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

May 31, 1989

Docket Nos. 50-361 and 50-362

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

Gentlemen:

SUBJECT: ISSUANCE OF AMENDMENT NO. 73 TO FACILITY OPERATING LICENSE NO. NPF-10 AND AMENDMENT NO. 61 TO FACILITY OPERATING LICENSE NO. NPF-15 SAN ONOFRE NUCLEAR GENERATING STATION, UNITS 2 AND 3 (TAC NOS. 67980, 67981, 67999, 68000, 69838, 69839, 69844, 69845, 71056, 71057, 71079, AND 71080)

The Commission has issued the enclosed amendments to Facility Operating Licenses No. NPF-10 and No. 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 and October 24, 1988 as amended by letter dated March 20, 1989. These requests were designated by you as PCNs 247, 249, 257, 258, 261, and 265.

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 3/4.1.2.2, "Boration Systems, Flow Paths-Operating."
b. TS 3/4.1.3.4, "CEA Drop Time."
c. TS 3/4.5.1, "Safety Injection Tanks."
d. TS 3/4.5.2, "ECCS Subsystems-T_{avg} Greater Than or Equal to 350°F."
e. TS 3/4.6.2.1, "Containment Spray System."
f. TS 3/4.6.2.3, "Containment Cooling System."
g. TS 3/4.6.3, "Containment Isolation Valves."
h. TS 3/4.6.4.2, "Electric Hydrogen Recombiners."

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A copy of our related Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's next regular bi-weekly Federal Register notice.

Sincerely,

Donald E. Hickman

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. 73 to License No. NPF-10
2. Amendment No. 61 to License No. NPF-15
3. Safety Evaluation

cc w/enclosures:
See next page

Mr. Kenneth P. Baskin
Southern California Edison Company

San Onofre Nuclear Generating
Station, Units 2 and 3

cc:

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A copy of our related Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's next regular bi-weekly Federal Register notice.

Sincerely,

/s/

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. 73 to License No. NPF-10
2. Amendment No. 61 to License No. NPF-15
3. Safety Evaluation

cc w/enclosures:
See next page

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EJordan	DHickman
JWCraig	MWHodges

SO 2/3 AMD - SURVEILLANCES

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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. 73
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, and October 24, 1988, as supplemented March 20, 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.

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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. 73 , 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: May 31, 1989

ATTACHMENT TO LICENSE AMENDMENT NO.

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
1-8	1-7
3/4 1-7	3/4 1-8
3/4 1-20	3/4 1-19
3/4 5-2	3/4 5-1
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TABLE 1.2

FREQUENCY NOTATION

NOTATION	FREQUENCY
S	At least once per 12 hours.
D	At least once per 24 hours.
W	At least once per 7 days.
M	At least once per 31 days.
Q	At least once per 92 days.
SA	At least once per 184 days.
R	At least once per 18 months.
S/U	Prior to each reactor startup.
P	Completed prior to each release.
N.A.	Not applicable.
Refueling Interval	At least once per 24 months.

FLOW PATHS - OPERATING

LIMITING CONDITION FOR OPERATION

3.1.2.2 The following boron injection flow paths to the RCS via the charging pumps(s) shall be OPERABLE:

a. At least one of the following combinations:

1) One boric acid makeup tank, with the tank contents in accordance with Figure 3.1-1, its associated gravity feed valve, and boric acid makeup pump.

2) Two boric acid makeup tanks, with the combined contents of the tanks in accordance with Figure 3.1-1, their associated gravity feed valves, and boric acid makeup pumps,

3) Two boric acid makeup tanks, each with contents in accordance with Figure 3.1-1, at least one gravity feed valve, and at least one boric acid makeup pump, and

b. The flow path from the refueling water storage tank.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With fewer than the above required boron injection flow paths to the Reactor Coolant System OPERABLE, restore the required boron injection flow paths to the Reactor Coolant System to OPERABLE status within 72 hours or be in at least HOT STANDBY and borated to a SHUTDOWN MARGIN equivalent to at least 3.0% delta k/k at 200°F within the next 6 hours; restore the required flow paths to OPERABLE status within the next 7 days or be in COLD SHUTDOWN within the next 30 hours.

SURVEILLANCE REQUIREMENTS

4.1.2.2 The above required flow paths shall be demonstrated OPERABLE:

a. Intentionally deleted.

b. At least once per 31 days by 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.

c. At least once per refueling interval during shutdown by verifying that each automatic valve in the flow path actuates to its correct position on a SIAS test signal.

CEA DROP TIME

LIMITING CONDITION FOR OPERATION

3.1.3.4 The individual full length (shutdown and regulating) CEA drop time, from a withdrawn position greater than or equal to 145 inches, shall be less than or equal to 3.2 seconds from when the electrical power is interrupted to the CEA drive mechanism until the CEA reaches its 90 percent insertion position with:

a. T_{avg} greater than or equal to 520°F, and

b. All reactor coolant pumps operating.

APPLICABILITY: MODES 1 and 2.

ACTION:

With the drop time of any full length CEA determined to exceed the above limit, be in at least HOT STANDBY within six hours.

SURVEILLANCE REQUIREMENTS

4.1.3.4 The CEA drop time of full length CEAs shall be demonstrated through measurement prior to reactor criticality:

a. For all CEAs following each removal and reinstallation of the reactor vessel head,

b. For specifically affected individuals CEAs following any maintenance on or modification to the CEA drive system which could affect the drop time of those specific CEAs, and

c. At least once per refueling.

