Docket File

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

August 25, 1989

Docket Nos. 50-361
and 50-362

Mr. Harold B. Ray
Vice President
Southern California Edison Company
Irvine Operations Center
23 Parker
Irvine, California 92718

Mr. Gary D. Cotton
Senior Vice President
Engineering and Operations
San Diego Gas and Electric Company
101 Ash Street
Post Office Box 1831
San Diego, California 92112

Gentlemen:

SUBJECT: CORRECTION TO RECENT AMENDMENTS TO FACILITY OPERATING LICENSE NOS. NPF-10 AND NPF-15, SAN ONOFRE NUCLEAR GENERATING STATION, UNITS 2 AND 3 (TAC NOS. 68001, 68002, 69840, 69841, 71054, 71055, 71172, 71173, 71582, 71583, 71930, 71931, 71932, 71933, 71792, 71793 AND 72868)

Amendment Nos. 74 and 62 for San Onofre Units 2 and 3, respectively, were issued on June 30, 1989. These amendments revised Specification 3/4.8.2, "D.C. Sources." One of the intended changes to this specification was to remove the applicability of Specification 4.0.2 to the Refueling Interval Surveillance Tests. This intent was clearly described in the Safety Evaluation enclosed with the amendments. Unfortunately, the Specification 4.0.2 exception was placed in the action section of the Limiting Condition for Operation, which resulted in its being applied to all surveillance requirements. We have corrected pages 3/4.8.9 and 3/4.8.10 to clearly indicate that the Specification 4.0.2 exception only applies to the Refueling Interval Surveillance Tests. These corrected pages are forwarded for your use.

Amendment No. 75 to Facility Operating License No. NPF-10, issued on July 28, 1989, did not contain a provision allowing a one-time extension of the refueling interval surveillance testing of the diesel generators. This letter transmits a corrected page 3/4.8-3 to allow a one month extension (for a total interval not to exceed 25 months) during cycle 4 operation only.

The staff has determined that this extension would not significantly affect the capability of the diesel generators to perform their intended function. The diesel generators are run at least every 31 days, which provides a high degree of confidence that they are operable. A one month (approximately 4%) extension of the refueling interval inspection and tests would have no adverse effect upon public health and safety.

DF01
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Mr. Harold B. Ray
Southern California Edison Company

San Onofre Nuclear Generating
Station, Units 2 and 3

cc:
Charles R. Kocher, Esq.
James A. Beoletto, Esq.
Southern California Edison Company
Irvine Operations Center
23 Parker
Irvine, California 92718

Orrick, Herrington & Sutcliffe
ATTN: David R. Pigott, Esq.
600 Montgomery Street
San Francisco, California 94111

Alan R. Watts, Esq.
Rourke & Woodruff
701 S. Parker St. No. 7000
Orange, California 92668-4702

Mr. Sherwin Harris
Resource Project Manager
Public Utilities Department
City of Riverside
3900 Main Street
Riverside, California 92522

Mr. Charles B. Brinkman
Combustion Engineering, Inc.
12300 Twinbrook Parkway, Suite 330
Rockville, Maryland 20852

Mr. Roy Zimmerman
U.S. Nuclear Regulatory Commission
Region V
1450 Maria Lane, Suite 210
Walnut Creek, California 94596

Mr. Don Womeldorf
Chief Environmental Management Branch
California Department of Health
714 P Street, Room 616
Sacramento, California 95814

Mr. Mark Medford
Southern California Edison Company
Irvine Operations Center
23 Parker
Irvine, California 92718

Mr. Robert G. Lacy
Manager, Nuclear Department
San Diego Gas & Electric Company
P. O. Box 1831
San Diego, California 92112

Mr. John Hickman
Senior Health Physicist
Environmental Radioactive Mgmt. Unit
Environmental Management Branch
State Department of Health Services
714 P Street, Room 616
Sacramento, California 95814

Resident Inspector, San Onofre NPS
c/o U.S. Nuclear Regulatory Commission
Post Office Box 4329
San Clemente, California 92672

Mayor, City of San Clemente
San Clemente, California 92672

Regional Administrator, Region V
U.S. Nuclear Regulatory Commission
1450 Maria Lane/Suite 210
Walnut Creek, California 94596

Chairman, Board of Supervisors
San Diego County
1600 Pacific Highway, Room 335
San Diego, California 92101

Mr. F. B. Marsh, Project Manager
Bechtel Power Corporation
P.O. Box 60860
Terminal Annex
Los Angeles, California 90060

ELECTRICAL POWER SYSTEMS

3/4.8.2 D.C. SOURCES

OPERATING

LIMITING CONDITION FOR OPERATION

3.8.2.1 As a minimum the following D.C. electrical sources shall be OPERABLE:

a. 125-volt battery bank A (2B007), and its associated full capacity charger.

b. 125-volt battery bank B (2B008), and its associated full capacity charger.

c. 125-volt battery bank C (2B009), and its associated full capacity charger.

d. 125-volt battery bank D (2B010), and its associated full capacity charger.

APPLICABITY: MODES 1, 2, 3 and 4.

ACTION:

a. With one of the required battery banks inoperable, restore the inoperable battery bank to OPERABLE status within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With one of the required full capacity chargers inoperable, demonstrate the OPERABILITY of its associated battery bank by performing Surveillance Requirement 4.8.2.1.a.1 within one hour, and at least once per 8 hours thereafter. If any Category A limit in Table 4.8-2 is not met, declare the battery inoperable.

SURVEILLANCE REQUIREMENT

4.8.2.1 Each 125-volt battery bank and charger shall be demonstrated OPERABLE:

a. At least once per 7 days by verifying that:

1. The parameters in Table 4.8-2 meet the Category A limits, and

2. The total battery terminal voltage is greater than or equal to 129-volts on float charge.

ELECTRICAL POWER SYSTEM

SURVEILLANCE REQUIREMENTS (Continued)

b. At least once per 92 days and within 7 days after a battery discharge with battery terminal voltage below 110-volts, or battery overcharge with battery terminal voltage above 150-volts, by verifying that:

1. The parameters in Table 4.8-2 meet the Category B limits,

2. There is no visible corrosion at either terminals or connectors, or the connection resistance of these items is less than 150×10^{-6} ohms, and

3. The average electrolyte temperature of ten connected cells is above 60°F.

c. At least once per refueling interval* by verifying that:

1. The cells, cell plates, and battery racks show no visual indication of physical damage or abnormal deterioration,

2. The cell-to-cell and terminal connections are clean, tight, and coated with anti-corrosion material,

3. The resistance of each cell-to-cell and terminal connection is less than or equal to 150×10^{-6} ohms, and

4. The battery charger will supply at least 300 amperes at 125-volts for at least 12 hours.

d. At least once per refueling interval* by verifying that the battery capacity is adequate to supply and maintain in OPERABLE status all of the actual or simulated emergency loads for the design duty cycle when the battery is subjected to a battery service test.

e. At least once per 60 months, during shutdown, by verifying that the battery capacity is at least 80% of the manufacturer's rating when subjected to a performance discharge test. Once per 60 month interval, this performance discharge test may be performed in lieu of the battery service test required by Surveillance Requirement 4.8.2.1d.

f. Annual performance discharge tests of battery capacity shall be given to any battery that shows signs of degradation or has reached 85% of the service life expected for the application. Degradation is indicated when the battery capacity drops more than 10% of rated capacity from its average on previous performance tests, or is below 90% of the manufacturer's rating.

*The provisions of Technical Specification 4.0.2 are not applicable. For cycle 4 only, this surveillance interval may exceed 24 months but may not extend more than 60 days beyond the last successful completion of Specification 4.8.2.1.b conducted prior to exceeding 24 months.

ELECTRICAL POWER SYSTEMS

3/4.8.2 D.C. SOURCES

OPERATING

LIMITING CONDITION FOR OPERATION

3.8.2.1 As a minimum the following D.C. electrical sources shall be OPERABLE:

a. 125-volt battery bank A (3B007), and its associated full capacity charger.

b. 125-volt battery bank B (3B008), and its associated full capacity charger.

c. 125-volt battery bank C (3B009) and its associated full capacity charger.

d. 125-volt battery bank D (3B010) and its associated full capacity charger.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With one of the required battery banks inoperable, restore the inoperable battery bank to OPERABLE status within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With one of the required full capacity chargers inoperable, demonstrate the OPERABILITY of its associated battery bank by performing Surveillance Requirement 4.8.2.1.a.1 within 1 hour, and at least once per 8 hours thereafter. If any Category A limit in Table 4.8-2 is not met, declare the battery inoperable.

SURVEILLANCE REQUIREMENTS

4.8.2.1 Each 125-volt battery bank and charger shall be demonstrated OPERABLE:

a. At least once per 7 days by verifying that:

1. The parameters in Table 4.8-2 meet the Category A limits, and

2. The total battery terminal voltage is greater than or equal to 129-volts on float charge.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

b. At least once per 92 days and within 7 days after a battery discharge with battery terminal voltage below 110-volts, or battery overcharge with battery terminal voltage above 150-volts, by verifying that:

1. The parameters in Table 4.8-2 meet the Category B limits,

2. There is no visible corrosion at either terminals or connectors, or the connection resistance of these items is less than 150×10^{-6} ohms, and

3. The average electrolyte temperature of ten connected cells is above 60°F.

c. At least once per refueling interval* by verifying that:

1. The cells, cell plates, and battery racks show no visual indication of physical damage or abnormal deterioration,

2. The cell-to-cell and terminal connections are clean, tight, and coated with anti-corrosion material,

3. The resistance of each cell-to-cell and terminal connection is less than or equal to 150×10^{-6} ohms, and

4. The battery charger will supply at least 300 amperes at 125-volts for at least 12 hours.

d. At least once per refueling interval* by verifying that the battery capacity is adequate to supply and maintain in OPERABLE status all of the actual or simulated emergency loads for the design duty cycle when the battery is subjected to a battery service test.

e. At least once per 60 months, during shutdown, by verifying that the battery capacity is at least 80% of the manufacturer's rating when subjected to a performance discharge test. Once per 60 month interval, this performance discharge test may be performed in lieu of the battery service test required by Surveillance Requirement 4.8.2.1d.

f. Annual performance discharge tests of battery capacity shall be given to any battery that shows signs of degradation or has reached 85% of the service life expected for the application. Degradation is indicated when the battery capacity drops more than 10% of rated capacity from its average on previous performance tests, or is below 90% of the manufacturer's rating.

*The provisions of Technical Specification 4.0.2 are not applicable. For Cycle 4 only, this surveillance interval may exceed the 24 month refueling interval but may not extend more than 60 days beyond the last successful completion of the Specification 4.8.2.1.b surveillance conducted prior to exceeding 24 months.

REISSUED 8/23/89

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

July 28, 1989

Docket Nos. 50-361
and 50-362

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

Mr. Gary D. Cotton
Senior Vice President
Engineering and Operations
San Diego Gas & Electric Company
101 Ash Street
P.O. Box 1831
San Diego, California 92112

Gentlemen:

SUBJECT: ISSUANCE OF AMENDMENT NO. 75 TO FACILITY OPERATING LICENSE NO. NPF-10 AND AMENDMENT NO. 63 TO FACILITY OPERATING LICENSE NO. NPF-15 SAN ONOFRE NUCLEAR GENERATING STATION, UNITS 2 AND 3 (TAC NOS. 68001, 68002, 69840, 69841, 71054, 71055, 71172, 71173, 71582, 71583, 71930, 71931, 71932, 71933, 72868 AND 72869)

The Commission has issued the enclosed amendments to Facility Operating Licenses NPF-10 and NPF-15 for San Onofre Nuclear Generating Station, Units 2 and 3, respectively. The amendments consist of changes to the Technical Specifications in response to your applications dated April 26, October 11, October 24, November 7, and December 16, 1988; and January 16, January 20, and March 28, 1989, which were designated by Southern California Edison Company as PCNs 250, 252, 254, 256, 259, 260, 281 and 283. The amendments extend the interval for certain required 18 month surveillance tests in order to support the nominal 24 month fuel cycle.

The amendments revise the following Technical Specifications (TS) to increase the interval for the 18 month surveillance tests to at least once per refueling interval, which is defined as 24 months:

a. TS 3/4.3.1, "Reactor Protective Instrumentation."
b. TS 3/4.3.2, "Engineered Safety Features Actuation System Instrumentation."
c. TS 3/4.3.3.3, "Seismic Instrumentation."
d. TS 3/4.3.3.10, "Loose-Part Detection Instrumentation."
e. TS 3/4.6.4.3, "Containment Dome Air Circulators."
f. TS 3/4.7.1.2, "Auxiliary Feedwater System."
g. TS 3/4.7.3, "Component Cooling Water System."
h. TS 3/4.7.4, "Salt Water Cooling System."
i. TS 3/4.7.10, "Emergency Chilled Water System."
j. TS 3/4.7.8.1, "Fire Suppression Water System."
k. TS 3/4.8.1.1, "AC Sources."
l. TS 3/4.8.4, "Electrical Equipment Protective Devices."

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A copy of our related Safety Evaluation is also enclosed. A copy of the Notice of Issuance for PCNs 252, 256 and 281 is enclosed. The Notice of Issuance for PCNs 250, 254, 259, 260 and 283 will be included in the Commission's next regular biweekly Federal Register notice.

