



Southern California Edison Company

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HAROLD B. RAY
SENIOR VICE PRESIDENT

May 22, 1991

TELEPHONE
714-458-4400

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

Gentlemen:

**Subject: Docket No. 50-206
Supplement to Amendment Application No. 162
Containment Spray Actuation System Instrumentation
San Onofre Nuclear Generating Station, Unit 1**

This letter provides responses to an NRC request for additional information and a supplement to Amendment Application No 162 regarding the containment spray system instrumentation. The additional information in response to your letter dated September 12, 1989 and is included as Enclosure 1. The supplemental amendment application is included as Enclosure 2. This supplement changes the allowable value for the containment spray actuation setpoint.

Amendment Application No. 162 consists of Proposed Change No. 199 (PCN-199) which was originally submitted on December 29, 1988. PCN-199 was developed in response to an open item from Systematic Evaluation Program Topic IV-10.A "Testing of Reactor Trip System and Engineered Safety Features, Including Response Time Testing". PCN-199 revises the technical specifications to incorporate new Limiting Conditions for Operation (LCO) and surveillance requirements for the containment spray actuation instrumentation. Subsequently, your letter dated September 12, 1989 requested additional information regarding the LCO action statements and the containment spray actuation setpoint.

As discussed in our letter dated December 18, 1990, submittal of this supplement to PCN-199 was delayed to allow revision of the analyses which determine the peak pressure and temperature in containment following a design basis accident and to verify the qualification of components required to operate after a design basis accident at the new conditions. These analyses have been completed and a summary of the results was transmitted to you in our letter dated February 8, 1991. We have also verified that the components inside containment required to be qualified during a design basis event remain qualified for the revised environmental parameters.

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Additionally, we have revised one of the action statements in proposed Technical Specification 3.5.11 to be consistent with those proposed in Amendment Application No. 188 which was submitted to you on August 31, 1990 and is currently under staff review.

Please note that the supplemental Amendment Application provided as Enclosure 2 supersedes the December 29, 1988 submittal of Amendment Application No. 162 in its entirety.

If you have any questions regarding this matter, please let me know.

Sincerely,

cc: George Kalman, NRC Senior Project Manager, San Onofre Unit 1
J. O. Bradfute, NRC Project Manager, San Onofre Unit 1
J. B. Martin, Regional Administrator, NRC Region V
C. W. Caldwell, NRC Senior Resident Inspector, San Onofre Units 1, 2&3
C. D. Townsend, NRC Resident Inspector, San Onofre Unit 1
J. H. Hickman, California Department of Health Services

Subscribed on this 22nd day of MAY, 1991.

Respectfully submitted,

SOUTHERN CALIFORNIA EDISON COMPANY

By: Harold B. Ray
Harold B. Ray
Senior Vice President

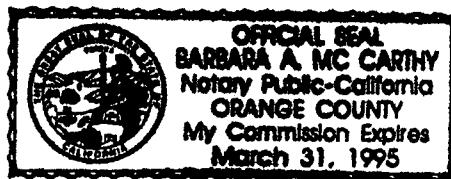
State of California

County of Orange

On MAY 22, 1991 before me, BARBARA A. MCCARTHY, ^{NOTARY PUBLIC} personally appeared HAROLD B. RAY, personally known to me to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

Signature Barbara A. McCarthy



James A. Beoletto
Attorney for Southern
California Edison Company

By: James A. Beoletto
James A. Beoletto

ADDITIONAL INFORMATION REQUESTED BY
SEPTEMBER 12, 1989 NRC LETTER

Request No. 1

Request:

Your proposed Action 32 for Containment Pressure - (High-High) in Table 3.5.11-1 is not consistent with Action 9 for Containment Pressure - High in Table 3.5.5-1 of your existing Technical Specifications. Recognizing that the transmitters used for sensing the Containment Pressure - (High-High) condition are shared between the two safety trains, your proposed Action 32 may not be appropriate. Please provide your basis for the proposed action statement, or provide an alternate action statement with accompanying basis. Your basis should also be reflected in the Basis section of the Technical Specifications.

Response:

Action 32 provides a means for continued operation if one channel of instrumentation is inoperable provided the inoperable channel is placed in the tripped condition. This stipulation assures a CSA (Containment Spray Actuation) signal upon one additional trip signal from either of the remaining two operable channels. However, Action 32 does not establish a time period in which to place the inoperable channel in the tripped position. Due to the design of the instrumentation system, an Instrument and Control Technician is required to physically place the inoperable channel into the tripped condition. Considering the fact that physical work is required, Action 32 has been changed to specify that the inoperable channel be placed into the tripped condition within 8 hours. This change makes Action 32 consistent with Action 9 for Containment Pressure - (High) in Table 3.5.5-1 from the existing Technical Specifications.

