October 11, 1985

Docket Nos.: 50-361
50-362

Mr. Kenneth P. Baskin
Vice President
Southern California Edison Company
2244 Walnut Grove Avenue
Post Office Box 800
Rosemead, California 91770

Mr. James C. Holcombe
Vice President - Power Supply
San Diego Gas & Electric Company
101 Ash Street
Post Office Box 1831
San Diego, California 92112

Gentlemen:

Subject: Issuance of Amendment No. 37 to Facility Operating License NPF-10 and Amendment No. 26 to Facility Operating License NPF-15 San Onofre Nuclear Generating Station, Units 2 and 3

The Nuclear Regulatory Commission (the Commission) has issued the enclosed Amendment No. 37 to Facility Operating License No. NPF-10 and Amendment No. 26 to Facility Operating License No. NPF-15 for the San Onofre Nuclear Generating Station, Units 2 and 3, located in San Diego County, California. The amendments modify Technical Specification "Containment Structural Integrity," and license Condition 2.C(4), "Containment Tendon Surveillance."

These amendments were requested by your letter of April 27, 1984 and January 29, 1985, and are covered by Proposed Changes Numbers PCN-114 and PCN-130.

A copy of the Safety Evaluation supporting the amendments is also enclosed.

Sincerely,

/S/

George W. Knighton, Chief
Licensing Branch No. 3
Division of Licensing

Enclosures:
1. Amendment No. 37 to NPF-10
2. Amendment No. 26 to NPF-15
3. Safety Evaluation

cc w/enclosures: See next page

LB#3/DL	LB#3/DL	OELD	LB#3	AD/DL
JLee	HRood:dh	R.A. Wright	GWKnighton	TMNovak
8/23/85	8/23/85	8/30/85	9/20/85	9/25/85

Mr. Kenneth P. Baskin
Southern California Edison Company

San Onofre Nuclear Generating Station
Units 2 and 3

cc:

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California State Library
Government Publications Section
Library & Courts Building
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Mayor, City of San Clemente
San Clemente, CA 92672

Chairman, Board Supervisors
San Diego County
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San Diego, CA 92101

California Department of Health
ATTN: Chief, Environmental
Radiation Control Unit
Radiological Health Section
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Mr. Joseph O. Ward, Chief
Radiological Health Branch
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Sacramento, California 95814

October 11, 1985

ISSUANCE OF AMENDMENT NO. 37 TO FACILITY OPERATING LICENSE NPF-10
AND AMENDMENT NO. 26 TO FACILITY OPERATING LICENSE NPF-15
SAN ONOFRE NUCLEAR GENERATING STATION, UNITS 2 AND 3

DISTRIBUTION

Docket File 50-361/362
NRC PDR
Local PDR
PRC System
NSIC
LB#3 Reading
J. Lee (20)
H. Rood
T. Novak
J. Saltzman, SAB
L. Chandler, OELD
C. Miles
H. Denton
J. Rutberg
A. Toalston
W. Miller, LFMB
N. Grace
E. Jordan
L. Harmon
D. Brinkman, SSPB
T. Barnhart (4)

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SOUTHERN CALIFORNIA EDISON COMPANY

SAN DIEGO GAS AND ELECTRIC COMPANY

THE CITY OF RIVERSIDE, CALIFORNIA

THE CITY OF ANAHEIM, CALIFORNIA

DOCKET NO. 50-361

SAN ONOFRE NUCLEAR GENERATING STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 37
License No. NPF-10

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment to the license for San Onofre Nuclear Generating Station, Unit 2 (the facility) filed by the Southern California Edison Company on behalf of itself and San Diego Gas and Electric Company, The City of Riverside and the City of Anaheim, California (licensees) dated April 27, 1984 and January 29, 1985, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations as set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the regulations of the Commission;

   C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;

   D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public;

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by the following changes:

   A. Paragraph 2.C(4) of Facility Operating License No. NPF-10 is hereby deleted.

   B. Paragraph 2.C(2) of Facility Operating License No. NPF-10 is revised as indicated in the attachment to this amendment and is hereby amended to read as follows:

      (2) Technical Specifications

      The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 37, are hereby incorporated in the license. SCE shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This amendment is effective immediately and is to be fully implemented within 30 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Hugh L. Thompson, Jr., Director
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: October 11, 1985

ATTACHMENT TO LICENSE AMENDMENT NO. 37

FACILITY OPERATING LICENSE NO. NPF-10

DOCKET NO. 50-361

Replace the following pages of the Appendix A Technical Specifications with the enclosed pages. The revised pages are identified by Amendment number and contain vertical lines indicating the area of change.