Sincerely,

Donald E. Hickman, Project Manager
Project Directorate V
Division of Reactor Projects III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 75 to License No. NPF-10
2. Amendment No. 63 to License No. NPF-15
3. Safety Evaluation
4. Notice of Issuance

cc w/enclosures:
See next page

Mr. Kenneth P. Baskin
Southern California Edison Company

San Onofre Nuclear Generating
Station, Units 2 and 3

cc:
Charles R. Kocher, Esq.
James A. Beoletto, Esq.
Southern California Edison Company
2244 Walnut Grove Avenue
P. O. Box 800
Rosemead, California 91770

Orrick, Herrington & Sutcliffe
ATTN: David R. Pigott, Esq.
600 Montgomery Street
San Francisco, California 94111

Alan R. Watts, Esq.
Rourke & Woocruff
701 S. Parker St. No. 7000
Orange, California 92668-4702

Mr. Sherwin Harris
Resource Project Manager
Public Utilities Department
City of Riverside
3900 Main Street
Riverside, California 92522

Mr. Charles B. Brinkman
Combustion Engineering, Inc.
12300 Twinbrook Parkway, Suite 330
Rockville, Maryland 20852

Mr. Roy Zimmerman
U.S. Nuclear Regulatory Commission
Region V
1450 Maria Lane, Suite 210
Walnut Creek, California 94596

Mr. Don Womeldorf
Chief Environmental Mangement Branch
California Department of Health
714 P Street, Room 616
Sacramento, California 95814

Mr. Mark Medford
Southern California Edison Company
2244 Walnut Grove Avenue
P. O. Box 800
Rosemead, California 91770

Mr. Robert G. Lacy
Manager, Nuclear Department
San Diego Gas & Electric Company
P. O. Box 1831
San Diego, California 92112

Dr. Gerard C. Wong, Chief
Radiological Materials Control
Section
State Department of Health Services
714 P Street, Building #8
Sacramento, California 95814

Resident Inspector, San Onofre NPS
c/o U.S. Nuclear Regulatory Commission
Post Office Box 4329
San Clemente, California 92672

Mayor, City of San Clemente
San Clemente, California 92672

Regional Administrator, Region V
U.S. Nuclear Regulatory Commission
1450 Maria Lane/Suite 210
Walnut Creek, California 94596

Chairman, Board of Supervisors
San Diego County
1600 Pacific Highway, Room 335
San Diego, California 92101

Mr. F. B. Marsh, Project Manager
Bechtel Power Corporation
P.O. Box 60860
Terminal Annex
Los Angeles, California 90060

REISSUED 8/25/89

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 NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 75
License No. NPF-10

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

   A. The applications for amendment to the license for San Onofre Nuclear Generating Station, Unit 2 (the facility) filed by Southern California Edison Company (SCE) on behalf of itself and San Diego Gas and Electric Company, the City of Riverside, California and the City of Anaheim, California (licensees) dated April 26, October 11, October 24, November 7, and December 16, 1988; and January 16, January 20 and March 28, 1989 comply with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the applications, 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;

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

   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 changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C(2) of Facility Operating License No. NPF-10 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. 75 , are hereby incorporated in the license. SCE shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of the date of its issuance and must be fully implemented no later than 30 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

George W. Knighton, Director
Project Directorate V
Division of Reactor Projects III,
IV, V and Special Projects

Attachment:
Changes to the Technical
Specifications

Date of Issuance: July 28, 1989

ATTACHMENT TO LICENSE AMENDMENT NO. 75

FACILITY OPERATING LICENSE NO. NPF-10

DOCKET NO. 50-361

Revise Appendix A Technical Specifications by removing the pages identified below and inserting the enclosed pages. The revised pages are identified by amendment number and contain marginal lines indicating the area of change. Also enclosed are the following overleaf pages to the amended pages.

AMENDMENT PAGE	OVERLEAF PAGE
3/4 3-1	3/4 3-2
3/4 3-13	3/4 3-14
3/4 3-44	3/4 3-43
3/4 3-75	3/4 3-76
3/4 6-28	3/4 6-27
3/4 7-5	3/4 7-4
3/4 7-11	--
3/4 7-12	--
3/4 7-27	3/4 7-28
3/4 7-37	3/4 7-36
3/4 8-2	--
3/4 8-3	3/4 8-4
3/4 8-16	3/4 8-15
3/4 8-31	3/4 8-32

3/4.3 INSTRUMENTATION

3/4.3.1 REACTOR PROTECTIVE INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.1 As a minimum, the reactor protective instrumentation channels and bypasses of Table 3.3-1 shall be OPERABLE with RESPONSE TIMES as shown in Table 3.3-2.

APPLICABILITY: As shown in Table 3.3-1.

ACTION:

As shown in Table 3.3-1.

SURVEILLANCE REQUIREMENTS

4.3.1.1 Each reactor protective instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations for the MODES and at the frequencies shown in Table 4.3-1.

4.3.1.2 The logic for the bypasses shall be demonstrated OPERABLE prior to each reactor startup unless performed during the preceding 92 days. The total bypass function shall be demonstrated OPERABLE at least once per refueling interval for each channel affected by bypass operation. The provisions of Technical Specification 4.0.2 are not applicable.

4.3.1.3 The REACTOR TRIP SYSTEM RESPONSE TIME of each reactor trip function shall be demonstrated to be within its limit at least once per 18 months. Each test shall include at least one channel per function such that all channels are tested at least once every N times 18 months where N is the total number of redundant channels in a specific reactor trip function as shown in the "Total No. of Channels" column of Table 3.3-1.

4.3.1.4 The isolation characteristics of each CEA isolation amplifier and each optical isolator for CEA Calculator to Core Protection Calculator data transfer shall be verified at least once per 18 months during the shutdown per the following tests:

a. For the CEA position isolation amplifiers:

1. With 120 volts AC (60 Hz) applied for at least 30 seconds across the output, the reading on the input does not exceed 0.015 volts DC.

SURVEILLANCE REQUIREMENTS (Continued)

2. With 120 volts AC (60 Hz) applied for at least 30 seconds across the input, the reading on the output does not exceed 8 volts DC.

b. For the optical isolators: Verify that the input to output insulation resistance is greater than 10 megohms when tested using a megohmmeter on the 500 volt DC range.

4.3.1.5 The Core Protection Calculator System shall be determined OPERABLE at least once per 12 hours by verifying that less than three auto restarts have occurred on each calculator during the past 12 hours.

4.3.1.6 The Core Protection Calculator System shall be subjected to a CHANNEL FUNCTIONAL TEST to verify OPERABILITY within 12 hours of receipt of a High CPC Cabinet Temperature alarm.

INSTRUMENTATION

3/4.3.2 ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.2 The Engineered Safety Feature Actuation System (ESFAS) instrumentation channels and bypasses shown in Table 3.3-3 shall be OPERABLE with their trip setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3-4 and with RESPONSE TIMES as shown in Table 3.3-5.

APPLICABILITY: As shown in Table 3.3-3.*

ACTION:

a. With an ESFAS instrumentation channel trip setpoint less conservative than the value shown in the Allowable Values column of Table 3.3-4, declare the channel inoperable and apply the applicable ACTION requirement of Table 3.3-3 until the channel is restored to OPERABLE status with the trip setpoint adjusted consistent with the Trip Setpoint value.

b. With an ESFAS instrumentation channel inoperable, take the ACTION shown in Table 3.3-3.

SURVEILLANCE REQUIREMENTS

4.3.2.1 Each ESFAS instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations for the MODES and at the frequencies shown in Table 4.3-2.

4.3.2.2 The logic for the bypasses shall be demonstrated OPERABLE during the at power CHANNEL FUNCTIONAL TEST of channels affected by bypass operation. The total bypass function shall be demonstrated OPERABLE at least once per refueling interval for each channel affected by bypass operation. The provisions of Technical Specification 4.0.2 are not applicable.

4.3.2.3 The ENGINEERED SAFETY FEATURES RESPONSE TIME of each ESFAS function shall be demonstrated to be within the limit at least once per 18 months. Each test shall include at least one channel per function such that all channels are tested at least once every N times 18 months where N is the total number of redundant channels in a specific ESFAS function as shown in the "Total No. of Channels" Column of Table 3.3-3.

*See Special Test Exception 3.10.5

TABLE 3.3-3

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
1. SAFETY INJECTION (SIAS)					
a. Manual (Trip Buttons)	2 sets of 2	1 set of 2	2 sest of 2	1, 2, 3, 4	8
b. Containment Pressure - High	4	2	3	1, 2, 3	9*, 10*
c. Pressurizer Pressure - Low	4	2	3	1, 2, 3(a)	9*, 10*
d. Automatic Actuation - Logic	4	2	3	1, 2, 3, 4	9*, 10*
2. CONTAINMENT SPRAY (CSAS)					
a. Manual (Trip Buttons)	2 sets of 2	1 set of 2	2 sets of 2	1, 2, 3	8
b. Containment Pressure -- High - High	4	2(b)	3	1, 2, 3	9*, 10*
c. Automatic Actuation Logic	4	2	3	1, 2, 3	9*, 10*
3. CONTAINMENT ISOLATION (CIAS)					
a. Manual CIAS (Trip Buttons)	2 sets of 2	1 set of 2	2 sets of 2	1, 2, 3, 4	8
b. Manual SIAS (Trip Buttons) (c)	2 sets of 2	1 set of 2	2 sets of 2	1, 2, 3, 4	8
c. Containment Pressure - High	4	2	3	1, 2, 3	9*, 10*
d. Automatic Actuation Logic	4	2	3	1, 2, 3, 4	9*, 10*

TABLE 3.3-7

SEISMIC MONITORING INSTRUMENTATION

Instruments & Sensor Locations	Measurement Range	Minimum Instrument Operable
1. Triaxial Time-History Strong Motion Accelerometers		
a. Steam Generator Base Support	-2 to +2g	1
b. Pressurizer Base Support	-2 to +2g	1
c. Reactor Coolant Pump	-2 to +2g	1
d. Containment Base in Tendon Gallery	-2 to +2g	1
e. Containment Operating Level	-2 to +2g	1
f. Unit #1 Free Field	-1 to +1g	1
g. Control Building Basement	-2 to +2g	1
h. Control Building Roof	-2 to +2g	1
i. Safety Equipment Building Base Slab	-2 to +2g	1
j. Safety Equipment Building Piping Support	-2 to +2g	1
k. Radwaste Building Equipment Support	-2 to +2g	1
2. Triaxial Peak Reading Accelerographs		
a. Control Building-Control Room	-2 to +2g	1
b. Control Building Base	-2 to +2g	1
c. Top of Containment Structure	-5 to +5g	1
d. Reactor Coolant Piping	-2 to +2g	1
3. Seismic Triggers		
a. Containment Base in Tendon Gallery	+0.005 to +0.05g	1
b. Containment Operating Level	+0.005 to +0.05g	1
4. Seismic Switches		
a. Steam Generator Base Support	Set pt. 0.45 Horz/0.30 Vert.	1**
b. Containment Base in Tendon Gallery	Set pt. 0.40 Horz/0.50 Vert.	1**
5. Seismic Alarm Annunciator (4a & 4b are sensors)		
a. Control Room Panel L-167		
6. Peak Shock Recorder		
a. Containment Base in Tendon Gallery	2 to 25.4 Hz 1.6 to 90g	1**
7. Peak Shock Annunciator	2 to 25.4 Hz 1.6 to 90g	1
a. Control Room Panel L-167		

** With control room indication

TABLE 4.3-4

SEISMIC MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENTS AND SENSOR LOCATIONS	CHANNEL CHECK	FUNCTIONAL CALIBRATION	CHANNEL FUNCTIONA TEST
1. Triaxial Time-History Strong Motion Accelerometers			
a. Steam Generator Base Support	M*	(1)	SA
b. Pressurizer Base Support	M*	(1)	SA
c. Reactor Coolant Pump	M*	(1)	SA
d. Containment Base in Tendon Gallery	M*	(1)	SA
e. Containment Operating Level	M*	(1)	SA
f. Control Building Basement	M*	(1)	SA
g. Control Building Roof	M*	(1)	SA
h. Safety Equipment Building Base	M*	(1)	SA
i. Safety Equipment Building Piping Support	M*	(1)	SA
j. Radwaste Building Equipment Support	M*	(1)	SA
2. Triaxial Peak Recording Accelerographs			
a. Control Building-Control Room	N/A	(1)	N/A
b. Control Building Base	N/A	(1)	N/A
c. Top of Containment Structure	N/A	(1)	N/A
d. Reactor Coolant Piping	N/A	(1)	N/A
3. Seismic Triggers			
a. Containment Base in Tendon Gallery	M	(1)	SA
b. Containment Operating Level	M	(1)	S/U***
4. Seismic Switches			
a. Steam Generator Base Support	M	(1)**	SA**
b. Containment Base in Tendon Gallery	M	(1)**	SA**
5. Seismic Alarm Annunciators (4a & 4b are sensors)			
a. Control Room Panel L-167	M	(1)	SA
6. Peak Shock Recorder			
a. Containment Base in Tendon Gallery	N/A	(1)**	N/A
7. Peak Shock Annunciator			
a. Control Room Panel L-167	N/A	(1)**	N/A

* Except seismic trigger
** With Control Room indication
*** Need not be performed more frequently than once per 6 months.
(1) Once per refueling interval. The provisions of Technical Specification 4.0.2 are not applicable.