SURVEILLANCE REQUIREMENTS (Continued)

b. At least once per 31 days and within 6 hours after each solution volume increase of greater than or equal to 1% of tank volume by verifying the boron concentration of the safety injection tank solution.

c. At least once per 31 days by verifying the fuses removed from each safety injection tank vent valve.

d. At least once per 31 days when the RCS pressure is above 715 psia, by verifying that the isolation valve operator breakers are padlocked in the open position.

e. At least once per refueling interval by verifying that each safety injection tank isolation valve opens automatically under each of the following conditions:

   1. Before an actual or simulated RCS pressure signal exceeds 715 psia, and

   2. Upon receipt of an SIAS test signal.

4.5.2 Each ECCS subsystem shall be demonstrated OPERABLE:

a. At least once per 12 hours by verifying that the following valves are in the indicated positions with power to the valve operators removed:

Valve Number		Valve Function	Valve Position
a.	HV9353	SDC Warmup	CLOSED
b.	HV9359	SDC Warmup	CLOSED
c.	HV8150	SDC(HX) Isolation	CLOSED
d.	HV8151	SDC(HX) Isolation	CLOSED
e.	HV8152	SDC(HX) Isolation	CLOSED
f.	HV8153	SDC(HX) Isolation	CLOSED
g.	HV0396	SDC Bypass Flow Control	CLOSED
h.	HV8161	SDC(HX) Bypass Flow Isolation	OPEN
i.	Deleted		
j.	Deleted		
k.	HV9420	Hot Leg Injection Isolation	CLOSED
l.	HV9434	Hot Leg Injection Isolation	CLOSED
m.	HV8160	SDC Bypass Flow Control	OPEN
n.	10-068	RWST Isolation	LOCKED OPEN (MANUAL)
o.	HV8162	LPSI Miniflow Isolation	OPEN
p.	HV8163	LPSI Miniflow Isolation	OPEN

b. At least once per 31 days by:

1. Verifying that the ECCS piping is full of water by venting the ECCS pump casings and accessible discharge piping high points, and

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 the correct position.

c. By a visual inspection which verifies that no loose debris (rags, trash, clothing, etc.) is present in the containment which could be transported to the containment sump and cause restriction of the pump suctions during LOCA conditions. This visual inspection shall be performed:

1. For all accessible areas of the containment prior to establishing CONTAINMENT INTEGRITY, and

2. Of the areas affected within containment at the completion of containment entry when CONTAINMENT INTEGRITY is established.

d. At least once per refueling interval by:

1. Verifying automatic isolation of the shutdown cooling system from the Reactor Coolant System when RCS pressure is simulated greater than or equal to 715 psia, and that the interlocks prevent opening the shutdown cooling system isolation valves when simulated RCS pressure is greater than or equal to 376 psia.

2. A visual inspection of the containment sump and verifying that the subsystem suction inlets are not restricted by debris and that the sump components (trash racks, screens, etc.) show no evidence of structural distress or abnormal corrosion.

e. At least once per refueling interval, during shutdown, by:

1. Verifying that each automatic valve in the flow path actuates to its correct position on SIAS and RAS test signals.

2. Verifying that each of the following pumps start automatically upon receipt of a Safety Injection Actuation Test Signal:

a. High-Pressure Safety Injection pump.

b. Low-Pressure Safety Injection pump.

c. Charging pump.

3. Verifying that on a Recirculation Actuation Test Signal, the containment sump isolation valves open; and that on a RAS test signal coincident with a high-high containment sump test signal, all the recirculation valves to the refueling water tank close.

f. By verifying that each of the following pumps develops the indicated developed head and/or flow rate when tested pursuant to Specification 4.0.5:

1. High-Pressure Safety Injection pumps developed head, at an indicated flow rate of 650 gpm, greater than or equal to 2142 feet for P017, 2101 feet for P018 and 2103 for P019 (see NOTE 1).

2. Low-Pressure Safety Injection pump developed head greater than or equal to 406.1 feet.

3. Charging pump flow rate greater than or equal to 40 gpm.

g. By performing a flow balance test, during shutdown, following completion of modifications to the ECCS subsystems that alter the subsystem flow characteristics and verifying the following flow rates:

1. For High-Pressure Safety Injection pump cold leg injection with a single pump running:

a. The sum of the injection lines flow rates, excluding the highest flow rate, is greater than or equal to 657 gpm for P017 running, 667 gpm for P018 running and 672 gpm for P019 running, and

b. The total pump flow rate is greater than or equal to 900 gpm for P017 running, 913 gpm for P018 running and 918 gpm for P019 running.

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

CONTAINMENT SPRAY SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.2.1 Two independent containment spray systems shall be OPERABLE with each spray system capable of taking suction from the RWST on a Containment Spray Actuation Signal and automatically transferring suction to the containment sump on a Recirculation Actuation Signal. Each spray system flow path from the containment sump shall be via an OPERABLE shutdown cooling heat exchanger.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

With one containment spray system inoperable, restore the inoperable spray system to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours; restore the inoperable spray system to OPERABLE status within the next 48 hours or be in HOT SHUTDOWN within the following 6 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.1 Each containment spray system shall be demonstrated OPERABLE:

a. At least once per 31 days by 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 the correct position with suction aligned to the RWST.

