



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

November 9, 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 & Electric Company
101 Ash Street
P.O. Box 1831
San Diego, California 92112

Gentlemen:

SUBJECT: ISSUANCE OF AMENDMENT NO. 79 TO FACILITY OPERATING LICENSE NO.
NPF-10 AND AMENDMENT NO. 67 TO FACILITY OPERATING LICENSE NO.
NPF-15 SAN ONOFRE NUCLEAR GENERATING STATION, UNITS 2 AND 3
(TAC NOS. 69842, 69843, 71605, 71606, 71777 AND 71778)

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 application dated October 11, 1988 (PCN-264), December 19, 1988 (PCN-279) and December 28, 1988 (PCN-271).

These amendments revise the following items in the Technical Specifications:

- 3/4.3.4 "Turbine Overspeed Protection"
- 3/4.4.5.1 "Reactor Coolant System Leakage"
- 3/4.4.5.2 "Operational Leakage"

Specifically in each case, the associated surveillance interval has been changed from 18 months to each refueling interval, which is defined as every 24 months.

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November 9, 1989

Mssrs. Ray and Cotton

- 2 -

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

Sincerely,

original signed by Lawrence Kokajko
Lawrence E. Kokajko, Project Manager
Project Directorate V
Division of Reactor Projects - III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

Enclosures:

- 1. Amendment No. 79 to License No. NPF-10
- 2. Amendment No. 67 to License No. NPF-15
- 3. Safety Evaluation

cc w/enclosures:
See next page

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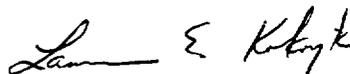
Mssrs. Ray and Cotton

- 2 -

November 9, 1989

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

Sincerely,



Lawrence E. Kokajko, Project Manager
Project Directorate V
Division of Reactor Projects - III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No.79 to License No. NPF-10
2. Amendment No.67 to License No. NPF-15
3. Safety Evaluation

cc w/enclosures:
See next page

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

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



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. 79
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 October 11, 1988, December 19, 1988 and December 28, 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.

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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 Specification

The Technical Specifications contained in Appendix A, and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No.79 , 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
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: November 9, 1989

ATTACHMENT TO LICENSE AMENDMENT NO. 79

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

3/4 3-76

3/4 4-16

3/4 4-18

OVERLEAF PAGE

3/4 3-75

3/4 4-15

3/4 4-17

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 refueling interval 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.

INSTRUMENTATIONLOOSE-PART DETECTION INSTRUMENTATIONLIMITING 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.

TABLE 4.4-2

STEAM GENERATOR TUBE INSPECTION

1ST SAMPLE INSPECTION			2ND SAMPLE INSPECTION		3RD SAMPLE INSPECTION	
Sample Size	Result	Action Required	Result	Action Required	Result	Action Required
A minimum of S Tubes per S. G.	C-1	None	N/A	N/A	N/A	N/A
	C-2	Plug defective tubes and inspect additional 2S tubes in this S. G.	C-1	None	N/A	N/A
			C-2	Plug defective tubes and inspect additional 4S tubes in this S. G.	C-1	None
					C-2	Plug defective tubes
			C-3	Perform action for C-3 result of first sample	N/A	N/A
	C-3	Inspect all tubes in this S. G., plug defective tubes and inspect 2S tubes in each other S. G. Prompt notification to NRC pursuant to specification 6.9.1	All other S. G.s are C-1	None	N/A	N/A
			Some S. G.s C-2 but no additional S. G. are C-3	Perform action for C-2 result of second sample	N/A	N/A
			Additional S. G. is C-3	Inspect all tubes in each S. G. and plug defective tubes. Prompt notification to NRC pursuant to specification 6.9.1	N/A	N/A

$S = 3 \frac{N}{n} \%$ Where N is the number of steam generators in the unit, and n is the number of steam generators inspected during an inspection

REACTOR COOLANT SYSTEM

3/4.4.5 REACTOR COOLANT SYSTEM LEAKAGE

LEAKAGE DETECTION SYSTEMS

LIMITING CONDITION FOR OPERATION

3.4.5.1 The following Reactor Coolant System leakage detection systems shall be OPERABLE:

- a. A containment atmosphere particulate radioactivity monitoring system,
- b. A containment sump inlet flow monitoring system, and
- c. A containment atmosphere gaseous radioactivity monitoring system.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only two of the above required leakage detection systems OPERABLE, operation may continue for up to 30 days provided grab samples of the containment atmosphere are obtained and analyzed at least once per 24 hours when the required gaseous or particulate radioactivity monitoring system is inoperable; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.4.5.1 The leakage detection systems shall be demonstrated OPERABLE by:

- a. Containment atmosphere particulate monitoring system-performance of CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST at the frequencies specified in Table 4.3-3,
- b. Containment sump inlet flow monitoring system-performance of CHANNEL CALIBRATION at least once per refueling interval,
- c. Containment atmosphere gaseous monitoring system-performance of CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST at the frequencies specified in Table 4.3-3.