INSTRUMENTATION

LOOSE-PART DETECTION INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.10 The loose-part detection system shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTION:

a. With one or more loose part detection system channels inoperable for more than 30 days, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 10 days outlining the cause of the malfunction and the plans for restoring the channel(s) to OPERABLE status.

b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.10 Each channel of the loose-part detection system shall be demonstrated OPERABLE by performance of a:

a. CHANNEL CHECK at least once per 24 hours,

b. CHANNEL FUNCTIONAL TEST at least once per 31 days, and

c. CHANNEL CALIBRATION at least once per refueling interval.

INSTRUMENTATION

3/4.3.4 TURBINE OVERSPEED PROTECTION

LIMITING CONDITION FOR OPERATION

3.3.4 At least one turbine overspeed protection system shall be OPERABLE.

APPLICABILITY: MODES 1, 2* and 3.*

ACTION:

a. With one stop valve or one control valve per high pressure turbine steam lead inoperable and/or with one reheat stop valve or one reheat intercept valve per low pressure turbine steam lead inoperable, restore the inoperable valve(s) to OPERABLE status within 72 hours, or close at least one valve in the affected steam lead or isolate the turbine from the steam supply within the next 6 hours.

b. With the above required turbine overspeed protection system otherwise inoperable, within 6 hours isolate the turbine from the steam supply.

SURVEILLANCE REQUIREMENTS

4.3.4 The above required turbine overspeed protection system shall be demonstrated OPERABLE:

a. At least once per 7 days by cycling each of the following valves through at least one complete cycle from the running position.

   1. Four high pressure turbine stop valves.
   2. Four high pressure turbine control valves.
   3. Six low pressure turbine reheat stop valves.
   4. Six low pressure turbine reheat intercept valves.

b. At least once per 31 days by direct observation of the movement of each of the above valves through one complete cycle from the running position.

c. At least once per 18 months by performance of a CHANNEL CALIBRATION on the turbine overspeed protection systems.

d. At least once per 40 months by disassembling at least one of each of the above valves and performing a visual and surface inspection of valve seats, disks and stems and verifying no unacceptable flaws or corrosion.

*With any main steam line isolation valve and/or any main steam line isolation valve bypass valve not fully closed.

CONTAINMENT SYSTEMS

ELECTRIC HYDROGEN RECOMBINERS

LIMITING CONDITION FOR OPERATION

3.6.4.2 Two independent containment hydrogen recombiner systems shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTION:

With one hydrogen recombiner system inoperable, restore the inoperable system to OPERABLE status within 30 days or be in at least HOT STANDBY within the next 6 hours.

SURVEILLANCE REQUIREMENTS

4.6.4.2 Each hydrogen recombiner system shall be demonstrated OPERABLE:

a. At least once per 6 months by verifying, during a recombiner system functional test, that the minimum heater sheath temperature increases to greater than or equal to 700°F within 90 minutes. Upon reaching 700°F, increase the power setting to maximum power for 2 minutes and verify that the power meter reads greater than or equal to 60 kw.

b. At least once per refueling interval by:

1. Performing a CHANNEL CALIBRATION of all recombiner instrumentation and control circuits.

2. Verifying through a visual examination that there is no evidence of abnormal conditions within the recombiner enclosure (i.e., loose wiring or structural connections, deposits of foreign materials, etc.), and

3. Verifying the integrity of the heater electrical circuits by performing a resistance to ground test following the above required functional test. The resistance to ground for any heater phase shall be greater than or equal to 10,000 ohms.

CONTAINMENT SYSTEMS

CONTAINMENT DOME AIR CIRCULATORS

LIMITING CONDITION FOR OPERATION

3.6.4.3 Two independent dome air circulator trains shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTION:

With one dome air circulator train inoperable, restore the inoperable train to OPERABLE status within 30 days or be in at least HOT STANDBY within the next 6 hours.

SURVEILLANCE REQUIREMENTS

4.6.4.3 Each dome air circulator train shall be demonstrated OPERABLE:

a. At least once per refueling interval by starting each train on a CCAS signal and verifying that the system operates for at least 15 minutes.

b. At least once per refueling interval by verifying a system flow rate of at least 37,000 cfm.

PLANT SYSTEMS

AUXILIARY FEEDWATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.1.2 At least three independent steam generator auxiliary feedwater pumps and associated flow paths shall be OPERABLE with:

a. Two motor-driven auxiliary feedwater pumps, each capable of being powered from separate emergency busses, and

b. One steam turbine-driven auxiliary feedwater pump capable of being powered from an OPERABLE steam supply system.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

a. With one auxiliary feedwater pump inoperable, restore the required auxiliary feedwater pumps to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

b. With two auxiliary pumps inoperable, be in at least HOT STANDBY within 6 hours and in HOT SHUTDOWN within the following 6 hours.

c. With three auxiliary feedwater pumps inoperable, immediately initiate corrective action to restore at least one auxiliary feedwater pump to OPERABLE status as soon as possible.

SURVEILLANCE REQUIREMENTS

4.7.1.2.1 Each auxiliary feedwater pump shall be demonstrated OPERABLE:

a. At least once per 31 days by:

1. Testing the turbine driven pump and both motor driven pumps pursuant to Specification 4.0.5. The provisions of Specification 4.0.4 are not applicable for the turbine driven pump for entry into MODE 3.

2. Verifying that each valve (manual, power operated or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.

3. Verifying that both manual valves in the suction lines from the primary AFW supply tank (condensate storage tank T-121) to each AFW pump, and the manual discharge line valve of each AFW pump are locked in the open position.

SURVEILLANCE REQUIREMENTS (Continued)

4. Verifying that the AFW piping is full of water by venting the accessible discharge piping high points.

b. At least once per refueling interval during shutdown by:

1. Verifying that each automatic valve in the flow path actuates to its correct position upon receipt of an EFAS test signal.

2. Verifying that each pump starts automatically upon receipt of an EFAS test signal.

4.7.1.2.2 The auxiliary feedwater system shall be demonstrated OPERABLE prior to entering MODE 2 following each COLD SHUTDOWN by performing a flow test to verify the normal flow path from the primary AFW supply tank (condensate storage tank T-121) through each auxiliary feedwater pump to its associated steam generator.

PLANT SYSTEMS

3/4.7.3 COMPONENT COOLING WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.3 At least two independent component cooling water loops shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only one component cooling water loop OPERABLE, restore at least two loops to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.3 At least two component cooling water loops shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each valve (manual, power operated or automatic) servicing safety related equipment that is not locked, sealed, or otherwise secured in position, is in its correct position.

b. At least once per refueling interval during shutdown, by verifying that each automatic valve servicing safety-related equipment actuates to its correct position and each component cooling water pump starts automatically on an SIAS test signal.

PLANT SYSTEMS

3/4.7.4 SALT WATER COOLING SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.4 At least two independent salt water cooling loops shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only one salt water cooling loop OPERABLE, restore at least two loops to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.4 At least two salt water cooling loops shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each valve (manual, power operated or automatic) servicing safety related equipment that is not locked, sealed or otherwise secured in position, is in its correct position.

b. At least once per refueling interval during shutdown, by verifying that each automatic valve servicing safety-related equipment actuates to its correct position and each salt water cooling pump starts automatically on an SIAS test signal.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS

4.7.8.1.1 The fire suppression water system shall be demonstrated OPERABLE:

a. At least once per 7 days by verifying the contained water supply volume.

b. At least once per 31 days on a STAGGERED TEST BASIS by starting each electric motor driven pump and operating it for at least 15 minutes on recirculation flow.

c. At least once per 31 days by verifying that each valve (manual, power operated or automatic) in the flow path is in its correct position.

d. At least once per 12 months by cycling each testable valve in the flow path through at least one complete cycle of full travel.

e. At least once per 18 months by performing a system functional test which includes simulated automatic actuation of the system throughout its operating sequence, and:

1. Verifying performance of the fire pumps as follows:

a. Diesel engine drive pump develops at least 2500 gpm at a system head of 283 feet.

b. Electric motor driven pumps each develop at least 1500 gpm at a system head of 289 ft.

2. Cycling each valve in the flow path that is not testable during plant operation through at least one complete cycle of full travel,* and

3. Verifying that each fire suppression pump starts (sequentially) to maintain the fire suppression water system pressure greater than or equal to 95 psig.

f. At least once per 3 years by performance of a system flush.

*Refueling interval for those plant areas that are inaccessible during non-refueling operations.

SURVEILLANCE REQUIREMENTS (Continued)

g. At least once per 3 years by performing a flow test of the system in accordance with Chapter 5, Section 11 of the Fire Protection Handbook, 14th Edition, published by the National Fire Protection Association.

4.7.8.1.2 The fire pump diesel engine shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying:

1. The diesel fuel oil day storage tank contains at least 225 gallons of fuel, and

2. The diesel starts from ambient conditions and operates for at least 30 minutes on recirculation flow.

b. At least once per 92 days by verifying that a sample of diesel fuel from the fuel storage tank, obtained in accordance with ASTM-D270-1975, is within the acceptable limits specified in Table 1 of ASTM D975-1977 when checked for viscosity, water and sediment.

c. At least once per 18 months during shutdown, by subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for the class of service.

4.7.8.1.3 The fire pump diesel starting 24-volt battery bank and charger shall be demonstrated OPERABLE:

a. At least once per 7 days by verifying that:

1. The electrolyte level of each battery is above the plates, and

2. The overall battery voltage is greater than or equal to 24 volts.

b. At least once per 92 days by verifying that the specific gravity is appropriate for continued service of the battery.

c. At least once per 18 months by verifying that:

1. The batteries, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration, and

2. The battery-to-battery and terminal connections are clean, tight, free of corrosion, and coated with anti-corrosion material.

3/4.7.10 EMERGENCY CHILLED WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.10 Two independent emergency chilled water systems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With only one emergency chilled water system OPERABLE, restore the inoperable system to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With only one emergency chilled water system OPERABLE:

1. Within 1 hour verify that the normal HVAC system is providing space cooling to the vital power distribution rooms containing emergency battery chargers and inverters that depend on the inoperable emergency chilled water system for space cooling, and

2. Within 8 hours establish OPERABILITY of the safe shutdown systems which do not depend on the inoperable emergency chilled water system (one train each of boration and auxiliary feedwater per Sections 3/4.1.2.2 and 3/4.7.1.2, respectively, and one bank of pressurizer heaters per Section 3/4.4.3) and

3. Within 24 hours establish OPERABILITY of all required systems, subsystems, trains, components and devices that depend on the remaining OPERABLE emergency chilled water system for space cooling.

If these conditions are not satisfied within the specified time, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.10 Each of the above required emergency chilled water systems shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each manual valve servicing safety-related equipment that is not locked, sealed, or otherwise secured in position, is in its correct position and,

EMERGENCY CHILLED WATER SYSTEM

SURVEILLANCE REQUIREMENTS (Continued)

b. At least once per refueling interval by verifying that: each power-operated or automatic valve servicing safety-related equipment actuates to its correct position and each chilled water pump starts automatically on a TGIS, CRIS, SIAS and, with irradiated fuel in the storage pool, FHIS.

ELECTRICAL POWER SYSTEM

SURVEILLANCE REQUIREMENTS

4.8.1.1.1 Each of the above required independent circuits between the offsite transmission network and the onsite Class IE distribution system shall be:

a. Determined OPERABLE at least once per 7 days by verifying correct breaker alignments and indicated power availability.

If tie breakers 3A0416 or 3A0603 are used to provide a source of power, the following busses are required.

for 3A0416	for 3A0603
3A04	3A06
3B04	3B06
3D1	3D2

b. Demonstrated OPERABLE at least once per refueling interval during shutdown by transferring (manually and automatically) unit power from the normal offsite power source to the alternate offsite power source. The provisions or Technical Specification 4.0.2 are not applicable.

4.8.1.1.2 Each diesel generator shall be demonstrated OPERABLE:

a. In accordance with the frequency specified in Table 4.8-1 on a STAGGERED TEST BASIS by:

1. Verifying the fuel level in the day fuel tank,

2. Verifying the fuel level in the fuel storage tank,

3. Verifying the fuel transfer pump can be started and transfers fuel from the storage system to the day tank,

4. Verifying the diesel generator starts from ambient conditions and accelerates to at least 900 rpm.* The generator voltage and frequency shall be 4360 ± 436 volts and 60 ± 1.2 Hz after reaching 900 rpm. The diesel generator shall be started for this test by using one of the following signals:

*A diesel generator start (in less than 10 seconds) from ambient conditions shall be performed at least once per 184 days. All other engine starts for the purpose of this surveillance testing may be preceded by an engine prelube period and/or other warmup procedures recommended by the manufacturer so that mechanical stress and wear on the diesel engine is minimized.

ELECTRICAL POWER SYSTEM

SURVEILLANCE REQUIREMENTS (Continued)

a) Manual
b) Simulated loss of offsite power by itself
c) Simulated loss of offsite power in conjunction with an ESF actuation test signal

5. Verifying the generator is synchronized, loaded to greater than or equal to 4700 kw in less than or equal to 77 seconds*, and operates with a load greater than or equal to 4700 kW for at least an additional 60 minutes, and

6. Verifying the diesel generator is aligned to provide standby power to the associated emergency busses.

b. At least once per 31 days and after each operation of the diesel where the period of operation was greater than or equal to 1 hour by checking for and removing accumulated water from the day tank.

c.1. At least once per 92 days and from new fuel oil prior to addition to the storage tanks by verifying that a sample obtained in accordance with ASTM-D4057-81 has a water and sediment content of less than or equal to .05 volume percent and a kinematic viscosity @ 40°C of greater than or equal to 1.9 but less than or equal to 4.1 when tested in accordance with ASTM-D975-81.