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 on a Containment Spray Actuation test signal.

   2. Verifying that upon a Recirculation Actuation Test Signal, the containment sump isolation valves open and that a recirculation mode flow path via an OPERABLE shutdown cooling heat exchanger is established.

CONTAINMENT COOLING SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.2.3 Two independent groups of containment cooling fans shall be OPERABLE with two fan systems to each group.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With one group of the above required containment cooling fans inoperable and both containment spray systems OPERABLE, restore the inoperable group of cooling fans 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 two groups of the above required containment cooling fans inoperable, and both containment spray systems OPERABLE, restore at least one group of cooling fans 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. Restore both above required groups of cooling fans to OPERABLE status within 7 days of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

c. With one group of the above required containment cooling fans inoperable and one containment spray system inoperable, restore the inoperable spray system 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. Restore the inoperable group of containment cooling fans to OPERABLE status within 7 days of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.3 Each group of containment cooling fans shall be demonstrated OPERABLE:

a. At least once per 31 days by:

   1. Starting each fan group from the control room and verifying that each fan group operates for at least 15 minutes.

   2. Verifying a cooling water flow rate of greater than or equal to 2000 gpm to each cooler.

b. At least once per refueling interval by verifying that each fan group starts automatically on a Containment Cooling Actuation test signal.

SURVEILLANCE REQUIREMENTS (Continued)

4.6.3.2 Each isolation valve (except check valves) specified in Section A and B of Table 3.6-1 shall be demonstrated OPERABLE during the COLD SHUTDOWN or REFUELING MODE at least once per refueling interval by verifying that on an ESFAS test signal, each isolation valve actuates to its isolation position.

4.6.3.3 The isolation time of each power operated or automatic valve (except check valves) in Section A and B of Table 3.6-1 shall be determined to be within its limit when tested pursuant to Specification 4.0.5.

4.6.3.4 The manual isolation valves specified in Section C of Table 3.6-1 shall be demonstrated OPERABLE in accordance with Specifications 4.6.1.1.a and 4.6.1.2.d.

4.6.3.5 The isolation valves specified in Section D of Table 3.6-1 shall be demonstrated OPERABLE as required by Specification 4.0.5 and surveillance requirements associated with those Limiting Conditions for Operation pertaining to each valve or system in which it is installed. Valves secured** in the ESFAS actuated position are considered OPERABLE pursuant to this specification.

**Locked, sealed or otherwise prevented from unintentional operation.

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 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.

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. 61
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, and October 24, 1988, as supplemented March 20, 1988, 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-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. , 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

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: May31, 1989

ATTACHMENT TO LICENSE AMENDMENT NO. 61

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
1-8	1-7
3/4 1-7	3/4 1-8
3/4 1-20	3/4 1-19
3/4 5-2	3/4 5-1
3/4 5-4	3/4 5-3
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3/4 6-28	3/4 6-27

TABLE 1.2

FREQUENCY NOTATION

NOTATION	FREQUENCY
S	At least once per 12 hours.
D	At least once per 24 hours.
W	At least once per 7 days.
M	At least once per 31 days.
Q	At least once per 92 days.
SA	At least once per 184 days.
R	At least once per 18 months.
S/U	Prior to each reactor startup.
P	Completed prior to each release.
N.A.	Not applicable.
Refueling Interval	At least once per 24 months.

FLOW PATHS - OPERATING

LIMITING CONDITION FOR OPERATION

3.1.2.2 The following boron injection flowpaths to the RCS via the charging pump(s) shall be OPERABLE:

a. At least one of the following combinations:

1) One boric acid makeup tank, with the tank contents in accordance with Figure 3.1-1, its associated gravity feed valve, and boric acid makeup pump.

2) Two boric acid makeup tanks, with the combined contents of the tanks in accordance with Figure 3.1-1, their associated gravity feed valves, and boric acid makeup pumps,

3) Two boric acid makeup tanks, each with contents in accordance with Figure 3.1-1, at least one gravity feed valve, and at least one boric acid makeup pump, and

b. The flow path from the refueling water storage tank.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With fewer than the above required boron injection flow paths to the Reactor Coolant System OPERABLE, restore the required boron injection flow paths to the Reactor Coolant System to OPERABLE status within 72 hours or be in at least HOT STANDBY and borated to a SHUTDOWN MARGIN equivalent to at least 3.0% delta k/k at 200°F within the next 6 hours; restore the required flow paths to OPERABLE status within the next 7 days or be in COLD SHUTDOWN within the next 30 hours.

SURVEILLANCE REQUIREMENTS

4.1.2.2 The above required flow paths shall be demonstrated OPERABLE:

a. Intentionally deleted.

b. At least once per 31 days by 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.

c. At least once per refueling interval during shutdown by verifying that each automatic valve in the flow path actuates to its correct position on a SIAS test signal.

CEA DROP TIME

LIMITING CONDITION FOR OPERATION

3.1.3.4 The individual full length (shutdown and regulating) CEA drop time, from a withdrawn position greater than or equal to 145 inches, shall be less than or equal to 3.2 seconds from when the electrical power is interrupted to the CEA drive mechanism until the CEA reaches its 90 percent insertion position with:

a. T_{avg} greater than or equal to 520°F, and

b. All reactor coolant pumps operating.