REACTOR COOLANT SYSTEM

OPERATIONAL LEAKAGE

LIMITING CONDITION FOR OPERATION

- 3.4.5.2 Reactor Coolant System leakage shall be limited to:
- No PRESSURE BOUNDARY LEAKAGE,
 - 1 gpm UNIDENTIFIED LEAKAGE,
 - 1 gpm total primary-to-secondary leakage through all steam generators and 720 gallons per day through any one steam generator.
 - 10 gpm IDENTIFIED LEAKAGE from the Reactor Coolant System, and
 - 1 GPM leakage at a Reactor Coolant System pressure of 2235 ± 20 psig from any Reactor Coolant System Pressure Isolation Valve specified in Table 3.4-1.

APPLICABILITY: MODES 1, 2, 3 and 4

ACTION:

- With any PRESSURE BOUNDARY LEAKAGE, be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.
- With any Reactor Coolant System leakage greater than any one of the limits, excluding PRESSURE BOUNDARY LEAKAGE and leakage from Reactor Coolant System Pressure Isolation Valves, reduce the leakage rate to within limits within 4 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- With any Reactor Coolant System Pressure Isolation Valve leakage greater than the above limit, isolate the high pressure portion of the affected system from the low pressure portion within 4 hours by use of at least two closed manual or deactivated automatic valves, or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

- 4.4.5.2.1 Reactor Coolant System leakages shall be demonstrated to be within each of the above limits by:
- Monitoring the containment atmosphere gaseous or particulate radioactivity monitor at least once per 12 hours.
 - Monitoring the containment sump inlet flow at least once per 12 hours.

REACTOR COOLANT SYSTEM

SURVEILLANCE REQUIREMENTS (Continued)

- c. Performance of a Reactor Coolant System water inventory balance at least once per 72 hours.
- d. Monitoring the reactor head flange leakoff system at least once per 24 hours.

4.4.5.2.2 Each Reactor Coolant System Pressure Isolation Valve specified in Table 3.4-1 shall be demonstrated OPERABLE by verifying valve leakage to be within its limit:

- a. At least once per refueling interval.
- b. Prior to entering MODE 2 whenever the plant has been in COLD SHUTDOWN for 72 hours or more and if leakage testing has not been performed in the previous 9 months.
- c. Prior to declaring the valve operable following maintenance, repair or replacement work on the valve.
- d. Within 48 hours following valve actuation due to automatic or manual action or flow through the valve (for valves in Section B of Table 3.4-1).

The provisions of Specification 4.0.4 are not applicable for entry into MODE 3 or 4.



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

SOUTHERN CALIFORNIA EDISON COMPANY

SAN DIEGO GAS AND ELECTRIC COMPANY

THE CITY OF RIVERSIDE, CALIFORNIA

THE CITY OF ANAHEIM, CALIFORNIA

DOCKET NO. 50-362

SAN ONOFRE NUCLEAR GENERATING STATION, UNIT NO. 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 67
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 October 11, 1988, December 19, 1988 and December 28, 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 Specification

The Technical Specifications contained in Appendix A, and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 67, 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
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: November 9, 1989

ATTACHMENT TO LICENSE AMENDMENT NO. 67

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

3/4 3-77

3/4 4-17

3/4 4-19

OVERLEAF PAGE

3/4 4-18

3/4 4-20

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 refueling interval 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.

REACTOR COOLANT SYSTEM

3/4.4.5 REACTOR COOLANT SYSTEM LEAKAGE

LEAKAGE DETECTION SYSTEMS

LIMITING CONDITION FOR OPERATION

3.4.5.1 The following Reactor Coolant System leakage detection systems shall be OPERABLE:

- a. A containment atmosphere particulate radioactivity monitoring system,
- b. A containment sump inlet flow monitoring system, and
- c. A containment atmosphere gaseous radioactivity monitoring system.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only two of the above required leakage detection systems OPERABLE, operation may continue for up to 30 days provided grab samples of the containment atmosphere are obtained and analyzed at least once per 24 hours when the required gaseous or particulate radioactivity monitoring system is inoperable; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.4.5.1 The leakage detection systems shall be demonstrated OPERABLE by:

- a. Containment atmosphere particulate monitoring system-performance of CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST at the frequencies specified in Table 4.3-3,
- b. Containment sump inlet flow monitoring system-performance of CHANNEL CALIBRATION at least once per refueling interval.
- c. Containment atmosphere gaseous monitoring system-performance of CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST at the frequencies specified in Table 4.3-3.