2. At least once every 92 days by obtaining a sample of fuel oil in accordance with ASTM-D4057-81 and verifying that particulate contamination is less than 10mg/liter when checked in accordance with ASTM-D2276-83, Method A.

d. At least once per refueling interval** (The provisions of Technical Specification 4.0.2 are not applicable) by:

1. Subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for this class of standby service.

2. Verifying the generator capability to reject a load of greater than or equal to 655.7 kW while maintaining voltage at 4360 ± 436 volts and frequency at 60 ± 5.0 Hz.

3. Verifying the generator capability to reject a load of 4700 kW without tripping. The generator voltage shall not exceed 5450 volts during and following the load rejection.

*All engine starts for the purpose of this surveillance testing may be preceeded by an engine prelube period and/or other warmup procedures recommended by the manufacturer so that mechanical stress and wear on the diesel engine is minimized.

**For cycle 4 only, this surveillance interval may exceed the 24 month refueling interval but may not exceed 25 months.

SURVEILLANCE REQUIREMENTS (Continued)

4. Simulating a loss of offsite power by itself, and:

   a) Verifying de-energization of the emergency busses and load shedding from the emergency busses.

   b) Verifying the diesel starts on the auto-start signal, energizes the emergency busses with permanently connected loads within 10 seconds and operates for greater than or equal to 5 minutes while its generator is loaded with the permanently connected loads. After energization, the steady state voltage and frequency of the emergency busses shall be maintained at 4360 ± 436 volts and 60 ± 1.2 Hz during this test.

5. Verifying that on an ESF test signal, without loss of offsite power, the diesel generator starts on the auto-start signal and operates on standby for greater than or equal to 5 minutes. The steady state generator voltage and frequency shall be 4360 ± 436 volts and 60 ± 1.2 Hz within 10 seconds after the auto-start signal; the generator voltage and frequency shall be maintained within these limits during this test.

6. De'eted.

7. Simulating a loss of offsite power in conjunction with an ESF test signal, and

   a) Verifying de-energization of the emergency busses and load shedding from the emergency busses.

   b) Verifying the diesel starts on the auto-start signal, energizes the emergency busses with permanently connected loads within 10 seconds, energizes the auto connected emergency (accident) loads through the load sequence and operates for greater than or equal to 5 minutes while its generator is loaded with the emergency loads. After loading, the steady state voltage and frequency of the emergency busses shall be maintained at 4360 ± 436 volts and 60 + 1.2/-0.3 Hz during this test.

   c) Verifying that all automatic diesel generator trips, except engine overspeed, generator differential and low-low lube oil pressure, are automatically bypassed.

ELECTRICAL POWER SYSTEMS

ONSITE POWER DISTRIBUTION SYSTEMS

SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.3.2 As a minimum, the following electrical busses shall be energized in the specified manner:

a. One division of A.C. Emergency Buses consisting of one 4160-volt and one 480-volt A.C. Emergency Bus.

b. 2 - 120 volt A.C. Vital Busses energized from their associated inverters connected to their respective D.C. Busses.

c. 2 - 125 volt D.C. Busses energized from their associated battery banks.

APPLICABILITY: MODES 5 and 6

ACTION:

With any of the above required electrical busses not energized in the required manner, immediately suspend all operations involving CORE ALTERATIONS, positive reactivity changes, or movement of irradiated fuel, initiate corrective action to energize the required electrical busses in the specified manner as soon as possible.

SURVEILLANCE REQUIREMENTS

4.8.3.2 The specified busses shall be determined energized in the required manner at least once per 7 days by verifying correct breaker alignment and indicated voltage on the busses.

ELECTRICAL POWER SYSTEMS

3/4.8.4 ELECTRICAL EQUIPMENT PROTECTIVE DEVICES

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

LIMITING CONDITION FOR OPRATION

3.8.4.1 All containment penetration conductor overcurrent protective devices shown in Table 3.8-1 shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With one or more of the above required containment penetration conductor overcurrent protective device(s) inoperable:

a. Restore the protective device(s) to OPERABLE status or de-energize the circuits(s) by tripping the associated backup circuit breaker or racking out or removing the inoperable circuit breaker within 72 hours, declare the affected system or component inoperable, and verify the backup circuit breaker to be tripped or the inoperable circuit breaker racked out, or removed, at least once per 7 days thereafter; the provisions of Specification 3.0.4 are not applicable to overcurrent devices in circuits which have their backup circuit breakers tripped, their inoperable circuit breakers racked out, or removed, or

b. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.8.4.1 All containment penetration conductor overcurrent protective devices shown in Table 3.8-1 shall be demonstrated OPERABLE:

a. At least once per refueling interval:

1. By verifying that the medium voltage (4-15 KV) circuit breakers are OPERABLE by selecting, on a rotating basis, at least 10% of the circuit breakers of each voltage level, and performing the following:

(a) A CHANNEL CALIBRATION of the associated protective relays, and

(b) An integrated system functional test which includes simulated automatic actuation of the system and verifying that each relay and associated circuit breakers and control circuits function as designed.

ELECTRICAL POWER SYSTEMS

MOTOR OPERATED VALVES THERMAL OVERLOAD PROTECTION BYPASS

LIMITING CONDITION FOR OPERATION

3.8.4.2 The thermal overload protection shall be bypassed by a bypass device integral with the motor starter of each valve listed in Table 3.8.2.

APPLICABILITY: Whenever the motor operated valve is required to be OPERABLE.

ACTION:

With the thermal overload protection not bypassed by the integral bypass device, bypass the thermal overload protection within 8 hours or declare the affected valve(s) inoperable and apply the appropriate ACTION Statement(s) for the affected valve(s).

SURVEILLANCE REQUIREMENTS

4.8.4.2 The above required thermal overload protection shall be verified to be bypassed by integral bypass devices:

a. At least once per refueling interval,

b. Following maintenance on the valve motor starter, and

c. Following any periodic testing during which the thermal overload device was temporarily placed in force.

TABLE 3.8-2

MOTOR OPERATED VALVES THERMAL OVERLOAD

PROTECTION BYPASS DEVICES

Permanently Bypassed

VALVE NUMBER	FUNCTION
HV-9339	Shutdown cooling flow from reactor coolant loop 2
HV-9340	SI tank T008 to reactor coolant loop 1A
HV-9370	SI tank T010 to reactor coolant loop 2B
HV-9347	SI pump minimum recirculation
HV-9322	LPSI Header to reactor coolant loop 1A
HV-9331	LPSI Header to reactor coolant loop 2B
HV-9348	SI pump minimum recirculation
HV-9323	HPSI Header #2 to reactor coolant loop 1A
HV-9332	HPSI Header #2 to reactor coolant loop 2B
HV-9217	RCP bleed off to volume control tank - cont. isol.
HV-9326	HPSI Header #2 to reactor coolant loop 1B
HV-9329	HPSI Header #2 to reactor coolant loop 2A
HV-7258	Waste gas surge tank header containment isolation
HV-0508	Reactor coolant hot leg #1 sample containment isolation
HV-0517	Reactor coolant hot leg #2 sample containment isolation
HV-9368	Shutdown HX E003 to containment spray Header #2
HV-0510	Pressurizer vapor sample containment isolation
HV-0512	Pressurizer surge line liquid sample containment isolation
HV-9950	Containment purge outlet to exhaust unit A060 - cont. isol.
HV-9917	Hydrogen purge exhaust unit A082 inlet - containment isol.
HV-9946	Hydrogen purge supply unit A080 discharge - containment isol.

REISSUED 8/25/89

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 NO. 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 63
License No. NPF-15

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

   A. The applications for amendment to the license for San Onofre Nuclear Generating Station, Unit 3 (the facility) filed by Southern California Edison Company (SCE) on behalf of itself and San Diego Gas and Electric Company, the City of Riverside, California and the City of Anaheim, California (licensees) dated April 26, October 11, October 24, November 7, and December 16, 1988; and January 16, January 20, and March 28, 1989 comply with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations set forth in 10 CFR Chapter 1;

   B. The facility will operate in conformity with the applications, 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;

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

   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 changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C(2) of Facility Operating License No. NPF-15 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. 63 , are hereby incorporated in the license. SCE shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of the date of its issuance and must be fully implemented no later than 30 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

George W. Knighton, Director
Project Directorate V
Division of Reactor Projects - III,
IV, V and Special Projects

Attachment:
Changes to the Technical
Specifications

Date of Issuance: July 28, 1989

ATTACHMENT TO LICENSE AMENDMENT NO. 63

FACILITY OPERATING LICENSE NO. NPF-15

DOCKET NO. 50-362

Revise Appendix A Technical Specifications by removing the pages identified below and inserting the enclosed pages. The revised pages are identified by amendment number and contain marginal lines indicating the area of change. Also enclosed are the following overleaf pages to the amended pages.

AMENDMENT PAGE	OVERLEAF PAGE
3/4 3-1	3/4 3-2
3/4 3-13	3/4 3-14
3/4 3-44	3/4 3-43
3/4 3-76	3/4 3-75
3/4 6-29	--
3/4 7-5	3/4 7-6
3/4 7-12	3/4 7-11
3/4 7-13	3/4 7-14
3/4 7-28	3/4 7-27
3/4 7-38	3/4 7-37
3/4 8-2	--
3/4 8-3	3/4 8-4
3/4 8-16	3/4 8-15
3/4 8-31	3/4 8-32

3/4.3 INSTRUMENTATION

3/4.3.1 REACTOR PROTECTIVE INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.1 As a minimum, the reactor protective instrumentation channels and bypasses of Table 3.3-1 shall be OPERABLE with RESPONSE TIMES as shown in Table 3.3-2.

APPLICABILITY: As shown in Table 3.3-1.

ACTION:

As shown in Table 3.3-1.

SURVEILLANCE REQUIREMENTS

4.3.1.1 Each reactor protective instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations for the MODES and at the frequencies shown in Table 4.3-1.

4.3.1.2 The logic for the bypasses shall be demonstrated OPERABLE prior to each reactor startup unless performed during the preceding 92 days. The total bypass function shall be demonstrated OPERABLE at least once per refueling interval for each channel affected by bypass operation. The provisions of Technical Specification 4.0.2 are not applicable.

4.3.1.3 The REACTOR TRIP SYSTEM RESPONSE TIME of each reactor trip function shall be demonstrated to be within its limit at least once per 18 months. Each test shall include at least one channel per function such that all channels are tested at least once every N times 18 months where N is the total number of redundant channels in a specific reactor trip function as shown in the "Total No. of Channels" column of Table 3.3-1.

4.3.1.4 The isolation characteristics of each CEA isolation amplifier and each optical isolator for CEA Calculator to Core Protection Calculator data transfer shall be verified at least once per 18 months during the shutdown per the following tests:

a. For the CEA position isolation amplifiers:

1. With 120 volts AC (60 Hz) applied for at least 30 seconds across the output, the reading on the input does not exceed 0.015 volts DC.

SURVEILLANCE REQUIREMENTS (Continued)

2. With 120 volts AC (60 Hz) applied for at least 30 seconds across the input, the reading on the output does not exceed 8 volts DC.

b. For the optical isolators: Verify that the input to output insulation resistance is greater than 10 megohms when tested using a megohmmeter on the 500 volt DC range.

4.3.1.5 The Core Protection Calculator System shall be determined OPERABLE at least once per 12 hours by verifying that less than three auto restarts have occurred on each calculator during the past 12 hours.

4.3.1.6 The Core Protection Calculator System shall be subjected to a CHANNEL FUNCTIONAL TEST to verify OPERABILITY within 12 hours of receipt of a High CPC Cabinet Temperature alarm.

INSTRUMENTATION

3/4.3.2 ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.2 The Engineered Safety Features Actuation System (ESFAS) instrumentation channels and bypasses shown in Table 3.3-3 shall be OPERABLE with their trip setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3-4 and with RESPONSE TIMES as shown in Table 3.3-5.*

APPLICABILITY: As shown in Table 3.3-3.

ACTION:

a. With an ESFAS instrumentation channel trip setpoint less conservative than the value shown in the Allowable Values column of Table 3.3-4, declare the channel inoperable and apply the applicable ACTION requirement of Table 3.3-3 until the channel is restored to OPERABLE status with the trip setpoint adjusted consistent with the Trip Setpoint value.

b. With an ESFAS instrumentation channel inoperable, take the ACTION shown in Table 3.3-3.

SURVEILLANCE REQUIREMENTS

4.3.2.1 Each ESFAS instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations for the MODES and at the frequencies shown in Table 4.3-2.

4.3.2.2 The logic for the bypasses shall be demonstrated OPERABLE during the at power CHANNEL FUNCTIONAL TEST of channels affected by bypass operation. The total bypass function shall be demonstrated OPERABLE at least once per refueling interval for each channel affected by bypass operation. The provisions of Technical Specification 4.0.2 are not applicable.

4.3.2.3 The ENGINEERED SAFETY FEATURES RESPONSE TIME of each ESFAS function shall be demonstrated to be within the limit at least once per 18 months. Each test shall include at least one channel per function such that all channels are tested at least once every N times 18 months where N is the total number of redundant channels in a specific ESFAS function as shown in the "Total No. of Channels" Column of Table 3.3-3.

*Continuous monitoring and sampling of the containment purge exhaust directly from the purge stack shall be provided for the low and high volume (8-inch and 42-inch) containment purge prior to startup following the first refueling outage. Containment airborne monitor 3RT-7804-1 or 3RT-7807-2 and associated sampling media shall perform these functions prior to initial criticality. From initial criticality to the startup following the first refueling outage containment airborne monitor 3RT-7804-1 and associated sampling media shall perform the above required functions.