APPLICABILITY: MODES 1 and 2.

ACTION:

a. With the drop time of any full length CEA determined to exceed the above limit, be in at least HOT STANDBY within 6 hours.

SURVEILLANCE REQUIREMENTS

4.1.3.4 The CEA drop time of full length CEAs shall be demonstrated through measurement prior to reactor criticality:

a. For all CEAs following each removal and reinstallation of the reactor vessel head,

b. For specifically affected individuals CEAs following any maintenance on or modification to the CEA drive system which could affect the drop time of those specific CEAs, and

c. At least once per refueling.

SURVEILLANCE REQUIREMENTS (Continued)

b. At least once per 31 days and within 6 hours after each solution volume increase of greater than or equal to 1% of tank volume by verifying the boron concentration of the safety injection tank solution.

c. At least once per 31 days by verifying the fuses removed from each safety injection tank vent valve.

d. At least once per 31 days when the RCS pressure is above 715 psia, by verifying that the isolation valve operator breakers are padlocked in the open position.

e. At least once per refueling interval by verifying that each safety injection tank isolation valve opens automatically under each of the following conditions:

   1. Before an actual or simulated RCS pressure signal exceeds 715 psia, and

   2. Upon receipt of an SIAS test signal.

SURVEILLANCE REQUIREMENTS

4.5.2 Each ECCS subsystem shall be demonstrated OPERABLE:

a. At least once per 12 hours by verifying that the following valves are in the indicated positions with power to the valve operators removed:

Valve Number		Valve Function	Valve Position
a.	HV9353	SDC Warmup	CLOSED
b.	HV9359	SDC Warmup	CLOSED
c.	HV8150	SDC(HX) Isolation	CLOSED
d.	HV8151	SDC(HX) Isolation	CLOSED
e.	HV8152	SDC(HX) Isolation	CLOSED
f.	HV8153	SDC(HX) Isolation	CLOSED
g.	HV0396	SDC Bypass Flow Control	CLOSED
h.	HV8161	SDC(HX) Bypass Flow Isolation	OPEN
i.	Deleted		
j.	Deleted		
k.	HV9420	Hot Leg Injection Isolation	CLOSED
l.	HV9434	Hot Leg Injection Isolation	CLOSED
m.	HV8160	SDC Bypass Flow Control	OPEN
n.	HV8162	LPSI Miniflow Isolation	OPEN
o.	HV8163	LPSI Miniflow Isolation	OPEN

b. At least once per 31 days by:

1. Verifying that the ECCS piping is full of water by venting the ECCS pump casings and accessible discharge piping high points, and

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 the correct position.

c. By a visual inspection which verifies that no loose debris (rags, trash, clothing, etc.) is present in the containment which could be transported to the containment sump and cause restriction of the pump suctions during LOCA conditions. This visual inspection shall be performed:

1. For all accessible areas of the containment prior to establishing CONTAINMENT INTEGRITY, and

2. Of the areas affected within containment at the completion of containment entry when CONTAINMENT INTEGRITY is established.

d. At least once per refueling interval by:

1. Verifying automatic isolation of the shutdown cooling system from the Reactor Coolant System when RCS pressure is simulated greater than or equal to 715 psia, and that the interlocks prevent opening the shutdown cooling system isolation valves when simulated RCS pressure is greater than or equal to 376 psia.

2. A visual inspection of the containment sump and verifying that the subsystem suction inlets are not restricted by debris and that the sump components (trash racks, screens, etc.) show no evidence of structural distress or abnormal corrosion.

e. At least once per refueling interval, during shutdown, by:

1. Verifying that each automatic valve in the flow path actuates to its correct position on SIAS and RAS test signals.

2. Verifying that each of the following pumps start automatically upon receipt of a Safety Injection Actuation Test Signal:

a. High-Pressure Safety Injection pump.

b. Low-Pressure Safety Injection pump.

c. Charging pump.

3. Verifying that on a Recirculation Actuation Test Signal, the containment sump isolation valves open; and that on a RAS test signal coincident with a high-high containment sump test signal, all the recirculation valves to the refueling water tank close.

f. By verifying that each of the following pumps develops the indicated developed head and/or flow rate when tested pursuant to Specification 4.0.5:

1. High-Pressure Safety Injection pumps developed head, at an indicated flow rate of 650 gpm, greater than or equal to 2093 feet for P017, 2132 feet for P018 and 2099 for P019 (see NOTE 1).

2. Low-Pressure Safety Injection pump developed head greater than or equal to 396 feet at miniflow.

3. Charging pump flow rate greater than or equal to 40 gpm.

g. By performing a flow balance test, during shutdown, following completion of modifications to the ECCS subsystems that alter the subsystem flow characteristics and verifying the following flow rates:

1. For High-Pressure Safety Injection pump cold leg injection with a single pump running:

a. The sum of the injection lines flow rates, excluding the highest flow rate, is greater than or equal to 647 gpm for P017 running, 656 gpm for P018 running, and 661 gpm for P019 running, and

b. The total pump flow rate is greater than or equal to 882 gpm for P017 running, 894 gpm for P018 running, and 901 gpm for P019 running.