Amendment Pages

3/4 6-9
3/4 6-10
3/4 6-11
3/4 6-12

LIMITING CONDITION FOR OPERATION

3.6.1.6 The structural integrity of the containment shall be maintained at a level consistent with the acceptance criteria in Specification 4.6.1.6.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With the structural integrity of the containment not conforming to the above requirements, perform an engineering evaluation of the containment to demonstrate its structural integrity within 72 hours; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.6 Containment Tendons The containment's structural integrity shall be demonstrated at the end of one, three and five years after the initial structural integrity test (ISIT) and every five years thereafter with the exception of tendon lift off force and tendon detensioning and material tests and inspections which shall be determined at the end of one, five and ten years following the ISIT and every ten years thereafter in accordance with Table 4.6-1. The structural integrity shall be demonstrated by:

a. Determining the lift off force of tendons selected in accordance with Table 4.6-1 and comparing this force with the tolerance band values listed in Table 4.6-2 at the first year inspection. For subsequent inspections, for tendons and periodicities per Table 4.6-1, the upper tolerance band value for first year lift off forces shall be decreased by the amount X1 log t kips for U tendons and Y1 log t kips for hoop tendons and the lower tolerance band value for lift off forces shall be decreased by the amount X2 log t for U tendons and Y2 log t for hoop tendons where t is the time interval in years from initial tensioning of the tendon to the current testing date and the values X1, X2, Y1 and Y2 are in accordance with the values listed in Table 4.6-2 for the surveillance tendon. This test shall include essentially a complete detensioning of tendons selected in accordance with Table 4.6-1 in which the tendon is detensioned to determine if any wires or strands are broken or damaged. Tendons found acceptable during this test shall be retensioned to obtain a lift off force equal to +0, -5% of the prescribed upper tolerance band value. During retensioning of these tendons, the change in the load and elongation shall be measured simultaneously at a minimum of three, approximately equally spaced, levels of force between the seating force and zero. If elongation corresponding to a specific

SURVEILLANCE REQUIREMENTS (Continued)

load differs by more than 5% from that recorded during installation of tendons, an investigation should be made to ensure that such difference is not related to wire failures or slip of wires in anchorages. If the lift off force of any one tendon in the total sample population lies between the prescribed lower tolerance band value and 90% of the prescribed lower tolerance band value two tendons, one on each side of this tendon shall be checked for their lift off force. If both of these adjacent tendons are found acceptable, the surveillance program may proceed considering the single deficiency as unique and acceptable. The tendon(s) shall be retensioned such that the lift off force is equal to +0, -5% of the prescribed upper tolerance band value. The following lift off force measurement results are considered to be evidence of abnormal degradation of the containment structure:

1. More than one tendon from Table 4.6-2 or adjacent tendons, below the lower tolerance band value.

2. The lift off force of a selected tendon from Table 4.6-2 lying below 90% of the prescribed lower tolerance band value.

b. Performing tendon detensioning and material tests and inspections of a previously stressed tendon wire or strand from one tendon of each group (hoop and U), and determining over the entire length of the removed wire or strand that:

1. The tendon wires or strands are free of corrosion, cracks and damage.

2. A minimum tensile strength value of 270 ksi (guaranteed ultimate strength of the tendon material) for at least three wire or strand samples (one from each end and one at mid-length) cut from each removed wire or strand. Failure of any one of the wire or strand samples to meet the minimum tensile strength test is evidence of abnormal degradation of the containment structure.

c. Performing a visual inspection of the following:

1. Containment Surfaces - The structural integrity of the exposed accessible interior and exterior surfaces of the containment shall be determined during the shutdown for, and prior to, each Type A containment leakage rate test (Specification 4.6.1.2) by a visual inspection of these surfaces and verifying no apparent changes in appearance or other abnormal degradation (e.g., widespread cracking, spalling and/or grease leakage).