TABLE 3.3-3

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
1. SAFETY INJECTION (SIAS)					
a. Manual (Trip Buttons)	2 sets of 2	1 set of 2	2 sets of 2	1, 2, 3, 4	8
b. Containment Pressure - High	4	2	3	1, 2, 3	9*, 10*
c. Pressurizer Pressure - Low	4	2	3	1, 2, 3(a)	9*, 10*
d. Automatic Actuation - Logic	4	2	3	1, 2, 3, 4	9*, 10*
2. CONTAINMENT SPRAY (CSAS)					
a. Manual (Trip Buttons)	2 sets of 2	1 set of 2	2 sets of 2	1, 2, 3	8
b. Containment Pressure -- High - High	4	2(b)	3	1, 2, 3	9*, 10*
c. Automatic Actuation Logic	4	2	3	1, 2, 3	9*, 10*
3. CONTAINMENT ISOLATION (CIAS)					
a. Manual CIAS (Trip Buttons)	2 sets of 2	1 set of 2	2 sets of 2	1, 2, 3, 4	8
b. Manual SIAS (Trip Buttons) (c)	2 sets of 2	1 set of 2	2 sets of 2	1, 2, 3, 4	8
c. Containment Pressure - High	4	2	3	1, 2, 3	9*, 10*
d. Automatic Actuation Logic	4	2	3	1, 2, 3, 4	9*, 10*

TABLE 3.3-7

SEISMIC MONITORING INSTRUMENTATION

Instruments & Sensor Locations*	Measurement Range	Minimum Instrument Operable
1. Triaxial Time-History Strong Motion Accelerometers		
a. Steam Generator Base Support	-2 to +2g	1
b. Pressurizer Base Support	-2 to +2g	1
c. Reactor Coolant Pump	-2 to +2g	1
d. Containment Base in Tendon Gallery	-2 to +2g	1
e. Containment Operating Level	-2 to +2g	1
f. Unit #1 Free Field	-1 to +1g	1
g. Control Building Basement	-2 to +2g	1
h. Control Building Roof	-2 to +2g	1
i. Safety Equipment Building Base Slab	-2 to +2g	1
j. Safety Equipment Building Piping Support	-2 to +2g	1
k. Radwaste Building Equipment Support	-2 to +2g	1
2. Triaxial Peak Reading Accelerographs		
a. Control Building-Control Room	-2 to +2g	1
b. Control Building Base	-2 to +2g	1
c. Top of Containment Structure	-5 to +5g	1
d. Reactor Coolant Piping	-2 to +2g	1
3. Seismic Triggers		
a. Containment Base in Tendon Gallery	+0.005 to +0.05g	1
b. Containment Operating Level	+0.005 to +0.05g	1
4. Seismic Switches		
a. Steam Generator Base Support	Set pt. 0.45 Horz/0.30 Vert.	1**
b. Containment Base in Tendon Gallery	Set pt. 0.40 Horz/0.50 Vert.	1**
5. Seismic Alarm Annunciator (4a & 4b are sensors)		
a. Control Room Panel L-167		
6. Peak Shock Recorder		
a. Containment Base in Tendon Gallery	2 to 25.4 Hz 1.6 to 90g	1**
7. Peak Shock Annunciator	2 to 25.4 Hz 1.6 to 90g	1
a. Control Room Panel L-167		

*All seismic instrumentation is located in San Onofre Unit 2 with the exception of item 1.f. which is located in San Onofre Unit 1.

**With control room indication

TABLE 4.3-4

SEISMIC MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENTS AND SENSOR LOCATIONS#	CHANNEL CHECK	FUNCTIONAL CALIBRATION	CHANNEL FUNCTIONAL TEST
1. Triaxial Time-History Strong Motion Accelerometers			
a. Steam Generator Base Support	M*	(1)	SA
b. Pressurizer Base Support	M*	(1)	SA
c. Reactor Coolant Pump	M*	(1)	SA
d. Containment Base in Tendon Gallery	M*	(1)	SA
e. Containment Operating Level	M*	(1)	SA
f. Control Building Basement	M*	(1)	SA
g. Control Building Roof	M*	(1)	SA
h. Safety Equipment Building Base	M*	(1)	SA
i. Safety Equipment Building Piping Support	M*	(1)	SA
j. Radwaste Building Equipment Support	M*	(1)	SA
2. Triaxial Peak Recording Accelerographs			
a. Control Building-Control Room	N/A	(1)	N/A
b. Control Building Base	N/A	(1)	N/A
c. Top of Containment Structure	N/A	(1)	N/A
d. Reactor Coolant Piping	N/A	(1)	N/A
3. Seismic Triggers			
a. Containment Base in Tendon Gallery	M	(1)	SA
b. Containment Operating Level	M	(1)	S/U***
4. Seismic Switches			
a. Steam Generator Base Support	M	(1)**	SA**
b. Containment Base in Tendon Gallery	M	(1)**	SA**
5. Seismic Alarm Annunciators (4a & 4b are sensors)			
a. Control Room Panel L-167	M	(1)	SA
6. Peak Shock Recorder			
a. Containment Base in Tendon Gallery	N/A	(1)**	N/A
7. Peak Shock Annunciator			
a. Control Room Panel L-167	N/A	(1)**	N/A

\# All seismic instrumentation is located in San Onofre Unit 2.
* Except seismic trigger
** With Control Room indication
*** Need not be performed more frequently than once per 6 months.
(1) Once per refueling interval. The provisions of Technical Specification 4.0.2 are not applicable.

TABLE 4.3-9 (Continued)

TABLE NOTATION

*At all times.

**During waste gas holdup system operation (treatment for primary system offgases).

***MODES 1-4 with any main steam isolation valve and/or any main steam isolating valbe bypass valve not fully closed.

(1) The CHANNEL FUNCTIONAL TEST shall also demonstrate that automatic isolation of this pathway and control room alarm annunciation occurs if any of the following conditions exists:#

1. Instrument indicates measured levels above the alarm/trip setpoint.
2. Circuit failure.
3. Instrument indicates a downscale failure.

(2) The CHANNEL FUNCTIONAL TEST shall also demonstrate that control room alarm annunciation occurs if any of the following conditions exists#:

1. Instrument indicates measured levels above the alarm setpoint.
2. Circuit failure.
3. Instrument indicates a downscale failure.

(3) The initial CHANNEL CALIBRATION shall be performed using one or more of the reference standards certified by the National Bureau of Standards or using standards that have been obtained from suppliers that participate in measurement assurance activities with NBS. These standards shall permit calibrating the system over its intended range of energy and measurement range. For subsequent CHANNEL CALIBRATION, sources that have been related to the initial calibration shall be used.

(4) The CHANNEL CALIBRATION shall include the use of standard gas samples containing a nominal:

1. One volume percent hydrogen, balance nitrogen, and
2. Four volume percent hydrogen, balance nitrogen.

(5) The CHANNEL CALIBRATION shall include the use of standard gas samples containing a nominal:

1. One volume percent oxygen, balance nitrogen, and
2. Four volume percent oxygen, balance nitrogen.

(6) Prior to each release and at least once per month.

(7) Prior to completion of DCP53N, these surveillance requirements are to be performed on the instruments indicated by Table 3.3-13.

#If the instrument controls are not set in the operate mode, procedures shall call for declaring the channel inoperable.

INSTRUMENTATION

LOOSE-PART DETECTION INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.10 The loose-part detection system shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTION:

a. With one or more loose part detection system channels inoperable for more than 30 days, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 10 days outlining the cause of the malfunction and the plans for restoring the channel(s) to OPERABLE status.

b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.10 Each channel of the loose-part detection system shall be demonstrated OPERABLE by performance of a:

a. CHANNEL CHECK at least once per 24 hours,

b. CHANNEL FUNCTIONAL TEST at least once per 31 days, and

c. CHANNEL CALIBRATION at least once per refueling interval.

CONTAINMENT SYSTEMS

CONTAINMENT DOME AIR CIRCULATORS

LIMITING CONDITION FOR OPERATION

3.6.4.3 Two independent dome air circulator trains shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTION:

With one dome air circulator train inoperable, restore the inoperable train to OPERABLE status within 30 days or be in at least HOT STANDBY within the next 6 hours.

SURVEILLANCE REQUIREMENTS

4.6.4.3 Each dome air circulator train shall be demonstrated OPERABLE:

a. At least once per refueling interval by starting each train on a CCAS signal and verifying that the system operates for at least 15 minutes.

b. At least once per refueling interval by verifying a system flow rate of at least 37,000 cfm.

SURVEILLANCE REQUIREMENTS (Continued)

4. Verifying that the AFW piping is full of water by venting the accessible discharge piping high points.

b. At least once per refueling interval during shutdown by:

1. Verifying that each automatic valve in the flow path actuates to its correct position upon receipt of an EFAS test signal.

2. Verifying that each pump starts automatically upon receipt of an EFAS test signal.

4.7.1.2.2 The auxiliary feedwater system shall be demonstrated OPERABLE prior to entering MODE 2 following each COLD SHUTDOWN by performing a flow test to verify the normal flow path from the primary AFW supply tank (condensate storage tank T-121) through each auxiliary feedwater pump to its associated steam generator.

PLANT SYSTEMS

CONDENSATE STORAGE TANKS

LIMITING CONDITION FOR OPERATION

3.7.1.3 The condensate storage tanks (CSTs) shall be OPERABLE with a contained volume of at least 144,000 gallons* in T-121 and 280,000 gallons in T-120.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

With the condensate storage tanks inoperable, within 4 hours either restore the CSTs to OPERABLE status or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

SURVEILLANCE REQUIREMENTS

4.7.1.3 The condensate storage tanks shall be demonstrated OPERABLE at least once per 12 hours by verifying the contained water volume is within its limits.

* Prior to first achieving 100% power, the minimum volume required to be contained in T-121 is that shown on Figure 3.7-1 corresponding to the maximum power level achieved to date.

3/4.7.2 STEAM GENERATOR PRESSURE/TEMPERATURE LIMITATION

LIMITING CONDITION FOR OPERATION

3.7.2 The temperatures of both the primary and secondary coolants in the steam generators shall be greater than 70°F when the pressure of either coolant in the steam generator is greater than 200 psig.

APPLICABILITY: At all times.

ACTION:

With the requirements of the above specification not satisfied:

a. Reduce the steam generator pressure of the applicable side to less than or equal to 200 psig within 30 minutes, and

b. Perform an engineering evaluation to determine the effect of the overpressurization on the structural integrity of the steam generator. Determine that the steam generator remains acceptable for continued operation prior to increasing its temperatures above 200°F.

SURVEILLANCE REQUIREMENTS

4.7.2 The pressure in each side of the steam generators shall be determined to be less than 200 psig at least once per hour when the temperature of either the primary or secondary coolant is less than 70°F.

PLANT SYSTEMS

3/4.7.3 COMPONENT COOLING WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.3 At least two independent component cooling water loops shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only one component cooling water loop OPERABLE, restore at least two loops to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.3 At least two component cooling water loops shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each valve (manual, power operated or automatic) servicing safety related equipment that is not locked, sealed, or otherwise secured in position, is in its correct position.

b. At least once per refueling interval during shutdown, by verifying that each automatic valve servicing safety-related equipment actuates to its correct position and each component cooling water pump starts automatically on an SIAS test signal.

PLANT SYSTEMS

3/4.7.4 SALT WATER COOLING SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.4 At least two independent salt water cooling loops shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only one salt water cooling loop OPERABLE, restore at least two loops to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.4 At least two salt water cooling loops shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each valve (manual, power operated or automatic) servicing safety related equipment that is not locked, sealed or otherwise secured in position, is in its correct position.

b. At least once per refueling interval during shutdown, by verifying that each automatic valve servicing safety-related equipment actuates to its correct position and each salt water cooling pump starts automatically on an SIAS test signal.

3/4.7.5 CONTROL ROOM EMERGENCY AIR CLEANUP SYSTEM*

LIMITING CONDITION FOR OPERATION

3.7.5 Two independent control room emergency air cleanup systems shall be OPERABLE.

APPLICABILITY: ALL MODES

ACTION:

Unit 2 or 3 in MODES 1, 2, 3 or 4:

With one control room emergency air cleanup system inoperable, restore the inoperable system to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

Units 2 and 3 in MODES 5 or 6:

a. With one control room emergency air cleanup system inoperable, restore the inoperable system to OPERABLE status within 7 days or initiate and maintain operation of the remaining OPERABLE control room emergency air cleanup system in the recirculation mode.

b. With both control room emergency air cleanup systems inoperable, or with the OPERABLE control room emergency air cleanup system required to be in the recirculation mode by ACTION (a), not capable of being powered by an OPERABLE emergency power source, suspend all operations involving CORE ALTERATIONS or positive reactivity changes.

c. The provisions of Specification 3.0.3 are not applicable in MODE 6.

SURVEILLANCE REQUIREMENTS

4.7.5 Each control room emergency air cleanup system shall be demonstrated OPERABLE:

a. At least once per 12 hours by verifying that the control room air temperature is less than or equal to 110°F.

b. At least once per 31 days on a STAGGERED TEST BASIS by initating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying that the system operates for at least 10 hours with the heaters on.

c. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the system by:

1. Verifying that with the system operating at a flow rate of 35485 cfm ± 10% for the air conditioning unit, and 2050 ± 150 cfm for the ventilation unit and recirculating through the respective HEPA filters and charcoal adsorbers, leakage through the system diverting valves is less than or equal to 1% air conditioning unit and 1% ventilation unit when the system is tested by admitting cold DOP at the respective intake.