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

CONTAINMENT SPRAY SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.2.1 Two independent containment spray systems shall be OPERABLE with each spray system capable of taking suction from the RWST on a Containment Spray Actuation Signal and automatically transferring suction to the containment sump on a Recirculation Actuation Signal. Each spray system flow path from the containment sump shall be via an OPERABLE shutdown cooling heat exchanger.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

With one containment spray system inoperable, restore the inoperable spray system to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours; restore the inoperable spray system to OPERABLE status within the next 48 hours or be in HOT SHUTDOWN within the following 6 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.1 Each containment spray system shall be demonstrated OPERABLE:

a. At least once per 31 days by 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 the correct position with suction aligned to the RWST.

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 on a Containment Spray Actuation test signal.

2. Verifying that upon a Recirculation Actuation Test Signal, the containment sump isolation valves open and that a recirculation mode flow path via an OPERABLE shutdown cooling heat exchanger is established.

CONTAINMENT COOLING SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.2.3 Two independent groups of containment cooling fans shall be OPERABLE with two fan systems to each group.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With one group of the above required containment cooling fans inoperable and both containment spray systems OPERABLE, restore the inoperable group of cooling fans 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 two groups of the above required containment cooling fans inoperable, and both containment spray systems OPERABLE, restore at least one group of cooling fans 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. Restore both above required groups of cooling fans to OPERABLE status within 7 days of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

c. With one group of the above required containment cooling fans inoperable and one containment spray system inoperable, restore the inoperable spray system 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. Restore the inoperable group of containment cooling fans to OPERABLE status within 7 days of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.3 Each group of containment cooling fans shall be demonstrated OPERABLE:

a. At least once per 31 days by:

   1. Starting each fan group from the control room and verifying that each fan group operates for at least 15 minutes.

   2. Verifying a cooling water flow rate of greater than or equal to 2000 gpm to each cooler.

b. At least once per refueling interval by verifying that each fan group starts automatically on a Containment Cooling Actuation test signal.

SURVEILLANCE REQUIREMENTS (Continued)

4.6.3.2 Each isolation valve (except check valves) specified in Section A and B of Table 3.6-1 shall be demonstrated OPERABLE during the COLD SHUTDOWN or REFUELING MODE at least once per refueling interval by verifying that on an ESFAS test signal, each isolation valve actuates to its isolation position.

4.6.3.3 The isolation time of each power operated or automatic valve (except check valves) in Section A and B of Table 3.6-1 shall be determined to be within its limit when tested pursuant to Specification 4.0.5.

4.6.3.4 The manual isolation valves specified in Section C of Table 3.6-1 shall be demonstrated OPERABLE in accordance with Specifications 4.6.1.1.a and 4.6.1.2.d.

4.6.3.5 The isolation valves specified in Section D of Table 3.6-1 shall be demonstrated OPERABLE as required by Specification 4.0.5 and surveillance requirements associated with those Limiting Conditions for Operation pertaining to each valve or system in which it is installed. Valves secured** in the ESFAS actuated position are considered OPERABLE pursuant to this specification.

**Locked, sealed or otherwise prevented from unintentional operation.

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 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.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

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

AND AMENDMENT NO. 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, and October 24, 1988 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 247, 249, 257, 258, 261, and 265 - 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 outage." By letter dated March 20, 1989 SCE amended these requests to define "refueling outage" as 24 months. This definition would be included in the Frequency Notation table of the Technical Specifications (Table 1.2) and would apply to all requests containing such notation.

2.0 DISCUSSION AND EVALUATION

Definition of Refueling Interval

By letter dated March 20, 1989 the licensees proposed to change Table 1.2 of Section 1.13, "Frequency Notation," of the SONGS Technical Specifications to

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add the term "Refueling Interval," which would be defined as "at least once per 24 months." SCE has confirmed that the "refueling interval" frequency notation is not now used in the Technical Specifications. Because this change is administrative in nature and will have no effect on existing specifications, it is acceptable.

This change will apply to the pending requests to extend the 18 month surveillance intervals, and to any future requests containing a refueling interval frequency. A frequency of at least once per 24 months shall be equivalent to at least once per 732 days. Surveillance Requirement 4.0.2 shall be applicable to the refueling interval unless the associated Limiting Condition for Operation specifically states that Specification 4.0.2 is not applicable. The maximum allowable extension under Specification 4.0.2 shall not exceed 183 days. The maximum time interval for any 3 consecutive refueling interval surveillances shall not exceed 2379 days.

PCN-247

By letter dated April 26, 1988 the licensees proposed to change Technical Specification 3/4.6.4.2, "Electric Hydrogen Recombiners," to extend the 18 month surveillance interval to at least once per refueling outage (24 months). This Specification requires two hydrogen recombiners to be operable during modes 1 and 2, defines periodic surveillance tests to verify operability, and specifies compensatory action to be taken when minimum operability requirements are not met.

The hydrogen recombiners are part of the post accident combustible gas control system. During a postulated loss of coolant accident, hydrogen gas would evolve from the reaction of water with fuel cladding, radiolytic decomposition of water, and corrosion of metals inside containment. The function of the combustible gas control system is to maintain the post accident concentration of hydrogen gas in the containment atmosphere below the limit of combustibility, thereby preventing hydrogen gas combustion from challenging containment integrity.