SURVEILLANCE REQUIREMENTS (Continued)

2. End Anchorages - The structural integrity of the end anchorages (e.g., bearing plates, stressing washers, shims, wedges and anchorheads) of all tendons inspected pursuant to Specification 4.6.1.6a shall be demonstrated by inspection that no apparent changes have occurred in the visual appearance of the end anchorage.

3. Concrete Surfaces - The structural integrity of the exposed concrete surfaces adjacent to the end anchorages of hoop tendons inspected pursuant to Specification 4.6.1.6a shall be demonstrated by visual examination of the crack patterns to verify no abnormal material behavior.

d. Verifying the OPERABILITY of the sheathing filler grease by the following:

1. No significant voids (in excess at 5% of the net duct volume), or the presence of free water, within the grease filler material, taking into account temperature variations.

2. No significant changes have occurred in the physical appearance of the sheathing filler grease.

3. Complete grease coverage exists for the anchorage system.

4. Chemical properties are within the tolerance limits specified by the sheathing filler grease manufacturer.

TABLE 4.6-1

TENDON SURVEILLANCE

Years After Initial Structural Integrity Test	TENDON NUMBERS									
	1		3		5		10		15	
Type of Inspection	H	U	H	U	H	U	H	U	H	U
Visual Inspection of End Anchorages and Adjacent Concrete Surface	20 86 97 53 64	31-121 9-143 66-176 88-154	5 36 79 113 87	13-139 35-117 4-58 78-164	42 86 75 9 108	64-178 9-143 94-148 19-133	20 86 53	66-176 9-143 39-113	50 114 13	12-140 5-57 96-146
Prestress Monitoring Tests	20 86 97 53 64	31-121 9-143 66-176 88-154			42 86 75 9 108	64-178 9-143 94-148 19-133	20 86 53	66-176 9-143 39-113		
Dentensioning and Material Tests	97	88-154			42	19-133	20	66-176		

Years After Initial Structural Integrity Test	TENDON NUMBERS									
	20		25		30		35		40	
Type of Inspection	H	U	H	U	H	U	H	U	H	U
Visual Inspection of End Anchorages and Adjacent Concrete Surface	75 86 9	86-156 9-143 43-109	12 90 25	24-128 70-172 76-166	86 31 64	9-143 64-178 94-148	81 109 31	41-111 90-152 50-102	97 86 108	9-143 31-121 86-156
Prestress Monitoring Tests	75 86 9	86-156 9-143 43-109			86 31 64	9-143 64-178 94-148			97 86 108	9-143 31-121 86-156
Detensioning and Material Tests	75	43-109			31	64-178			86	9-143

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SOUTHERN CALIFORNIA EDISON COMPANY

SAN DIEGO GAS AND ELECTRIC COMPANY

THE CITY OF RIVERSIDE, CALIFORNIA

THE CITY OF ANAHEIM, CALIFORNIA

DOCKET NO. 50-362

SAN ONOFRE NUCLEAR GENERATING STATION, UNIT 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 26
License No. NPF-15

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment to the license for San Onofre Nuclear Generating Station, Unit 3 (the facility) filed by the Southern California Edison Company on behalf of itself and San Diego Gas and Electric Company, The City of Riverside and the City of Anaheim, California (licensees), dated April 27, 1984 and January 29, 1985, complies with the standards and requirements of the Atomic Energy Act of 1985, as amended (the Act) and the Commission's regulations as set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the regulations of the Commission;

   C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;

   D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public;

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by the following changes:

   A. Paragraph 2.C(4) of Facility Operating License No. NPF-15 is hereby deleted.

   B. Paragraph 2.C(2) of Facility Operating License No. NPF-15 is revised as indicated in the attachment to this amendment and is hereby amended to read as follows:

      (2) Technical Specifications

      The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 26, are hereby incorporated in the license. SCE shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This amendment is effective immediately and is to be fully implemented within 30 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Hugh L. Thompson, Jr., Director
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: October 11, 1985

ATTACHMENT TO LICENSE AMENDMENT NO. 26

FACILITY OPERATING LICENSE NO. NPF-15

DOCKET NO. 50-362

Replace the following pages of the Appendix A Technical Specifications with the enclosed pages. The revised pages are identified by Amendment number and contain vertical lines indicating the area of change.