Additionally, in our review of Table 3.5.11-1, we have discovered an error regarding the Containment Pressure - (High-High) channels. There are only 3 (three) containment pressure sensors, PT501, PT502 and PT503. We had indicated for the pressure sensors that there were "3/train" which was misleading because it implies that there are 6 (six) sensors. The reference to trains has been removed by this supplemental amendment.

The bases for these changes have been included in the proposed change by this supplement.

Request No. 2

Request:

In Table 3.5.11-2 you proposed a Trip Setpoint of less than or equal to 10 psig and an allowable value of 10 psig for Containment Pressure - (High-High). You have not provided any margin between the allowable value and the Trip Setpoint, which is not consistent with the approach that was used for Containment Pressure - High in Table 3.5.5-2 of your existing Technical

Specifications. Please provide your basis for the allowable value and the Trip Setpoint that you have selected for Containment Pressure -(High-High), or provide alternate values with accompanying basis. Your basis should also be reflected in the Basis section of the Technical Specifications.

Response:

The Allowable Value has been changed from 10 psig to 8.5 psig by the enclosed supplement to Amendment Application No. 162. Response to this request prompted an evaluation of both the proposed setpoint value and the allowable value.

An analysis was performed following the guidelines of ANSI/ISA Standard S67.04 1988, "Setpoints for Nuclear Safety Related Instrumentation." Since the containment pressure assumed for the Containment Spray Actuation (CSA) signal in the Main Steam Line Break (MSLB) accident analysis was 10 psig, the setpoint calculation assumed that the 10 psig value could not be exceeded. The analysis looks at the combined effects of all instrument loop errors to determine what the actual CSA signal trip setpoint should be in order to assure that the CSA signal is received before 10 psig is reached. The primary contributors to the instrument loop error are environmental effects (temperature, seismic, radiation, etc.), rack equipment allowance (rack equipment accuracy, rack equipment miscellaneous effects, etc.) and drift allowance (sensor drift and rack equipment drift). Of these contributors, environmental effects, specifically radiation effects, accounts for the single largest portion of the total loop uncertainty, or instrument loop error. Radiation effects consider both normal background radiation and accident radiation levels. The effect of accident radiation levels is calculated very conservatively and accounts for the majority of the radiation error. Taking all of these effects into account, the trip setpoint should be 7.0 psig and the allowable value should be 8.5 psig.

Request No. 3

Request:

Your proposed change to the Technical Specifications will require a change to the Technical Specification Table of Contents. Please provide the appropriate replacement pages.

Response:

The appropriate replacement pages are provided in Enclosure 2.

BEFORE THE UNITED STATES NUCLEAR REGULATORY COMMISSION

Application of SOUTHERN CALIFORNIA EDISON)	
COMPANY and SAN DIEGO GAS & ELECTRIC COMPANY)	DOCKET NO. 50-206
for a Class 104(b) License to Acquire,)	
Possess, and Use a Utilization Facility as)	Amendment No. 162
Part of Unit No. 1 of the San Onofre Nuclear)	
Generating Station)	

SOUTHERN CALIFORNIA EDISON COMPANY and SAN DIEGO GAS & ELECTRIC COMPANY,
pursuant to 10 CFR 50.90, hereby submit a supplement to Amendment Application
No. 162.

This amendment consists of Proposed Change No. 199 to Provisional Operating
License No. DPR-13. Proposed Change No. 199 modifies the Technical
Specifications incorporated in Provisional Operating License No. DPR-13 as
Appendix A.

Proposed Change No. 199 is a request to incorporate Limiting Conditions for
Operation (LCOs) and Surveillance requirements associated with containment
spray actuation instrumentation into the Technical Specifications. In
accordance with resolution of Systematic Evaluation Program Topic VI-10.A,
"Testing of Reactor Trip System and Engineered Safety Features, Including
Response-Time Testing," this proposed change incorporates LCOs and
surveillance requirements that are not currently included in the technical
specifications.

Based on the significant hazards analysis provided in the Description of Proposed Change and Significant Hazards Analysis of Proposed Change No. 199, it is concluded that (1) the proposed change does not involve a significant hazards consideration as defined in 10 CFR 50.92, and (2) there is reasonable assurance that the health and safety of the public will not be endangered by the proposed change.

DESCRIPTION AND SIGNIFICANT HAZARD CONSIDERATION
OF A SUPPLEMENT TO PROPOSED CHANGE NO. 199 TO
PROVISIONAL OPERATING LICENSE NO. DPR-13

The following is a revised request to add new Sections 3.5.11, "CONTAINMENT SPRAY ACTUATION SYSTEM INSTRUMENTATION" and 4.1.14, "CONTAINMENT SPRAY ACTUATION SYSTEM INSTRUMENTATION" to the Appendix A Technical Specifications for the San Onofre Nuclear Generating Station, Unit 1.