To verify operability of the hydrogen recombiners, Specification 3/4.6.4.2.a requires a functional test to be performed at least once per six months. This test verifies that the minimum heater sheath temperature increases to greater than or equal to 700°F within 90 minutes and that, at 700°F and maximum power, the power meter indicates greater than or equal to 60 KW. In addition, Specification 4.6.4.2.b requires each Hydrogen Recombiner System to be demonstrated operable at least once per 18 months by:

a) Performing a channel calibration of all recombiner instrumentation and control circuits.

b) 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 material, etc.), and

c) 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.

The hydrogen recombiners are located in the containment, so access to the containment is necessary to conduct the testing required by Specification 4.6.4.2.b. To conduct this testing with the unit shutdown would decrease doses to the workers and help maintain radiation exposures as low as reasonably achievable. The recombiners are redundant, since only one is required to remove post loss-of-coolant accident (LOCA) hydrogen from the containment atmosphere. The recombiners themselves are of a standard design, conforming to National Electric Code Standards with all components capable of sustaining accident environments. While the actual recombiner units are located inside the containment, their control panels are located in the control room and their power supplies are in the electrical penetration area adjacent to the containment building. These components will, therefore, not be exposed to the post accident environment.

Tests have verified that hydrogen-oxygen recombination is not a catalytic surface effect associated with the heaters, but occurs due to the increased temperature of the process gases. Therefore, saturation of the unit cannot occur, and deposits on the heater surfaces would not have a significant effect upon recombination efficiency.

SCE has examined the history of the 18 month surveillance tests of the hydrogen recombiners at SONGS Units 2 and 3 from the beginning of commercial operation to the present. All visual examinations have been satisfactory. The channel calibrations have all been satisfactory except for one potentiometer on Unit 3 which required adjustment. The heater circuit tests have all been satisfactory except for one occasion when the heater leads were found reversed on a Unit 3 recombiner. This discrepancy had no effect upon heater operation.

Based upon the nearly trouble-free performance of the 18 month surveillance tests and the capability of the functional test to provide assurance that the recombiners are operable, extension of the 18 month surveillance tests would not result in a significant reduction in hydrogen recombiner reliability. Any significant problems with channel calibration, loose connections, or heated electrical circuits would be expected to be detected during the semi-annual functional test. Foreign deposits on the heater surfaces would not significantly affect operability. Therefore, the staff concludes that the proposed change meets the intent of General Design Criteria (GDC) 42 and 43 and is acceptable.

PCN-249

By letter dated April 26, 1988 the licensees proposed to change Technical Specification 3/4.1.3.4, "CEA Drop Time," to extend the 18 month surveillance interval to at least once per refueling outage (24 months). This Specification restricts the maximum allowable Control Element Assembly (CEA) drop time, as measured from the time that electrical power is

interrupted to a fully withdrawn CEA drive mechanism to the time that the CEA is 90% inserted. The maximum allowable CEA drop time is 3.2 seconds, which is consistent with the value assumed in the safety analysis. This Specification also defines the conditions which require demonstration of the drop time and specifies compensatory action to be taken when the minimum operability requirement is not met.

Surveillance Requirement 4.1.3.4. requires measurement of the drop time of full length CEAs prior to criticality under the following conditions:

a. Following each removal and reinstallation of the reactor vessel head,
b. Following maintenance or modifications to the CEA drive system which could affect drop times, and
c. At least once per 18 months.

Factors which could adversely affect the CEA drop times when the surveillance interval is increased are (1) changes in component clearances, (2) changes in the physical configuration of the CEA or guide tubes, and (3) the buildup of corrosion products and suspended material in the reactor coolant system that could interfere with CEA motion. SCE stated that changes to component clearances and changes in the physical configuration of the CEA or guide tubes are more likely to occur when the reactor vessel head is removed, and when maintenance is performed on the CEAs (including replacement) and that portion of the drive system directly interfacing with a fuel assembly. For these cases, Surveillance Requirements 4.1.3.4.a and 4.1.3.4.b, respectively, require CEA rod drop testing independent of the proposed change. SCE stated that chemistry requirements, as well as other controls on the reactor coolant system, will minimize corrosion and buildup of corrosion products or other suspended materials in those areas which could affect CEA drop time. In addition, each full length CEA not fully inserted shall be determined operable by movement of at least 5 inches in any one direction at least once per 31 days in accordance with Surveillance Requirement 4.1.3.1.2. This surveillance requirement would detect CEAs that are sticking.

The staff has evaluated the licensees' submittal and has determined that those factors which affect CEA drop time are not time dependent to any significant extent. The surveillance requirements that are not affected by this change would be expected to identify any appreciable change in drop times. Based upon this assessment, the staff concludes that the proposed change is acceptable.

PCN-257

By letter dated October 11, 1988 the licensees proposed to change Technical Specifications 3/4.6.2.1, "Containment Spray System," and 3/4.6.2.3, "Containment Cooling System," to extend the 18 month surveillance intervals to at least once per refueling outage (24 months). Specification 3/4.6.2.1 defines the required number of operable containment spray flow paths from the Refueling Water Storage Tanks (RWSTs) to the containment building, defines periodic surveillance tests to verify operability, and specifies compensatory action to

be taken when minimum operability requirements are not met. Specification 3/4.6.2.3 defines the required number of independent groups of containment cooling fans required to be operable, with two fan systems per group; defines periodic surveillance tests to verify operability; and specifies compensatory action to be taken when minimum operability requirements are not met.