Amendment Pages

3/4 6-9
3/4 6-10
3/4 6-11
3/4 6-12

CONTAINMENT STRUCTURAL INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.1.6 The structural integrity of the containment shall be maintained at a level consistent with the acceptance criteria in Specification 4.6.1.6.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With the structural integrity of the containment not conforming to the above requirements, perform an engineering evaluation of the containment to demonstrate its structural integrity within 72 hours; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.6 Containment Tendons The containment's structural integrity shall be demonstrated at the end of one, three and five years after the initial structural integrity test (ISIT) and every five years thereafter with the exception of tendon lift off force and tendon detensioning and material tests and inspections which shall be determined at the end of one and five years following the ISIT and every ten years thereafter in accordance with Table 4.6-1. The structural integrity shall be demonstrated by:

a. Determining the lift off force of tendons selected in accordance with Table 4.6-1 and comparing this force with the tolerance band values listed in Table 4.6-2 at the first year inspection. For subsequent inspections, for tendons and periodicities per Table 4.6-1, the upper tolerance band value for first year lift off forces shall be decreased by the amount X1 log t kips for U tendons and Y1 log t kips for hoop tendons and the lower tolerance band value for lift off forces shall be decreased by the amount X2 log t for U tendons and Y2 log t for hoop tendons where t is the time interval in years from initial tensioning of the tendon to the current testing date and the values X1, X2, Y1 and Y2 are in accordance with the values listed in Table 4.6-2 for the surveillance tendon. This test shall include essentially a complete detensioning of tendons selected in accordance with Table 4.6-1 in which the tendon is detensioned to determine if any wires or strands are broken or damaged. Tendons found acceptable during this test shall be retensioned to obtain a lift off force equal to +0, -5% of the prescribed upper tolerance band value. During retensioning of these tendons, the change in the load and elongation shall be measured simultaneously at a minimum of three, approximately equally spaced, levels of force between the seating force and zero. If elongation corresponding to a specific

SURVEILLANCE REQUIREMENTS (Continued)

load differs by more than 5% from that recorded during installation of tendons, an investigation should be made to ensure that such difference is not related to wire failures or slip of wires in anchorages. If the lift off force of any one tendon in the total sample population lies between the prescribed lower tolerance band value and 90% of the prescribed lower tolerance band value two tendons, one on each side of this tendon shall be checked for their lift force. If both of these adjacent tendons are found acceptable, the surveillance program may proceed considering the single deficiency as unique and acceptable. The tendon(s) shall be retensioned such that the lift off force is equal to +0, -5% of the prescribed upper tolerance band value. The following lift off force measurement results are considered to be evidence of abnormal degradation of the containment structure:

1. More than one tendon from Table 4.6-2 or adjacent tendons, below the lower tolerance band value.

2. The lift off force of a selected tendon from Table 4.6-2 lying below 90% of the prescribed lower tolerance band value.

b. Performing tendon detensioning and material tests and inspections of a previously stressed tendon wire or strand from one tendon of each group (hoop and U), and determining that over the entire length of the removed wire or strand that:

1. The tendon wires or strands are free of corrosion, cracks and damage.

2. A minimum tensile strength value of 270 ksi (guaranteed ultimate strength of the tendon material) for at least three wire or strand samples (one from each end and one at mid-length) cut from each removed wire or stand. Failure of any one of the wire or strand samples to meet the minimum tensile strength test is evidence of abnormal degradation of the containment structure.

c. Performing a visual inspection of the following:

1. Containment Surfaces - The structural integrity of the exposed accessible interior and exterior surfaces of the containment shall be determined during the shutdown for, and prior to, each Type A containment leakage rate test (Specification 4.6.1.2) by a visual inspection of these surfaces and verifying no apparent changes in appearance or other abnormal degradation (e.g., widespread cracking, spalling and/or grease leakage).

2. End Anchorages - The structural integrity of the end anchorages (e.g., bearing plates, stressing washers, shims, wedges and

anchorheads) of all tendons inspected pursuant to Specification 4.6.1.6a shall be demonstrated by inspection that no apparent changes have occurred in the visual appearance of the end anchorage.