DESCRIPTION OF REVISED CHANGE

As part of the NRC review of SEP Topic VI-10.A, "Testing of Reactor Trip System and Engineered Safety Features, Including Response-Time Testing," it was concluded that technical specification limiting conditions for operation (LCOs) and surveillance requirements are appropriate for the containment spray actuation system (CSAS). Accordingly, Sections 3.5.11 and 4.1.14 are proposed. The changes proposed herein are consistent with SONGS 1 design and NUREG-0452, "Standard Technical Specifications for Westinghouse Pressurized Water Reactors" (STS), Revision 4 except where noted.

After Southern California Edison's (SCE) submittal of Proposed Change No. 199 (PCN 199) on December 29, 1988, additional information regarding the Containment Spray Actuation System (CSAS) Allowable Value and Trip Setpoint and Action Statement 32 for Containment Pressure - (High-High) was requested by the NRC by letter dated September 12, 1989. In response to this request, several analyses were performed regarding the CSAS Allowable Value and Trip Setpoint and Action Statement 32 was further investigated. The following changes were made in this supplement to PCN 199 to incorporate revised Action statements and setpoint values.

1. Table 3.5.5-1 and Table 3.5.11-1 of proposed Section 3.5.11, "CONTAINMENT SPRAY ACTUATION SYSTEM INSTRUMENTATION" have been changed to rewrite Action Statement 32 to provide a time limit (8 hours) for placing an inoperable containment pressure (High-High) instrumentation channel into the tripped condition. Also Table 3.5.11-1 has been changed to remove the misleading reference to "trains" in the Containment Pressure - (High-High) row.
2. Table 3.5.11-2 of proposed Section 3.5.11 has been changed to show an Allowable Value of 8.5 psig for Containment Pressure - (High-High). This change is the result of extensive analysis and provides an acceptable tolerance range for the containment pressure sensors. Engineering analyses have been performed which conclude that a Containment Pressure -(High-High) setpoint of 7.0 psig with an Allowable Value of 8.5 psig will assure that the CSA signal will be initiated prior to reaching 10.0 psig in containment including the effects of instrumentation system delays.

3. The Table of Contents pages have been changed to include the two new proposed Technical Specification Sections: 3.5.11 and 4.1.14.

Additionally, Action Statement 33 in Table 3.5.11-1 was revised to be consistent with the proposed new Action Statement 8 in Table 3.5.5-1 which was submitted in Amendment Application No. 188.

PROPOSED TECHNICAL SPECIFICATIONS

See Attachment 1

DISCUSSION

The containment spray system is required to spray down the containment atmosphere to reduce pressure following a loss of coolant or loss of secondary coolant accident. The design basis of this system is to maintain the containment pressure within the design limits for the structure. Accordingly, the containment spray actuation system (CSAS) is designed to initiate the containment spray system in an anticipatory sequence, such that for the limiting design basis accident, the containment pressure does not exceed the design basis limit. It is the purpose of this proposed amendment to include CSAS LCOs and surveillance requirements in order to provide assurance that the CSAS will be available to perform its design basis function.

The proposed technical specifications are based upon the guidance in NUREG-0452, "Standard Technical Specifications for Westinghouse Pressurized Water Reactors, Revision 4" (STS). The STS provide LCOs and surveillance requirements for the engineered safety features systems, of which the CSAS is part.

This supplement to PCN-199 adds two new technical specifications to provide Limiting Conditions for Operation and surveillance requirements for the containment spray actuation system instrumentation.

Table 3.5.11-1 has been changed by this revision to rewrite Action Statement 32 to provide a time limit of 8 hours for placing an inoperable containment pressure (High-High) instrumentation channel into the tripped condition. The time period is needed due to plant design which requires an instrumentation technician to physically place the inoperable channel in the tripped condition. This change is consistent with other technical specification Action Statements. With this revision, the Action Statement is consistent with the plant design.

The reference to trains in the Containment Pressure - (High-High) row of Table 3.5.11-1 was misleading and is removed by this revision. Plant design features three separate Containment Pressure (High-High) sensors with three separate channels. With this revision, the proposed change now more clearly reflects the plant design.

Table 3.5.11-2 of proposed Section 3.5.11 was changed by this revision to show an allowable value of 8.5 psig and a trip setpoint of 7.0 psig. This change is the result of an analysis of the effects of instrument delay and will assure that the containment spray actuation signal is initiated prior to reaching the 10.0 psig value used for actuation of containment spray in the accident analysis.