Operability of the Containment Spray System ensures that the containment depressurization and cooling capability will be available in the event of a LOCA. Surveillance Requirements 4.6.2.1.b.1, 4.6.2.1.b.2, and 4.6.2.1.b.3 require that each component in the Containment Spray System flow path be demonstrated operable at least once per 18 months by verifying that it actuates to its correct position upon a Containment Spray Actuation Signal (CSAS) test signal, a Recirculation Actuation Signal (RAS) test signal, and a Safety Injection Actuation Signal (SIAS) test signal, respectively. Specification 4.6.2.1.b.4 requires that each containment spray header riser be verified to be filled with water to within 10 feet of the lowest spray ring at least once every 18 months.

Operability of the Containment Cooling System ensures that the containment air temperature will be maintained within limits during operation, and that adequate heat removal capacity is available when operated in conjunction with the Containment Spray System during post-LOCA conditions. Surveillance Requirement 4.6.2.3.b requires each containment cooling fan group to be verified to start automatically on a Containment Cooling Actuation Signal (CCAS) test signal at least once every 18 months.

SCE states that Surveillance Requirements 4.6.2.1.b.1, 4.6.2.1.b.2, 4.6.2.1.b.3, and 4.6.2.3.b are met by testing all of the Engineered Safety Features Actuation System (ESFAS) relays in an actuation subsystem (e.g., CSAS) as a total unit.

The Plant Protection System (PPS) encompasses the Reactor Protective System (RPS) and the Engineered Safety Features Actuation System, 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 semi-annual functional testing of the ESFAS instrumentation. SCE states that these requirements are satisfied by performance of the PPS Monthly Test and the Engineered Safety Features (ESF) Semi-annual 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 motorcontrollers, and the ESF actuated devices. The PPS Monthly Test checks the PPS bistables, matrix relays, and initiation relays. The ESF Semi-annual Functional Test checks the ESFAS subgroup relays and motor controllers and actuates the device. 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

6 months. SCE states that valves HV-9367, HV-9368, and HV-6501 are the only valves covered by Specification 4.6.2.1.b that cannot be tested at power. Therefore, these valves might not be tested for up to 30 months (24 months plus 25%). SCE has reviewed the test history of these valves and has determined that, during each of the past refueling cycle outages for both Units 2 and 3, these valves have passed their surveillance tests with no deficiencies. Each valve has also successfully passed two mid-cycle, semi-annual tests performed while the unit was in a cold shutdown. In addition, Specification 4.0.5 requires inservice testing of all ASME Class 1, 2, and 3 pumps and valves in accordance with the ASME Boiler and Pressure Vessel Code. SCE has also reviewed the maintenance history for the components that cannot be tested at power. There was only one instance of corrective maintenance required for the components included in Specifications 4.6.2.1.b and 4.6.2.3.b. Valve 2HV-9367 indicated 18% open when the valve was closed (November 1987). This was found by Control Operators during routine operations.

Surveillance Requirement 4.6.2.1.b.4 requires verifying that each Containment Spray header riser is filled with water to within 10 feet of the lowest spray ring. This involves entry into containment and installation of test equipment and instrumentation. SCE states that, since the beginning of commercial operation of Units 2 and 3, the results of this surveillance test have been satisfactory for both units.

The staff has evaluated the licensees' submittal. We have determined that the monthly and semi-annual functional tests of the ESFAS channels provide sufficient assurance of Containment Spray System and Containment Cooling System response to ESFAS signals to allow extension of the 18 month surveillance interval to 24 months. In addition, the maintenance and test histories of those features which cannot be verified during power operation indicate that system reliability would not be significantly degraded by extension of the surveillance intervals. Therefore, the staff finds the proposed changes acceptable.

PCN-258

By letter dated October 24, 1988 the licensees proposed to change Technical Specification 3/4.6.3, "Containment Isolation Valves," to extend the 18 month surveillance interval to at least once per refueling outage (24 months). This Specification lists the containment isolation valves, specifies their required closure response times, defines periodic surveillance tests to verify operability, and specifies compensatory action to be taken when minimum operability requirements are not met.

Operability of the containment isolation valves ensures that the containment atmosphere will be isolated from the outside environment in the event of a release of radioactive material to the containment atmosphere. Containment isolation within the time limits specified ensures that the release of radioactive material to the environment will be consistent with the assumptions used in the safety analyses. Surveillance Requirement 4.6.3.2 requires that each isolation valve (except check valves) specified in Sections A and B of Table 3.6-1, "Containment Isolation Valves," be

demonstrated operable at least once per 18 months by verifying that it actuates to its isolation position on an ESFAS test signal. SCE states that this requirement is met by testing all of the ESFAS relays in an actuation subsystem (e.g., CIAS) as a total unit, with the exception of the Containment Purge Isolation System (CPIS) valves which are tested separately.

As described under PCN-257 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 there are 13 containment isolation valves which cannot be tested at power. Therefore, these valves might not be tested for up to 30 months. SCE has reviewed the test history of these valves and has determined that, during each of the past refueling outages for both Units 2 and 3, these valves have passed their surveillance tests with no deficiencies. Each valve has also successfully passed 2 mid-cycle, semi-annual tests. 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. SCE has also reviewed the maintenance history for components that cannot be tested at power and found that most problems were detected by operators during routine evolutions and on-line surveillance testing.