*Shared system with San Onofre - Unit 2.

PLANT SYSTEMS

3/4.7.8 FIRE SUPPRESSION SYSTEMS

FIRE SUPPRESSION WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.8.1 The fire suppression water system shall be OPERABLE with:

a. Two electric motor-driven fire pumps, each with a capacity of 1500 gpm and one diesel-driven fire pump with a capacity of 2500 gpm, with their discharge aligned to the fire suppression header,

b. Two separate water supplies, each with a minimum contained volume of 300,000 gallons, and

c. An OPERABLE flow path capable of taking suction from each water supply and transferring the water through distribution piping with OPERABLE sectionalizing control or isolation valves to the yard hydrant curb valves, the first valve upstream of the water flow alarm device on each spray and/or sprinkler or fire hose station required to be OPERABLE per Specifications 3.7.8.2 and 3.7.8.3.

APPLICABILITY: At all times.

ACTION:

a. With one required electric motor-driven/diesel-driven pump and/or one water supply inoperable, restore the inoperable equipment to OPERABLE status within 7 days or provide an alternate backup pump or supply. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

b. With the fire suppression water system otherwise inoperable, establish a backup fire suppression water system within 24 hours.

SURVEILLANCE REQUIREMENTS

4.7.8.1.1 The fire suppression water system shall be demonstrated OPERABLE:

a. At least once per 7 days by verifying the contained water supply volume.

b. At least once per 31 days on a STAGGERED TEST BASIS by starting each electric motor-driven pump and operating it for at least 15 minutes on recirculation flow.

c. At least once per 31 days by verifying that each valve (manual, power-operated or automatic) in the flow path is in its correct position.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

d. At least once per 12 months by cycling each testable valve in the flow path through at least one complete cycle of full travel.

e. At least once per 18 months by performing a system functional test which includes simulated automatic actuation of the system throughout its operating sequence, and:

1. Verifying performance of the fire pumps as follows:

a. Diesel engine-driven pump develops at least 2500 gpm at a system head of 283 feet.

b. Electric motor-driven pumps each develop at least 1500 gpm at a system head of 289 ft.

2. Cycling each valve in the flow path that is not testable during plant operation through at least one complete cycle of full travel,* and

3. Verifying that each fire suppression pump starts (sequentially) to maintain the fire suppression water system pressure greater than or equal to 95 psig.

f. At least once per 3 years by performance of a system flush.

g. At least once per 3 years by performing a flow test of the system in accordance with Chapter 5, Section 11 of the Fire Protection Handbook, 14th Edition, published by the National Fire Protection Association.

4.7.8.1.2 The fire pump diesel engine shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying:

1. The diesel fuel oil day storage tank contains at least 225 gallons of fuel, and

2. The diesel starts from ambient conditions and operates for at least 30 minutes on recirculation flow.

b. At least once per 92 days by verifying that a sample of diesel fuel from the fuel storage tank, obtained in accordance with ASTM-D270-1975, is within the acceptable limits specified in Table 1 of ASTM D975-1977 when checked for viscosity, water and sediment.

c. At least once per 18 months during shutdown, by subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for the class of service.

*Refueling interval for those plant areas that are inaccessible during non-refueling operations.

3/4.7.10 EMERGENCY CHILLED WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.10 Two independent emergency chilled water systems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With only one emergency chilled water system OPERABLE, restore the inoperable system to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With only one emergency chilled water system OPERABLE:

1. Within 1 hour verify that the normal HVAC system is providing space cooling to the vital power distribution rooms containing emergency battery chargers and inverters that depend on the inoperable emergency chilled water system for space cooling, and

2. Within 8 hours establish OPERABILITY of the safe shutdown systems which do not depends on the inoperable emergency chilled water system (one train each of boration and auxiliary feedwater per Sections 3/4.1.2.2 and 3/4.7.1.2, respectively, and one bank of pressurizer heaters per Section 3/4.4.3) and

3. Within 24 hours establish OPERABILITY of all required systems, subsystems, trains, components and devices that depend on the remaining OPERABLE emergency chilled water system for space cooling.

If these conditions are not satisfied within the specified time, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.10 Each of the above required emergency chilled water systems shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each manual valve servicing safety-related equipment that is not locked, sealed, or otherwise secured in position, is in its correct position and,

EMERGENCY CHILLED WATER SYSTEM

SURVEILLANCE REQUIREMENTS (Continued)

b. At least once per refueling interval by verifying that: each power-operated or automatic valve servicing safety-related equipment actuates to its correct position and each chilled water pump starts automatically on a TGIS, CRIS, SIAS and, with irradiated fuel in the storage pool, FHIS.

ELECTRICAL POWER SYSTEMS

ACTION (Continued)

SURVEILLANCE REQUIREMENTS

4.8.1.1.1 Each of the above required independent circuits between the offsite transmission network and each Class 1E 4 kV Bus shall be:

a. Determined OPERABLE at least once per 7 days by verifying correct breaker alignments and indicated power availablity.

If tie breakers 2A0416 or 2A0603 are used to provide a source of power, the following busses are required.

for 2A0416	for 2A0603
2A04	2A06
2B04	2B06
2D1	2D2

b. Demonstrated OPERABLE at least once per refueling interval during shutdown by transferring (manually and automatically) unit power from the normal offsite power source to the alternate offsite power source. The provisions of Technical Specification 4.0.2 are not applicable.

4.8.1.1.2 Each diesel generator shall be demonstrated OPERABLE:

a. In accordance with the frequency specified in Table 4.8-1 on a STAGGERED TEST BASIS by:

1. Verifying the fuel level in the day fuel tank,
2. Verifying the fuel level in the fuel storage tank,
3. Verifying the fuel transfer pump can be started and transfers fuel from the storage system to the day tank,
4. Verifying the diesel generator starts from ambient conditions and accelerates to at least 900 rpm.* The generator voltage and frequency shall be 4360 ± 436 volts and 60 ± 1.2 Hz after reaching 900 rpm. The diesel generator shall be started for this test by using the manual start signals:

a) Manual
b) Simulated loss of offsite power by itself
c) Simulated loss of offsite power in conjunction with an ESF actuation test signal

*A diesel generator start (in less than 10 seconds) from ambient conditions shall be performed at least once per 184 days. All other engine starts for the purpose of this surveillance testing may be preceded by an engine prelube period and/or other warmup procedures recommended by the manufacturer so that mechanical stress and wear on the diesel engine is minimized.

ELECTRICAL POWER SYSTEM

SURVEILLANCE REQUIREMENTS (Continued)

5. Verifying the generator is synchronized, loaded to greater than or equal to 4700 kW in less than or equal to 77 seconds*, and operates with a load greater than or equal to 4700 kW for at least an additional 60 minutes, and

6. Verifying the diesel generator is aligned to provide standby power to the associated emergency busses.

b. At least once per 31 days and after each operation of the diesel where the period of operation was greater than or equal to 1 hour by checking for and removing accumulated water from the day tank.

c.1. At least once per 92 days and from new fuel prior to addition to the storage tanks by verifying that a sample obtained in accordance with ASTM-D4057-81 has a water and sediment content of less than or equal to .05 volume percent and a kinematic viscosity @ 40°C of greater than or equal to 1.9 but less than or equal to 4.1 when tested in accordance with ASTM-D975-81.

2. At least once every 92 days by obtaining a sample of fuel oil in accordance with ASTM-D4057-81 and verifying that particulate contamination is less than 10mg/liter when checked in accordance with ASTM D2276-83, Method A.

d. At least once per refueling interval (the provisions of Technical Specification 4.0.2 are not applicable) by:

1. Subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for this class of standby service.

2. Verifying the generator capability to reject a load of greater than or equal to 655.7 kW while maintaining voltage at 4360 $\pm$ 436 volts and frequency at 60 $\pm$ 5.0 Hz.

3. Verifying the generator capability to reject a load of 4700 kW without tripping. The generator voltage shall not exceed 5450 volts during and following the load rejection.

*All engine starts for the purpose of this surveillance testing may be preceded by an engine prelube period and/or other warmup procedures recommended by the manufacturer so that mechanical stress and wear on the diesel engine is minimized.

SURVEILLANCE REQUIREMENTS (Continued)

4. Simulating a loss of offsite power by itself, and

   a) Verifying de-energization of the emergency busses and load shedding from the emergency busses.

   b) Verifying the diesel starts on the auto-start signal, energizes the emergency busses with permanently connected loads within 10 seconds and operates for greater than or equal to 5 minutes while its generator is loaded with the permanently connected loads. After energization, the steady state voltage and frequency of the emergency busses shall be maintained at 4360 ± 436 volts and 60 ± 1.2 Hz during this test.

5. Verifying that on an ESF test signal, without loss of offsite power, the diesel generator starts on the auto-start signal and operates on standby for greater than or equal to 5 minutes. The steady-state generator voltage and frequency shall be 4360 ± 436 volts and 60 ± 1.2 Hz within 10 seconds after the auto-start signal; the generator voltage and freqency shall be maintained within these limits during this test.

6. Deleted

7. Simulating a loss of offsite power in conjunction with an ESF test signal, and

   a) Verifying de-energization of the emergency busses and load shedding from the emergency busses.

   b) Verifying the diesel starts on the auto-start signal, energizes the emergency busses with permanently connected loads within 10 seconds, energizes the auto-connected emergency (accident) loads through the load sequence and operates for greater than or equal to 5 minutes while its generator is loaded with the emergency loads. After loading, the steady state voltage and frequency of the emergency busses shall be maintained at 4360 ± 436 volts and 60 + 1.2/-0.3 Hz during this test.

   c) Verifying that all automatic diesel generator trips, except engine overspeed, generator differential, and low-low lube oil pressure, are automatically bypassed.

ELECTRICAL POWER SYSTEMS

ONSITE POWER DISTRIBUTION SYSTEMS

SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.3.2 As a minimum, the following electrical busses shall be energized in the specified manner:

a. One division of A.C. Emergency Buses consisting of one 4160-volt and one 480-volt A.C. Emergency Bus.

b. 2 - 120 volt A.C. Vital Busses energized from their associated inverters connected to their respective D.C. Busses.

c. 2 - 125 volt D.C. Busses energized from their associated battery banks.

APPLICABILITY: MODES 5 and 6

ACTION:

With any of the above required electrical busses not energized in the required manner, immediately suspend all operations involving CORE ALTERATIONS, positive reactivity changes, or movement of irradiated fuel, initiate corrective action to energize the required electrical busses in the specified manner as soon as possible.

SURVEILLANCE REQUIREMENTS

4.8.3.2 The specified busses shall be determined energized in the required manner at least once per 7 days by verifying correct breaker alignment and indicated voltage on the busses.

ELECTRICAL POWER SYSTEMS

3/4.8.4 ELECTRICAL EQUIPMENT PROTECTIVE DEVICES

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

LIMITING CONDITION FOR OPERATION

3.8.4.1 All containment penetration conductor overcurrent protective devices shown in Table 3.8-1 shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With one or more of the above required containment penetration conductor overcurrent protective device(s) inoperable:

a. Restore the protective device(s) to OPERABLE status or de-energize the circuits(s) by tripping the associated backup circuit breaker or racking out or removing the inoperable circuit breaker within 72 hours, declare the affected system or component inoperable, and verify the backup circuit breaker to be tripped or the inoperable circuit breaker racked out, or removed, at least once per 7 days thereafter; the provisions of Specification 3.0.4 are not applicable to overcurrent devices in circuits which have their backup circuit breakers tripped, their inoperable circuit breakers racked out,or removed, or

b. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.8.4.1 All containment penetration conductor overcurrent protective devices shown in Table 3.8-1 shall be demonstrated OPERABLE:

a. At least once per refueling interval:

1. By verifying that the medium voltage (4-15 KV) circuit breakers are OPERABLE by selecting, on a rotating basis, at least 10% of the circuit breakers of each voltage level, and performing the following:

(a) A CHANNEL CALIBRATION of the associated protective relays, and

(b) An integrated system functional test which includes simulated automatic actuation of the system and verifying that each relay and associated circuit breakers and control circuits function as designed.

ELECTRICAL POWER SYSTEMS

MOTOR OPERATED VALVES THERMAL OVERLOAD PROTECTION BYPASS

LIMITING CONDITION FOR OPERATION

3.8.4.2 The thermal overload protection shall be bypassed by a bypass device integral with the motor starter of each valve listed in Table 3.8.2.

APPLICABILITY: Whenever the motor operated valve is required to be OPERABLE.

ACTION:

With the thermal overload protection not bypassed by the integral bypass device, bypass the thermal overload protection within 8 hours or declare the affected valve(s) inoperable and apply the appropriate ACTION Statement(s) for the affected valve(s).

SURVEILLANCE REQUIREMENTS

4.8.4.2 The above required thermal overload protection shall be verified to be bypassed by integral bypass devices:

a. At least once per refueling interval,

b. Following maintenance on the valve motor starter, and

c. Following any periodic testing during which the thermal overload device was temporarily placed in force.