3. Concrete Surfaces - The structural integrity of the exposed concrete surfaces adjacent to the end anchorages of hoop tendons inspected pursuant to Specification 4.6.1.6a shall be demonstrated by visual examination of the crack patterns to verify no abnormal material behavior.

d. Verifying the OPERABILITY of the sheathing filler grease by the following:

1. No significant voids (in excess at 5% of the net duct volume), or the presence of free water, within the grease filler material, taking into account temperature variations.

2. No significant changes have occurred in the physical appearance of the sheathing filler grease.

3. Complete grease coverage exists for the anchorage system.

4. Chemical properties are within the tolerance limits specified by the sheathing filler grease manufacturer.

TABLE 4.6-1

TENDON SURVEILLANCE

Years After Initial Structural Integrity Test	TENDON NUMBERS									
	1		3		5		10		15	
	H	U	H	U	H	U	H	U	H	U
Visual Inspection of End Anchorages and Adjacent Concrete Surface	53 64 9 97 86	66-176 88-154 9-143 39-113	7 38 80 94 85	23-129 47-105 69-173 83-159	31 64 108 75 20	19-133 88-154 31-121 65-177	49 111 2	11-141 7-55 76-166	42 64 97	95-147 88-154 43-109
Prestress Monitoring Tests	53 64 9 97 86	66-176 88-154 9-143 39-113			31 64 108 75 20	19-133 88-154 31-121 65-177			42 64 97	95-147 88-154 43-109
Detensioning and Materials Tests	53	66-176			31	19-133			97	95-147

Years After Initial Structural Integrity Test	TENDON NUMBERS									
	20		25		30		35		40	
	H	U	H	U	H	U	H	U	H	U
Visual Inspection of End Anchorages and Adjacent Concrete Surface	10 87 4	25-127 71-171 31-121	108 64 9	39-113 88-154 86-156	84 106 24	42-110 91-151 19-133	64 42 86	88-154 31-121 9-143	4 88 32	51-101 97-145 50-102
Prestress Monitoring Tests			108 64 9	39-113 88-154 86-156			64 42 86	88-154 31-121 9-143		
Detensioning and Material Tests			9	39-113			64	88-154		

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION

AMENDMENT NO. 37 TO NPF-10

AMENDMENT NO. 26 TO NPF-15

SAN ONOFRE NUCLEAR GENERATING STATION, UNITS 2 & 3

DOCKET NOS. 50-361 AND 50-362

Introduction

Southern California Edison Company (SCE), on behalf of itself and the other licensees, San Diego Gas and Electric Company, the City of Riverside, California, and The City of Anaheim, California, has submitted several applications for license amendments for San Onofre Nuclear Generating Station, Units 2 and 3.

Two such requests, Proposed Change numbers 114 and 130 (PCN-114 and PCN-130), dated April 27, 1984 and January 29, 1985, involve the containment tendon surveillance program required by License Condition 2.C(4).

The proposed changes would revise Technical Specification 3/4.6.1.6, "Containment Structural Integrity," and License Condition 2.C(4), "Containment Tendon Surveillance," as follows: 1) PCN-114 would clarify the containment tendon surveillance requirements to be consistent with the current surviellance program and to reduce surveillance requirements based on tendon anchorage accessibility. 2) PCN-130 would delete License Condition 2.C(4), since submittal of the currently implemented containment tendon surveillance program meets the intent of the license condition. A more detailed description of the proposed changes and the NRC staff evaluation of them is given below.

Description and Evaluation of Proposed Changes

San Onofre Nuclear Generating Station Unit 2 License Condition 2.C(4), "Containment Tendon Surveillance", stated that within two (2) years of the date of issuance of the license, Southern California Edison (SCE) shall provide for NRC approval, and within three (3) years of the date of issuance of this license SCE shall implement a tendon surveillance test program which will ensure full conformance with the provisions of Regulatory Guide 1.35 and Regulatory Guide 1.35.1. The license condition further stated that the tendon surveillance program shall include a specific program and commitments for re-tensioning of the tendons, such that the predicted prestressing force of each tendon will be greater than the required design prestressing force of the tendon for the entire plant life.