The staff has evaluated the licensees' submittal. We have determined that the monthly and semi-annual functional tests of the ESFAS channels provide sufficient assurance of containment isolation valve response to ESFAS signals to allow extension of the 18 month surveillance interval to 24 months. In addition, the maintenance and test histories of those features which cannot be verified during power operation indicate that system reliability would not be significantly degraded by extension of the surveillance intervals. Therefore, the staff finds the proposed changes acceptable.

PCN-261

By letter dated October 24, 1988 the licensees proposed to change Technical Specifications 3/4.1.2.2, "Boration Systems, Flow Paths - Operating," and 3/4.5.2,"ECCS Subsystems - T_{avg} Greater Than or Equal to 350°F," to extend the 18 month surveillance intervals to at least once per refueling outage (24 months). Specification 3.4.1.2.2 defines the boron injection flow paths to the Reactor Coolant System 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 3/4.5.2 defines the required number of operable Emergency Core Cooling System (ECCS) subsystems, defines periodic surveillance tests to verify operability, and specifies compensatory action to be taken when minimum operability requirements are not met.

Operability of the Boration Systems ensures that negative reactivity control is available during each mode of reactor operation. Surveillance Requirement 4.1.2.2.c requires that each valve in the boron injection flow

path be demonstrated operable at least once per 18 months by verifying that it actuates to its correct position upon a SIAS test signal.

Operability of the ECCS subsystems ensures that sufficient emergency core cooling capability will be available in the event of a LOCA assuming the loss of one subsystem through any single failure. Surveillance Requirement 4.5.2.d.1 requires verifying the automatic isolation and interlock features of the Shutdown Cooling System (SDC) isolation valves at least once per 18 months. Surveillance Requirement 4.5.2.d.2 requires a visual inspection of the containment sump at least once per 18 months to verify that all sump inlets are free of debris and that no evidence of structural distress or abnormal conditions exist. Surveillance Requirement 4.5.2.e requires the components in the ECCS flow paths be demonstrated operable at least once per 18 months by verifying that they actuate to their correct position upon a SIAS test signal or a Recirculation Actuation Signal (RAS) test signal.

SCE states that Surveillance Requirements 4.1.2.2.c and 4.5.2.e are met by testing all of the ESFAS relays in an actuation subsystem (e.g., RAS) as a total unit.

As described under PCN-257 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 there are 3 boron injection flowpath valves and 8 ECCS subsystem valves which cannot be tested at power. Therefore, these valves might not be tested for up to 30 months. SCE has reviewed the test history of these valves and has determined that, during each of the past refueling outages for both Units 2 and 3, these valves have passed their surveillance tests with no deficiencies. Each valve has also successfully passed 2 mid-cycle, semi-annual tests. One other valve in the ECCS subsystem, which was recently modified to be an ESFAS actuated valve, cannot be tested at power and has passed all surveillance testing required by Specification 4.1.2.2.c. 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. SCE has also reviewed the maintenance history for components that cannot be tested at power and found that most problems were detected by operators during routine evolutions and on-line surveillance testing.

SCE has reviewed the test history under Specifications 4.5.2.d.1 and 4.5.2.d.2 from the start of commercial operation to the present and has found that all tests have been satisfactory.

The staff has evaluated the licensees' submittals. We have determined that the monthly and semi-annual functional tests of the ESFAS channels provide sufficient assurance of boron injection flowpath and ECCS subsystem valve response to ESFAS signals to allow extension of the 18 month surveillance

interval to 24 months. In addition, the maintenance and test histories of those features which cannot be verified during power operation indicate that system reliability would not be significantly degraded by extension of the surveillance intervals. Therefore, the staff finds the proposed changes acceptable.

PCN-265

By letter dated October 11, 1988 the licensees proposed to change Technical Specification 3/4.5.1, "Safety Injection Tanks," to extend the 18 month surveillance interval to at least once per refueling outage (24 months). This Specification defines operability of the safety injection tanks (SITs); requires all tanks to be operable in modes 1, 2, and 3; defines periodic surveillance tests to verify operability; and specifies compensatory action to be taken when minimum operability requirements are not met.

Operability of the safety injection tanks ensures that immediate injection of the contents of the tanks will occur upon rapid loss of pressure in the Reactor Coolant System (RCS). During normal power operations the SIT isolation valves are required to be open with power removed. When operations require depressurization of the RCS, the valves are closed to prevent injection. If the valves are closed when RCS pressure rises above 715 psia or when an SIAS is received, the valves are required to open automatically. Surveillance Requirement 4.5.1.e requires that each SIT isolation valve be verified to open before an actual or simulated RCS pressure signal exceeds 715 psia or upon receipt of an SIAS test signal.

SCE has reviewed the test history of Specification 4.5.1.e from the start of commercial operation to the present and has found that all tests have been satisfactory with only minor problems on two occasions.

The staff has evaluated the licensees' submittal. We have determined that, since the SIT isolation valves are only closed during non-power operations, performance of Surveillance Requirement 4.5.1.e shortly after the valves are closed provides sufficient assurance of valve operability to allow extension of the 18 month surveillance interval to 24 months. In addition, the test history of this surveillance indicates that system reliability would not be significantly degraded by extension of the surveillance interval. Therefore, the staff finds the proposed changes 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 the amendments 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 that the amendments involve no significant hazards consideration and there has been no public comment on such finding. Accordingly, the 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 these amendments.

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.

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Dated: May 31, 1989