS 67 AND 71

The hot leg injection isolation valves HV9434 and HV9420 are relocated to Section D of Table 3.6-1 since their safe post accident position may be other than closed.

SECTION D: OTHER

PENETRATION 9

The shutdown cooling relief valve PSV9349 is deleted from Table 3.6-1. Operability requirements for the shutdown cooling system relief valve are defined in Specification 3/4.4.8.3, "Overpressure Protection Systems."

PENETRATION 11

The check valve for demineralized water 3"-236-C-675 is relocated to Section A.

PENETRATION 14

The fire protection check valve 4"-061-C-681 is relocated to Section A of Table 3.6-1.

PENETRATIONS 17 AND 44

Steam generator secondary coolant sample isolation valve HV4058 and HV4057 is deleted from Table 3.6-1. Response time requirements for these valves on an MSIS are included in Table 3.3-5 of Technical Specification 3/4.3.2 "ESFAS Instrumentation."

PENETRATION 20

The quench tank makeup check valve 2"-573-C-611 is relocated to Section A of Table 3.6-1.

PENETRATION 21

The service air supply line check valve 2"-017-C-627 is relocated to Section A of Table 3.6-1.

PENETRATION 22

The instrument air supply line check valve 1 1/2"-016-C-617 is relocated to Section A of Table 3.6-1.

PENETRATION 23A

The LP N_2 check valve 3/4"-002-C-611 is relocated to Section A of Table 3.6-1.

PENETRATIONS 32 AND 33

Main steam atmospheric dump valves HV8421 and HV8419 are deleted from Table 3.6-1. Response times for closure of the atmospheric dump valves on an MSIS are included in Table 3.3-5 of Technical Specification 3/4.3.2.

The main steam relief valves PSV8401 through 8418 are deleted from Table 3.6-1, Technical Specification 3.7.1.1 "Main Steam Relief Valves" provides operability requirements for these valves.

Main steam trap isolation valves HV8248B and HV8249B are deleted from Table 3.6-1. Currently, closure times on MSIS for these valves are included in Table 3.3-5 of Technical Specification 3/4.3.2. However, Proposed Change NPF-10/15-96 will delete these valves from Table 3.3-5. Additionally, SCE plans to either replace these valves with manual isolation valves or remove them entirely from the plant (i.e., cap the lines).

The proposed change would eliminate all TS requirements for the main steam line trap drain isolation valves. Currently these valves receive an MSIS and are assumed to automatically close during a main steam line break (MSLB). Manual actuation is assumed for steam generator tube rupture events.

The MSLB event is potentially affected by the proposed change, because valves HV8248 and HV8249 would normally close on MSIS. With the proposed change, one or both of valves HV8248 and HV8249 could potentially be open during a MSLB accident. This could result in additional uncontrolled blowdown through these one inch valves provided that, in addition to the valve failure, either the non-qualified downstream piping ruptures or the steam trap fails open allowing steam to pass to the condenser. Conservatively, ignoring the existence of the non-qualified piping and the steam trap, additional blowdown would result if these lines were open. The effect of this on the consequences of the MSLB accident depends on whether the open line is associated with the affected (MSLB is associated with one S/G main steam line) or intact steam generator. Because the cross sectional area of the drain line is small with respect to the 40" main steam line (i.e., 0.06%), there will be an insignificant effect on the consequences of the limiting 100% MSLB if the open line is associated with the affected steam generator.

If the open line is associated with the intact S/G, the effect will be equally negligible for approximately the first 1 1/2 minutes following the MSLB until dryout of the affected S/G. After dryout, a small amount of steam will continue to be released from the intact S/G via the open line. This small amount of steam will result in some additional cooldown of the RCS and some additional positive reactivity insertion due to the negative moderator temperature coefficient. However, this effect is offset and counteracted by the injection of borated water from safety injection which begins at about 30 seconds into the event. After 30 minutes, the operator is assumed to commence cooldown of the plant, at which time the flow of steam out the open trap drain is no longer significant compared to steam released via the atmospheric dump valve for cooldown. The proposed change, therefore, does not have a significant effect on the probability or consequences of the MSLB accident.