TABLE 3.8-2

MOTOR OPERATED VALVES THERMAL OVERLOAD

PROTECTION BYPASS DEVICES

PERMANENTLY BYPASSED

VALVE NUMBER	FUNCTION
HV-9339	Shutdown cooling flow from reactor coolant loop 2
HV-9340	SI tank T008 to reactor coolant loop 1A
HV-9370	SI tank T010 to reactor coolant loop 2B
HV-9347	SI pump minimum recirculation
HV-9322	LPSI Header to reactor coolant loop 1A
HV-9331	LPSI Header to reactor coolant loop 2B
HV-9348	SI pump minimum recirculation
HV-9323	HPSI Header #2 to reactor coolant loop 1A
HV-9332	HPSI Header #2 to reactor coolant loop 2B
HV-9217	RCP bleed off to volume control tank - cont. isol.
HV-9326	HPSI Header #2 to reactor coolant loop 1B
HV-9329	HPSI Header #2 to reactor coolant loop 2A
HV-7258	Waste gas surge tank header containment isolation
HV-0508	Reactor coolant hot leg #1 sample containment isolation
HV-0517	Reactor coolant hot leg #2 sample containment isolation
HV-9368	Shutdown HX E003 to containment spray header #2
HV-0510	Pressurizer vapor sample containment isolation
HV-0512	Pressurizer surge line liquid sample containment isolation
HV-9950	Containment purge outlet to exhaust unit A060 - cont. isol.
HV-9917	Hydrogen purge exhaust unit A082 inlet - containment isol.
HV-9946	Hydrogen purge supply unit A080 discharge - containment isol.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO.75 TO FACILITY OPERATING LICENSE NO. NPF-10

AND AMENDMENT NO.63 TO FACILITY OPERATING LICENSE NO. NPF-15

SOUTHERN CALIFORNIA EDISON COMPANY

SAN DIEGO GAS AND ELECTRIC COMPANY

THE CITY OF RIVERSIDE, CALIFORNIA

THE CITY OF ANAHEIM, CALIFORNIA

SAN ONOFRE NUCLEAR GENERATING STATION, UNITS 2 AND 3

DOCKET NOS. 50-361 AND 50-362

1.0 INTRODUCTION

By letters dated April 26, October 11, October 24, November 7, and December 16, 1988; and January 16, January 20, and March 28, 1989, Southern California Edison Company (SCE), et al., (the licensees) requested changes to the Technical Specifications for Facility Operating Licenses No. NPF-10 and No. NPF-15 that authorize operation of San Onofre Nuclear Generating Station (SONGS), Units 2 and 3 in San Diego County, California. These requests - designated as PCNs 250, 252, 254, 256, 259, 260, 281, and 283 - proposed to extend the interval for certain of the required 18 month surveillance tests in order to support the nominal 24 month fuel cycle. Both Units 2 and 3 are operating in their first such cycle and will be forced to shut down to perform the 18 month surveillances unless the required interval is extended. SCE has submitted proposed changes to cover all the 18 month surveillance tests which cannot be performed during plant operation. Many of these requests would have changed the required interval from "at least once every 18 months" to "at least once per refueling interval." By letter dated March 20, 1989, SCE amended these requests to define "refueling interval" as 24 months. This definition has been included in the Frequency Notation table of the Technical Specifications (Table 1.2) by Amendments 73 and 61 to Licenses No. NPF-10 and No. NPF-15 respectively.

2.0 DISCUSSION AND EVALUATION

PCN-250

By letter dated April 26, 1988, the licensees proposed to change Technical Specification 3/4.3.3.10, "Loose-Part Detection Instrumentation," to

extend the 18 month surveillance interval to at least once per refueling interval (24 months). Specification 3/4.3.3.10 requires the loose-part detection system to be operable in Modes 1 and 2, defines surveillance tests to verify operability, and specifies compensatory actions to be taken when the minimum operability requirements are not met.

The loose-part detection instrumentation serves to provide early detection of loose metallic parts in the primary system to avoid and/or mitigate damage to primary system components. The Vibration and Loose Parts Monitoring System (V&LPM) monitors the major reactor primary system components. The selected locations provide qualitative indications of vibration throughout the primary system.

Surveillance Requirement 4.3.3.10.c states that each channel of the loose-part detection system shall be demonstrated operable by the performance of a channel calibration at least once per 18 months. SCE states that the channel calibration repeats the functional testing done monthly and also checks the sensors.

SCE has reviewed the history of the 18 month surveillance tests of the V&LPM at SONGS Units 2 and 3 from the start of commercial operation to the date of the review (November 1, 1987). All deficiencies which occurred during that time, except one, were found during the daily and monthly surveillances and by alarm indications.The one exception - Channel 14, Core Internals, Channel B - failed a common mode rejection section of the 18 month test. SCE states that this would be conservative in that an alarm would occur sooner than necessary due to the noise effect. In addition, SCE states that V&LPM does not perform a safety-related function but is solely a monitoring system.

Based upon the ability of the daily and monthly surveillances to detect deficiencies, and the fact that the V&LPM is not safety-related, the staff concludes that extension of the 18 month surveillance interval to 24 months is acceptable.

PCN-252

By letter dated October 24, 1988, the licensees proposed to change Technical Specification 3/4.8.1.1, "AC Sources," to extend the 18 month surveillance interval to at least once per refueling interval (24 months). This Specification requires operability of two physically independent circuits between the offsite transmission network and the onsite Class IE distribution system, and two separate and independent diesel generators, in Modes 1 through 4. It also defines periodic surveillance tests to verify operability and specifies compensatory action to be taken when minimum operability requirements are not met.

Operability of the AC sources ensures that sufficient power will be available to supply the safety related equipment required for safe shutdown of the facility and for mitigation and control of accident conditions within the facility. Surveillance Requirement 4.8.1.1.1.b requires each independent circuit between the offsite transmission network and the

onsite Class IE distribution system to be demonstrated operable at least once per 18 months by transferring (manually and automatically) unit power from the normal offsite power source to the alternate offsite power source. Surveillance Requirement 4.8.1.1.2.d requires each diesel generator to be demonstrated operable at least once per 18 months by performing an inspection of the diesel generator; by starting the diesel generator automatically on a simulated loss of offsite power, with and without an ESF test signal; and by testing the load capacity, sequencing, load shed, load rejection, logic, and fuel transfer features of diesel operation.

SCE states that a review of the required 18 month surveillance tests has determined that no significant problems occurred. One failure to activate the auto transfer of the bus tie breakers occurred due to misalignment of a breaker. This was classified as a startup problem which should not recur. One failure to achieve the two-hour rating of 110% of full load would have been detected on a monthly surveillance test. SCE also reviewed the maintenance history of start-on-demand failures, which showed seven failures on the four diesel generators between January 1984 and June 1987. It was noted that, without exception, all the failures were detectable by monthly surveillance testing. The failure history indicates that the AC power systems have been extremely reliable. Additionally, weekly, monthly, and quarterly tests remain unchanged and have been shown to be effective in detecting problems. All vendor recommended preventative maintenance will continue to be performed on the same schedule.

The staff has evaluated the licensees' submittal and has found that the proposed change affects only the frequency of the 18 month surveillance tests of the AC power systems, which may result in a small reduction in confidence in system operability and in the associated margin of safety. However, the failure history indicates that the systems at SONGS 2 and 3 have been extremely reliable. In addition, the weekly, quarterly, and monthly surveillance tests will continue to provide effective indications of system capability. Also, Technical Specification 4.0.2 allows the current 18 month interval to be extended by 25%, to 22.5 months. For these reasons, any reduction in confidence in system operability is expected to be small for an increase from the currently allowable 22.5 months to 24 months. Therefore, a surveillance interval of 24 months is acceptable. However, the 25% extension of the surveillance interval allowed under Technical Specification 4.0.2 will no longer be permitted, and the proposed Technical Specification has been modified accordingly.

PCN-254

By letter dated December 16, 1988, the licensees proposed to change Technical Specification 3/4.8.4, "Electrical Equipment Protective Devices," to extend the 18 month surveillance intervals to at least once per refueling interval (24 months). Specification 3/4.8.4.1 requires circuits entering containment to be provided with overcurrent protective devices (listed in Table 3.8-1) which must be operable in Modes 1 through 4. Specification 3/4.8.4.2 requires thermal overload protection to be bypassed by a device integral with the motor starter for each valve listed in Table 3.8-2. Each bypass device is required to be operable whenever its motor-

operated valve is required to be operable. These Specifications also define surveillance tests and inspections to verify operability, and compensatory actions to be taken when the minimum operability requirements are not met.

The overcurrent protective devices provide protection to the containment penetration to maintain containment integrity. Surveillance Requirement 4.8.4.1.a requires containment penetration conductor overcurrent devices to be demonstrated operable at least once per 18 months. The medium voltage (4 KV - 15 KV) circuit breakers are demonstrated operable by performing a channel calibration of the associated protective relays and an integrated system functional test of at least 10% of the circuit breakers of each voltage level selected on a rotating basis. For any circuit breaker found inoperable, an additional representative sample of at least 10% of the circuit breakers of the inoperable type shall also be functionally tested. The lower voltage circuit breakers are demonstrated operable by performing functional testing of a representative sample of each type, as described above for the medium voltage circuit breakers.

The thermal overload bypass ensures that the motor will not trip off due to a thermal overload. Surveillance Requirement 4.8.4.2.a requires verifying that the thermal overload protection is bypassed by integral bypass devices at least once per 18 months. Surveillance Requirements 4.8.4.2.b and c require the same verification following maintenance on a valve motor starter, and following any periodic testing during which the thermal overload device was temporarily placed in force, respectively.

SCE has examined the history of the 18 month tests of the electrical equipment protective devices at SONGS 2 and 3 from the beginning of commercial operation to the present. All surveillances on Unit 2 have been successful. All but two of the overcurrent protective device surveillances on Unit 3 have been successful. One failure was caused by loose screws. The other failure required replacement of a neutral relay. All thermal overload bypass surveillances on Unit 3 have been successful.

The staff has evaluated the licensees' submittal. We have determined that the surveillance history has been acceptable. In addition, verification of the thermal overload bypasses will continue to be performed following maintenance or periodic testing which affect the thermal overloads. For these reasons, equipment reliability would not be significantly degraded by extension of the surveillance intervals. Therefore, the staff finds the proposed changes acceptable.

PCN-256

By letter dated November 7, 1988, the licensees proposed to change Technical Specifications 3/4.3.1, "Reactor Protective Instrumentation," and 3/4.3.2, "Engineered Safety Features Actuation System Instrumentation," to extend the 18 month surveillance intervals for the bypass logic to at least once per refueling interval (24 months). Specification 3/4.3.1 defines the Reactor Protective System (RPS) instrumentation channels and bypasses required to be operable, defines periodic surveillance tests to

verify operability, and specifies compensatory action to be taken when minimum operability requirements are not met. Specification 3/4.3.2 defines the Engineered Safety Features Actuation System (ESFAS) instrumentation channels and bypasses required to be operable, defines periodic surveillance tests to verify operability, and specifies compensatory action to be taken when minimum operability requirements are not met.

Operability of the RPS and ESFAS instrumentation and bypasses ensures that (1) associated ESFAS action and/or reactor trip will be initiated when the parameter monitored by each channel or combination thereof reaches its setpoint, (2) the specified coincidence logic is maintained, (3) sufficient redundancy is maintained to permit a channel to be out of service for testing or maintenance, and (4) sufficient functional capability is available from diverse parameters. The RPS and ESFAS have bypass circuits that disable system trips for startup, shutdown, testing, or maintenance. Bypasses are catalogued as either trip channel bypasses or operational bypasses. Trip channel bypass logic allows manual bypass of one and only one channel at any time. Operational bypasses are either automatic, manual, or a combination of the two, and may involve bypass of the selected parameter(s) on more than one of the two channels. Surveillance Requirements 4.3.1.2 (for the RPS) and 4.3.2.2 (for the ESFAS) require that the total bypass function be demonstrated operable at least once per 18 months during channel calibration testing of each channel affected by bypass operation.

SCE states that, except for the Steam Generator Low Flow (S/G LF) bypass logic, monthly surveillance tests are the same as the 18 month surveillance tests. The monthly test of the S/G LF tests the bypass logic on a single channel basis. In addition, all bypasses are annunciated on the main control board and operating procedures require control room personnel to check for proper bypass operation during plant evolutions. Most failures of a bypass would be indicated on the annunciators and would be detected by the operators.

By letter dated June 30, 1989, SCE stated that calibration of all RPS and ESFAS channels was completed during the February 1989 and May/June 1989 outages of Unit 2 and that they are withdrawing their request to extend the surveillance interval for the RPS and ESFAS channel calibrations for Unit 2. The licensees are committed to calibrate all RPS and ESFAS channels on an 18 month interval for both Units 2 and 3, which will maintain instrument drift within acceptable limits. In addition, Technical Specification 4.0.2 allows the current 18 month interval to be extended by 25%, to 22.5 months. For these reasons, and because the monthly bypass logic surveillance tests are nearly identical to the 18 month surveillance tests, any reduction in confidence in bypass logic operability is expected to be small for an increase from the currently allowable 22.5 months to 24 months. Therefore, a surveillance interval of 24 months is acceptable. However, the 25% extension of the surveillance interval allowed under Technical Specification 4.0.2 will no longer be permitted, and the proposed Technical Specification has been modified accordingly. Also, the wording proposed by SCE in Surveillance Requirements 4.3.1.2 and 4.3.2.2 conflicts with Surveillance Requirements 4.3.1.1 and 4.3.2.1. While the surveillance

interval for the bypass logic test will become the refueling interval (24 months), the surveillance interval for the channel calibrations will remain at 18 months. However, SCE's proposed wording of Surveillance Requirements 4.3.1.2 and 4.3.2.2 would continue to tie bypass logic testing to channel calibration testing. Therefore, the staff has changed the wording to remove the connection between the two tests.