San Onofre Nuclear Generating Station Unit 3 License condition 2.C(4), "Contaiment Tendon Surveillance", stated that within three (3) years of the date of issuance of the license SCE shall (a) provide for NRC approval, and (b) implement, as appropriate, a tendon surveillance test program which

will ensure conformance with the provisions of Regulatory Guide 1.35 and Regulatory Guide 1.35.1. This tendon surveillance program shall include a specific program and commitments for re-tensioning of the tendons such that the predicted prestressing force of each tendon will be greater than the required design prestressing force of the tendon for the entire plant life.

On April 27, 1984 the licensee submitted a tendon surveillance Technical Specification (TS) 4.6.1.6 for the San Onofre Nuclear Generating Station, Units 2 and 3 to the NRC for approval. On January 29, 1985 the licensee also requested that revisions be made to two proposed technical specifications. These proposed changes are to clarify the containment tendon surveillance program and to reduce surveillance requirements based on anchorage accessability.

The purpose of technical specification 4.6.1.6, "Containment Tendons" is to ensure that containment structural integrity will be maintained for the life to the facility. T.S.4.6.1.6 specifically concerns the containment tendons which reinforce the containment structure by maintaining it in compression. The technical specification defines detensioning test, material test and visual inspection of concrete surfaces, and tendon end anchorges. All the required tests must be performed at regular intervals in order to ensure that tendons are properly tensioned and free of corrosion and damage. The concrete surfaces have to be examined to verify that structural integrity is maintained and no apparent changes in appearance or other abnormal degradation have occurred. The staff has reviewed proposed T.S.4.6.1.6 and found that the licensee's tendon surveillance tests program will fully conform to the provisions of Regulatory Guide 1.35. Therefore, the proposed T.S.4.6.1.6 is acceptable to the staff. A detailed discussion of this T.S. is given below.

1. T.S.4.6.1.6 for both Units 2 and 3 currently states that tendon liftoff force, tendon detensioning tests and material tests, and visual inspections must be performed at the end of one, five and ten years following the initial structural integrity tests (ISIT) and every ten years thereafter. The proposed Unit 3 change will correct the wording in T.S.4.6.1.6 to be consistent with the existing Table 4.6.-1 to state that test intervals are at the end of one and five years following the ISIT and every ten years thereafter. The specified tests will be performed at one, five, fifteen, twenty-five etc. years following the ISIT, rather than at one, five, ten, twenty, thirty, etc. years. Visual inspections will continue to be performed at five-year intervals.

   The proposed change described above will revise the schedule of testing for tendon lift off force, tendon detensioning, and the material tests which must be performed for Unit 3. Because the proposed change will achieve consistency within the technical specifications, and does not physically alter the surveillance program or the level of safety it provides, it is administrative and, therefore, it is acceptable.

2. T.S.4.6.1.6a currently implies that the tendon lift off force must be maintained between the maximum and minimum values specified in Table 4.6.-2 "Tendon Lift-off Force". The proposed change clarifies that the value specified in Table 4.6.-2 are not limits to be strictly adhered to; these limits are upper and lower tolerance band values which reflect the normal range of variability in long term stress loss predictions and are provided only for comparison with tendon lift off forces determined by test. This proposed change will more appropriately reflect the intent of the maximum and minimum values listed in Table 4.6.-2, which is to provide a normal range of variability for long term stress loss predictions. Because the proposed change provides a change in nomenclature which clarifies T.S.4.6.1.6a, it is administrative and is therefore acceptable.

   T.S.4.6.1.6a provides that if the lift off force for any tendon is found to lie between the prescribed lower limit and 90% of the prescribed lower limit, the tendons on either side of the unacceptable tendon must be detensioned to determine that they have acceptable lift off forces. If each adjacent tendon is found acceptable, the technical specification currently states that the adjacent tendons must then be restored to the required level of integrity. The proposed change will replace the ambiguous wording "the required level of integrity" with a specific requirement: "...a lift off force equal to +0, -5% of the prescribed upper tolerance band value." Because the proposed change clarifies T.S.4.6.1.6a, it is administrative and therefore, it is acceptable.