Table 3.5.11-1 was also revised to make Action Statement 33 consistent with Action Statement 8 in Table 3.5.5-1 of Amendment Application No. 188. Our previous submittal of Amendment Application No. 162 contained new Section 3.5.11 and was modeled after the existing Section 3.5.5. Consequently, a six hour action statement for a sequencer subchannel was developed. However, since Section 3.5.5 will be revised upon issuance of Amendment Application No. 188, we have revised the new Table 3.5.11-1 to also include a 72-hour time limit for the sequencer subchannels to be inoperable.

Amendment Application No. 188, which was submitted on August 31, 1990, corrects a discrepancy which exists between Section 3.7 and Section 3.5.5 regarding the operability of the sequencers and sequencer subchannels. Section 3.5.5 addresses an inoperable subchannel of a sequencer for the containment isolation function and has an associated 6-hour action statement. In contrast, Section 3.7, "Auxiliary Electrical Supply," addressing two trains of sequencers, permits entry into a 72-hour action statement for an inoperable sequencer. Amendment Application No. 188 revises the action statement in Table 3.5.5-1 to allow a sequencer subchannel to be inoperable for 72 hours consistent with the 72 time limit for the sequencer. The 72 hour time limit in Section 3.7 is consistent with the time limit for Diesel Generators, and was approved in the Safety Evaluation Report issued with Amendment No. 84, dated November 14, 1984.

As a result of these changes, this supplemental change includes a revision to the significant hazards consideration previously provided in Amendment Application No. 162.

SAFETY HAZARDS CONSIDERATION ANALYSIS

As required by 10 CFR 50.91(a)(1), this analysis is provided to demonstrate that a proposed license amendment to incorporate containment spray system requirements for SONGS 1 represents a no significant hazards consideration. In accordance with the three factor test of 10 CFR 50.92(c), implementation of the proposed amendment was analyzed and found not to: 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.

Analysis

Conformance of the proposed amendments to the standards for a determination of no significant hazard as defined in 10 CFR 50.92 (three factor test) is shown in the following:

1. Will operation of the facility in accordance with this proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

RESPONSE: NO

The Containment Spray Actuation System (CSAS) is an accident mitigation system with no impact on accident probabilities. The CSAS is an existing system and this proposed change will incorporate surveillance and operability requirements into the technical specifications. The operability of the CSAS does affect previously analyzed accident consequences, as these accidents require successful operation of the CSAS to achieve their calculated design basis conclusion.

The 72 hour action statement time limit for the containment spray function of the sequencer subchannels corresponds to the time limit in Technical Specification 3.7, "Auxiliary Electrical Supply," approved by the NRC in Amendment No. 84. The 72 hour time limit is also consistent with the time limits allowed by the Westinghouse Standard Technical Specifications (STS) for diesel generators. Having one sequencer of the containment spray instrumentation inoperable does not disable the containment spray function. The other sequencer will be operable to actuate the corresponding containment spray system.

Therefore, it is concluded that operation of the facility in accordance with this proposed change will not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Will operation of the facility in accordance with this proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

RESPONSE: NO

The CSAS is an existing plant system and formally requiring its operability and surveillance does not create any new or different accidents. The proposed LCOs and surveillance requirements are consistent with STS specifications with the following exception.

The 72 hour action statement time limit for the containment spray function of the sequencer subchannels corresponds to the time limit in Technical Specification 3.7 which was approved by the NRC in Amendment No. 84. This change assures the allowed outage times for the sequencer are consistent within the technical specifications. Having one sequencer of the containment spray instrumentation inoperable does not disable the containment spray function since the other sequencer will still be operable.

Therefore, it is concluded that operation of the facility in accordance with this proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Will operation of the facility in accordance with this proposed change involve a significant reduction in a margin of safety?

RESPONSE: NO

Requiring the CSAS to be operable and surveilled will preserve existing, analyzed margins of safety. As the proposed change is in conformance with STS guidance, a required and assumed margin of safety will be maintained.

The 72 hour action statement time limit for the containment spray function of the sequencer subchannels corresponds to the time limit approved for the sequencer in Amendment No. 84. Although this differs from the STS guidance for containment spray, it is consistent with Technical Specification 3.7 which was approved by NRC Amendment 84. Operation without one sequencer one containment spray train. This change does not reduce the margin of safety, since the redundant train will remain fully operational.

Therefore, it is concluded that operation of the facility in accordance with this proposed change does not involve a significant reduction in a margin of safety.

SAFETY AND SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

Based on the preceding analysis, it is concluded that: (1) Proposed Change No. 199 does not involve a significant hazards consideration as defined by 10 CFR 50.92; and (2) there is reasonable assurance that the health and safety of the public will not be endangered by the proposed change.

Attachment 1 - Proposed Technical Specifications