PCN-259

By letter dated October 11, 1988, the licensees proposed to change Technical Specification 3/4.6.4.3, "Containment Dome Air Circulators," to extend the 18 month surveillance interval to at least once per refueling interval (24 months). Specification 3/4.6.4.3 defines the number of containment dome air circulator trains required to be operable, defines periodic surveillance tests to verify operability, and specifies compensatory action to be taken when minimum operability requirements are not met.

Operability of the dome air circulators ensures adequate mixing of the containment atmosphere following a loss-of-coolant-accident (LOCA). In conjunction with other containment systems, the dome air circulators will prevent localized accumulations of hydrogen from exceeding its flammable limit. Surveillance Requirement 4.6.4.3 require that each dome air circulator train be demonstrated operable at least once per 18 months by starting the system on a Containment Cooling Actuation Signal (CCAS), by verifying that it operates for at least 15 minutes, and by verifying a system flow rate of at least 37,000 cubic feet per minute.

SCE states that Surveillance Requirement 4.6.4.3 is met by testing all of the Engineered Safety Features (ESF) Actuation System (ESFAS) relays in an actuation subsystem (e.g., CCAS) as a total unit.

The Plant Protection System (PPS) encompasses the Reactor Protective System (RPS) and the Engineered Safety Features (ESF) Actuation System (ESFAS), including the electrical and mechanical devices and circuitry required to perform those functions. Surveillance Requirements 4.3.1.1 and 4.3.2.1 require periodic surveillance testing of the RPS and ESFAS instrumentation channels, respectively. Table 4.3-2 of Specification 4.3.2.1 specifies monthly and semiannual functional testing of the ESFAS instrumentation. SCE states that these requirements are satisfied by performance of the PPS Monthly Test and the ESF Semiannual Functional Test, which together test the ESF actuation logic from sensor inputs through actuation of the tested devices. Final Safety Analysis Report (FSAR) Section 7.3.1.1.1.9 describes a typical test program. The active logic components in the ESFAS actuation path are the PPS bistables, PPS matrix relays, PPS initiation relays, ESFAS subgroup relays, ESF motor controllers, and the ESF actuated devices. The PPS Monthly Test checks the PPS bistables, matrix relays, and initiation relays. The ESF Semiannual Functional Test checks the ESFAS subgroup relays and motor controllers and actuates the devices. SCE states that the major difference between the combination of these two tests and the 18 month ESFAS test is that the latter tests all of the logic and actuated devices for a particular

function at once. Components which cannot be tested during power operation are tested during the first cold shutdown longer than 24 hours if they have not been tested in the last six months. All of the CCAS components can be operated at power, however, access to the containment is necessary to install and monitor the test instrumentation required for the flow measurement. SCE has reviewed the history of the flow measurement tests since the start of commercial operation and has found that all have been satisfactory.

The staff has evaluated the licensees' submittal. We have determined that the monthly and semiannual functional tests of the ESFAS channels provide sufficient assurance of Containment Dome Air Circulator response to the CCAS signal to allow extension of the 18 month surveillance interval to 24 months. In addition, the test history of the flow measurement tests indicate that system reliability would not be significantly degraded by extension of the surveillance interval. Therefore, the staff finds the proposed change acceptable.

PCN-260

By letter dated January 20, 1989, the licensees proposed to change Technical Specifications 3/4.7.1.2, "Auxiliary Feedwater System," 3/4.7.3, "Component Cooling Water System," 3/4.7.4, "Salt Water Cooling System," and 3/4.7.10, "Emergency Chilled Water System," to extend the 18 month surveillance interval to at least once per refueling interval (24 months). These Specifications define the equipment and/or flow paths that are required to be operable, define periodic surveillance tests to verify operability, and specify compensatory action to be taken when minimum operability requirements are not met.

Operability of the Auxiliary Feedwater (AFW) System ensures that the Reactor Coolant System can be cooled down to less than 350 degrees Fahrenheit from normal operating conditions in the event of a total loss of offsite power. Operability of the Component Cooling Water (CCW) System ensures that sufficient cooling capacity is available for continued operation of safety related equipment during normal and accident conditions. Operability of the Salt Water Cooling (SWC) System ensures that sufficient cooling capacity is available for continued operation of equipment during normal and accident conditions. Operability of the Emergency Chilled Water System (ECWS) ensures that sufficient space cooling capacity is available for continued operation of safety related equipment during accident conditions. Surveillance Requirement 4.7.1.2.1.b requires that each AFW pump be demonstrated operable at least once per 18 months by verifying that each automatic valve in the AFW flow path and each AFW pump be verified to actuate to its desired position upon an Emergency Feedwater Actuation Signal (EFAS) test signal. Surveillance Requirement 4.7.3.b requires that at least two CCW loops be demonstrated operable at least once per 18 months during shutdown by verifying that each automatic valve servicing safety related equipment actuates to its correct position, and that each CCW pump starts automatically upon a Safety Injection Actuation Signal (SIAS) test signal. Surveillance Requirement 4.7.4.b requires that

at least two SWC loops be demonstrated operable at least once per 18 months during shutdown by verifying that each automatic valve servicing safety related equipment actuates to its correct position, and that each SWC pump starts automatically upon a SIAS test signal. Surveillance Requirement 4.7.10.b requires that each ECWS be demonstrated operable at least once per 18 months by verifying that each Emergency Chilled Water pump and each power operated or automatic valve servicing safety related equipment actuates to its correct position upon any of the following test signals: SIAS, Toxic Gas Isolation Signal (TGIS), Control Room Isolation Signal (CRIS), and Fuel Handling Isolation Signal (FHIS) when irradiated fuel is in the storage pool.

SCE states that these requirements are met by testing all of the ESFAS relays in an actuation subsystem (e.g., SIAS) as a total unit, with the exception of the Containment Purge Isolation System (CPIS) valves.

As described under PCN-259 above, the PPS Monthly Test and the ESF Semi-annual Functional Test together test the ESF actuation logic from sensor inputs through actuation of the tested devices. Components which cannot be tested during plant operation are tested during the first cold shutdown longer than 24 hours if they have not been tested in the last 6 months. SCE states that all of the components covered by the above Surveillance Requirements can be tested at power. In addition, Specification 4.0.5 requires inservice testing of all ASME Class 1, 2, and 3 valves in accordance with Section XI of the ASME Boiler and Pressure Vessel Code.

The staff has evaluated the licensees' submittal. We have determined that the monthly and semiannual functional tests of the ESFAS channels provide sufficient assurance of AFW, CCW, SWC, and ECWS response to ESFAS signals to allow extension of the 18 month surveillance interval to 24 months. In addition, the inservice testing of the pumps and valves provides added assurance that these systems are capable of performing their design functions. Therefore, the staff finds the proposed changes acceptable.

PCN-281

By letter dated January 16, 1989, the licensees proposed to change Technical Specification 3/4.3.3.3, "Seismic Instrumentation," to extend the 18 month surveillance interval to at least once per refueling interval (24 months). Specification 3/4.3.3.3 defines the seismic monitoring instrumentation required to be operable, defines periodic surveillance tests to verify operability, and specifies compensatory action to be taken when minimum operability requirements are not met.

Operability of the seismic monitoring instrumentation ensures that sufficient capability is available to promptly determine the magnitude of a seismic event and evaluate the response of those features important to safety. This capability is required to permit comparison of the measured response to that used in the design basis for the facility to determine if plant shutdown is required pursuant to Appendix A of 10 CFR Part 100. Surveillance Requirement 4.3.3.3.1 requires performance of channel calibrations at least once per 18 months.

SCE has reviewed the history of the 18 month surveillance tests from the start of commercial operation to the present. Only one test failed. SCE states that the monthly channel check and the semiannual functional test provide a high level of assurance that the system is capable of performing its design function.

The staff has evaluated the licensees' submittal. We have determined that the monthly and semiannual functional tests of the seismic monitoring instrumentation provide evidence of system operability. In addition, Technical Specification 4.0.2 allows the current 18 month interval to be extended by 25%, to 22.5 months. For these reasons, and because the staff believes that accelerometer characteristics will not change significantly for an increase from the currently allowable 22.5 months to 24 months, a surveillance interval of 24 months for the channel calibration is acceptable. However, the 25% extension of the surveillance interval allowed under Technical Specification 4.0.2 will no longer be permitted, and the proposed Technical Specification has been modified accordingly.

PCN-283

By letter dated March 28, 1989, the licensees proposed to change Technical Specification 3/4.7.8.1, "Fire Suppression Water System," to extend the 18 month surveillance interval to at least once per refueling interval (24 months) for those valves not testable during plant operation that are located in areas that are inaccessible during non-refueling operations. Specification 3.4.7.8.1. defines the operability requirements of the Fire Suppression Water System, defines periodic surveillance tests to verify operability, and specifies compensatory action to be taken when minimum operability requirements are not met.

Operability of the Fire Suppression Water System ensures that adequate fire suppression capability is available to confine and extinguish fires occurring in any plant area where safety related equipment is located. Surveillance Requirement 4.7.8.1.1.e. requires that the fire suppression water system be demonstrated operable by performing a system functional test at least once per 18 months; Surveillance Requirement 4.7.8.1.1.e.2 requires that each valve in the flow path that is not testable during plant operation be cycled through at least one complete cycle of travel.

SCE has reviewed the results of the surveillance tests and found that no unsatisfactory conditions have been identified as a result of the surveillances.

The staff has evaluated the licensees' submittal. Because a 24 month surveillance interval conforms to the guidance of the National Fire Protection Association Standards, we conclude that the increase in the surveillance interval will not significantly reduce the reliability of these fire protection systems. Therefore, the proposed change is acceptable.

3.0 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 determination of no significant hazards consideration. No comments were received.

4.0 ENVIRONMENTAL CONSIDERATION

The amendments involve changes in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes in surveillance requirements. The staff has determined that approval of PCNs 250, 254, 259, 260 and 283 involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding for these changes that the amendments involve no significant hazards consideration and there has been no public comment on such finding. Accordingly, these amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

Pursuant to 10 CFR 51.21, 51.32, and 51.35, an Environmental Assessment and Finding of No Significant Impact for PCNs 252, 256, and 281 has been prepared and published in the Federal Register on July 28, 1989 (54 FR 31394). Accordingly, based upon the environmental assessment, the Commission has determined that the issuance of these amendments will not have a significant effect on the quality of the human environment.

5.0 CONCLUSION

We have concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributors: D. Hickman, N. Trehan, I. Ahmed

Dated: July 27, 1989

7590-01

UNITED STATES NUCLEAR REGULATORY COMMISSION

SOUTHERN CALIFORNIA EDISON COMPANY, ET AL.

DOCKET NOS. 50-361 AND 50-362

NOTICE OF ISSUANCE OF AMENDMENTS TO FACILITY OPERATING LICENSES

The U.S. Nuclear Regulatory Commission (Commission) has issued Amendment No. 75 to Facility Operating License No. NPF-10 and Amendment No. 63 to Facility Operating License No. NPF-15, issued to Southern California Edison Company, San Diego Gas and Electric Company, The City of Riverside, California and the City of Anaheim, California (the licensees), which revised the Technical Specifications for operation of the San Onofre Nuclear Generating Station, Units 2 and 3, located in San Diego County California.

The amendments were effective as of the date of issuance.

These amendments revise the following Technical Specifications (TS) to increase the interval for the 18 month surveillance tests to at least once per refueling interval, which is defined as 24 months: TS 3/4.3.1, Reactor Protective Instrumentation"; TS 3/4.3.2, "Engineered Safety Features Actuation System Instrumentation"; TS 3/4.3.3.3, "Seismic Instrumentation", and TS 3/4.8.1.1, "AC Sources."

The applications for amendments comply with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations. The Commission has made appropriate findings as required by the Act and the Commission's regulations in 10 CFR Chapter I, which are set forth in the license amendments.

Notices of Consideration of Issuance of Amendments and Opportunity for Hearing in connection with this action were published in the FEDERAL REGISTER

on February 21, 1989 (54 FR 7493) and February 24, 1989 (54 FR 8033 and 8035). No request for a hearing or petition for leave to intervene was filed following these notices.

The Commission has prepared an Environmental Assessment and Finding of No Significant Impact related to the action and has determined that an environmental impact statement need not be prepared and that issuance of the amendments will have no significant adverse effect on the quality of the human environment.

For further details with respect to the action see (1) the applications for amendments dated April 26, October 11, October 24, November 7, and December 16, 1988, and January 16, January 20, and March 28, 1989; (2) Amendment No. 75 to License No. NPF-10 and Amendment No. 63 to License No. NPF-15; (3) the Commission's related Safety Evaluation dated July 27, 1989; and (4) the Commission's Environmental Assessment dated July 24, 1989 (54 FR 31394). All of these items are available for public inspection at the Commission's Public Document Room, 2120 L Street NW., Washington, DC 20555, and the General Library, University of California, P. O. Box 19557, Irvine, California 92713. A copy of items (2), (3) and (4) may be obtained upon request addressed to the U.S. Nuclear Regulatory Commission, Washington, DC 20555, Attention: Director, Division of Reactor Projects III, IV, V and Special Projects.

Dated at Rockville, Maryland this 28th day of July 1989.

FOR THE NUCLEAR REGULATORY COMMISSION

Donald E. Hickman, Project Manager
Project Directorate V
Division of Reactor Projects III
IV, V and Special Projects
Office of Nuclear Reactor Regulation