For the S/G tube rupture event, an inoperable open trap drain will provide an additional release path provided that either the downstream non-qualified piping or steam trap fails. In the S/G tube rupture scenario, releases are assumed to continue for 30 minutes following the event at which time, the operator is assumed to isolate the affected S/G. In the case with the proposed change, releases via the trap drain line would continue beyond the thirty minutes up until the time until the plant is brought to cold shutdown with the RCS depressurized, about 30 hours. This results in some additional offsite dose. With isolation of the affected S/G and a pre-existing iodine spike, as is currently assumed, the offsite dose is approximately 10% of the 10CFR100 limits. With the proposed change and conservatively assuming failure of the downstream piping, the offsite dose would be approximately 25% of the 10CFR100 limits. However, the offsite doses from these two scenarios are considerably less than the offsite dose consequences for the limiting large break loss of coolant accident.

Main steam isolation bypass valves HV8202 and HV8203 are deleted from Table 3.6-1. Response times for closure of these valves on an MSIS are included in Table 3.3-5 of Technical Specification 3/4.3.2.

The main steam to auxiliary feedwater pump turbine isolation valves HV8200 and HV8201 are deleted from Table 3.6-1. Response times for closure of these valves on an MSIS and for opening on an EFAS are included in Table 3.3-5 of Technical Specification 3/4.3.2. In addition, operability of these valves are required by Technical Specification 3.7.1.2 "Auxiliary Feedwater System."

PENETRATIONS 36 AND 37

The steam generator blowdown isolation valves HV4054 and HV4053 are deleted from Table 3.6-1. Response times for these valves for closure on MSIS are included in Table 3.3-5 of Technical Specification 3/4.3.2.

PENETRATIONS 42 AND 43

The component cooling water inlet isolation valve HV6223 and outlet isolation valve HV6236 are relocated in Section A of Table 3.6-1. These penetrations have been redesignated from GDC57 to GDC56 and CIAS has been added to these valves.

PENETRATION 68

Charging line to auxiliary spray check valve 2"-129-A-554 is relocated to Section A of Table 3.6-1.

PENETRATIONS 75 AND 78

The steam generator auxiliary feedwater isolation valves HV4714, HV4715, HV4730, and HV4731 are deleted from Table 3.6-1. Response times for opening of these valves on an EFAS and closure of these valves on an MSIS are included in Table 3.3-5 of Technical Specification 3/4.3.2. In addition, these valves are also covered by Technical Specification 3.7.1.2 "Auxiliary Feedwater System."

PENETRATION 77

The nitrogen supply to the safety injection tanks check valve 2"-108-C-627 is relocated to Section A of Table 3.6-1.

PENETRATIONS 67 AND 71

The designation of hot leg injection isolation valve 3"-157-A-551 and 3"-158-A-551 are corrected to be 3"-157-A-550 and 3"-158-A-550 respectively.

The proposed change would add an action statement specific to the valves listed in Section D of Table 3.6-1. This section of the table is reserved for those valves whose safe post accident position in performing their safety functions may be open. The proposed action requires that the appropriate actions of those LCO's pertaining to the valve or valves or system in which it is installed to be applicable. The NRC Staff requested that these LCO's be identified for those valves included in Section D of the proposed Table 3.6-1. The LCO's applicable to these valves are identified for each penetration below:

1. Penetrations 3, 5, 39, 41, 48, 49, 50, 51, 54, 55, 67, and 71

   The valves listed in the proposed Section D Table 3.6-1 for these penetrations are part of the emergency core cooling system and as such, their operability requirements and action to be taken are specified in Technical Specification 3/4.5.2 "Emergency Core Cooling System."

2. Penetration 8

   The valves listed in the proposed Section D Table 3.6-1 associated with Penetration 8 are part of the charging system and as such, their operability requirements and actions are specified in Technical Specifications 3/4.1.2.1 and 3/4.1.2.2, "Boration Systems - Flow Paths."

3. Penetrations 10A, 27A, 40A and 73A

   The valves listed in Table 3.6-1 associated with these penetrations relate to the containment pressure detectors whose operability requirements and actions are specified in Technical Specification 3/4.3.2 "ESFAS Instrumentation."

4. Penetration 52 and 53

The valves associated with Penetrations 52 and 53 listed in Table 3.6-1 are part of the containment spray system. The operability requirements for the containment spray system are specified in Technical Specification 3/4.6.2.1.

5. Penetrations 56, 57, 58, 59, 60, 61, 62, and 63

The valves associated with these penetrations are part of the containment emergency cooling system. Operability requirements and actions for these valves are included as part of Technical Specification 3/4.6.2.3.