3. T.S.4.6.1.6c requires that visual inspection of the containment structure be performed periodically. T.S.4.6.1.6c.3 relates specifically to the inspection of concrete surfaces. It currently requires that the structural integrity of the concrete surfaces adjacent to the end anchorages of tendons inspected pursuant to T.S.4.6.1.6a shall be demonstrated by visual examination of the crack patterns to verify no abnormal material behavior. The proposed change will require visual inspection of only the exposed concrete surfaces adjacent to the end anchorages of hoop tendons specified by T.S.4.6.1.6a rather than all concrete surfaces adjacent to both the hoop and U tendon end anchorages. This is because the concrete surfaces adjacent to the U tendon end anchorages cannot be visually inspected as they are covered by 3/8-inch thick plates which are welded to the end anchorages and to steel channels embedded in the concrete. Regulatory Guide 1.35 recommends visual inspection of concrete adjacent to tendon anchorages where practical without dismantling the load bearing components of the anchorage. It is impractical to remove the plates welded to the end anchorages of the U-tendons because the removal method may result in damage to the concrete surface under the plates. Although this change reduces the existing visual

inspection requirements, it still meets the visual inspection requirements of R.G.1.35 and the SRP acceptance criteria. Therefore, the proposed change is acceptable.

4. Table 4.6-1 "Tendon Surveillance," lists the containment tendons specified to be inspected and tested at the required intervals. The proposed change is to correct the design designation of one U tendon in Table 4.6.-1 in each license. The U tendons are listed in Table 4.6.1 using a two number designation to indicate the tendon end cap numbers for that tendon. In Table 4.6.-1 of Unit 2 specifications, the designation 69-178 is corrected to 64-178, and in Table 4.6.-1 of Unit 3 specifications, the designation 23-130 is corrected to 23-129. Because the proposed change corrects a typographical error, it is administrative and, therefore, is acceptable.

Summary of Evaluation

In accordance with License Condition 2.C(4), the licensee has submitted a tendon surveillance test program, "Tendon Surveillance Requirements for the San Onofre Nuclear Generating Station, Unit 2 and 3". In addition, the tendon surveillance test program has been incorporated into both the Final Safety Analysis Report, Section 3.8.1.7.2, and proposed Technical Specification 3/4.6.1.6.

Although the modifications discussed above for proposed T.S.4.6.1.6 reduces surveillance requirements because of tendon anchorage accessibility, the intended purpose of the surveillance and the requirements of visual inspection are clearly within the acceptance criteria specified in the Standard Review Plan (SRP). The acceptance criteria are specified in SRP Section 3.8.1 "Concrete containment" which indicates that testing and inservice surveillance program is acceptable if it meets the requirements of Regulatory Guide 1.35. This latter requirement has been fulfilled.

Also, the proposed change will require that the average prestress at all locations within the containment be maintained above the minimum design prestress requirements rather than maintaining the prestressing force of individual tendons greater than the required design prestressing force as is required by the existing license condition. Although this is a less demanding requirement, the tendon surveillance program is in conformance with Regulatory Guide 1.35. Therefore, the proposed T.S.4.6.1.6 satisfies the SRP acceptance criteria, and is considered to be an acceptable tendon surveillance program for implementation at San Onofre Nuclear Generating Station, Units 2 and 3.

In view of the forgoing, we conclude that with the implementation of the proposed surveillance program, the intent of License Condition 2.C(4) for San Onofre 2 and 3 has been met, and that deletion of this condition from both licenses is acceptable.

Contact With State Official

The NRC staff has advised the Chief of the Radiological Health Branch, State Department of Health Services, State of California, of the proposed determinations of no significant hazards consideration. No comments were received.

Environmental Consideration

These amendments involve changes in the installation or use of facility components located within the restricted area. The staff has determined that the amendments involve no significant increase in the amounts of any effluents that may be released offsite and that there is no significant increase in individual or cumulative occupation radiation exposure. The Commission has previously issued proposed findings that the amendments involve no significant hazards consideration, and there has been no public comment on such findings. Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR Sec. 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need to be prepared in connection with the issuance of these amendments.

Conclusion

Based upon our evaluation of the proposed changes to the San Onofre Units 2 and 3 Technical Specifications, we have concluded that: there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and such activities will be conducted in compliance with the Commission's regulations and the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public. We, therefore, conclude that the proposed changes are acceptable, and are hereby incorporated into the San Onofre 2 and 3 Technical Specifications.

Dated: October 11, 1985