REACTOR COOLANT SYSTEM

OPERATIONAL LEAKAGE

LIMITING CONDITION FOR OPERATION

3.4.5.2 Reactor Coolant System leakage shall be limited to:

- a. No PRESSURE BOUNDARY LEAKAGE,
- b. 1 gpm UNIDENTIFIED LEAKAGE,
- c. 1 gpm total primary-to-secondary leakage through all steam generators and 720 gallons per day through any one steam generator.
- d. 10 gpm IDENTIFIED LEAKAGE from the Reactor Coolant System, and
- e. 1 GPM leakage at a Reactor Coolant System pressure of 2235 ± 20 psig from any Reactor Coolant System Pressure Isolation Valve specified in Table 3.4-1.

APPLICABILITY: MODES 1, 2, 3 and 4

ACTION:

- a. With any PRESSURE BOUNDARY LEAKAGE, be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With any Reactor Coolant System leakage greater than any one of the limits, excluding PRESSURE BOUNDARY LEAKAGE and leakage from Reactor Coolant System Pressure Isolation Valves, reduce the leakage rate to within limits within 4 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- c. With any Reactor Coolant System Pressure Isolation Valve leakage greater than the above limit, isolate the high pressure portion of the affected system from the low pressure portion within 4 hours by use of at least two closed manual or deactivated automatic valves, or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.4.5.2.1 Reactor Coolant System leakages shall be demonstrated to be within each of the above limits by:

- a. Monitoring the containment atmosphere gaseous or particulate radioactivity monitor at least once per 12 hours.
- b. Monitoring the containment sump inlet flow at least once per 12 hours.

REACTOR COOLANT SYSTEM

SURVEILLANCE REQUIREMENTS (Continued)

- c. Performance of a Reactor Coolant System water inventory balance at least once per 72 hours.
- d. Monitoring the reactor head flange leakoff system at least once per 24 hours.

4.4.5.2.2 Each Reactor Coolant System Pressure Isolation Valve specified in Table 3.4-1 shall be demonstrated OPERABLE by verifying valve leakage to be within its limit:

- a. At least once per refueling interval.
- b. Prior to entering MODE 2 whenever the plant has been in COLD SHUTDOWN for 72 hours or more and if leakage testing has not been performed in the previous 9 months.
- c. Prior to returning the valve to service following maintenance, repair or replacement work on the valve.
- d. Within 24 hours following valve actuation due to automatic or manual action or flow through the valve (for valves in Section B of Table 3.4-1).

The provisions of Specification 4.0.4 are not applicable for entry into MODE 3 or 4.

TABLE 3.4-1

REACTOR COOLANT SYSTEM PRESSURE ISOLATION VALVES

SECTION A

3-018-A-551	HPSI Check
3-019-A-551	HPSI Check
3-020-A-551	HPSI Check
3-021-A-551	HPSI Check
3-152-A-551	Hot leg injection to loop #1
3-156-A-551	Hot leg injection to loop #2
3-157-A-551	Hot leg injection check
3-158-A-551	Hot leg injection check
3 HV-9337	SDC Suction Isolation
3 HV-9339	SDC Suction Isolation
3 HV-9377	SDC Suction Isolation
3 HV-9378	SDC Suction Isolation

SECTION B

8-072-A-552	LPSI Check
8-073-A-552	LPSI Check
8-074-A-552	LPSI Check
8-075-A-552	LPSI Check
12-027-A-551*	Cold leg injection to loop #1A
12-029-A-551*	Cold leg injection to loop #1B
12-031-A-551*	Cold leg injection to loop #2A
12-033-A-551*	Cold leg injection to loop #2B
12-040-A-551	SIT Check
12-041-A-551	SIT Check
12-042-A-551	SIT Check
12-043-A-551	SIT Check

* Redundant to LPSI and SIT checks



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 79 TO FACILITY OPERATING LICENSE NO. NPF-10
AND AMENDMENT NO. 67 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 October 11, 1988 (PCN 264), December 19, 1988 (PCN 279), and December 28, 1988 (PCN 271), Southern California Edison Company, et al., (the licensee) 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 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 surveillance unless the required interval is extended. The licensee 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 EVALUATION

2.1 PCN 264

By letter dated October 11, 1988, the licensee proposed a change that would revise Surveillance Requirement (SR) 4.4.5.2.2.a of Technical Specification (TS) 3/4.4.5.2, "Operational Leakage," to increase the interval for surveillance tests which are currently performed every 18 months to each refueling, nominally 24 months. The purpose of this specification is to provide limits on operational leakage.

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P PDC

The surveillance requirements for the Reactor Coolant System (RCS) Pressure Isolation Valves provide added assurance of valve integrity thereby reducing the probability of gross valve failure and consequent intersystem LOCA. Leakage from the RCS Pressure Isolation Valves is identified leakage and will be considered as a portion of the allowable limit. The RCS Pressure Isolation Valve's function is to create a pressure boundary isolating the RCS from connecting systems. Surveillance Requirement 4.4.5.2.2.a requires at least once every 18 months, verification of valve leakage to be within its limit. This involves entry into containment for installation of test equipment and instrumentation.

The licensee states that SONGS Units 2 and 3 have recently entered their first nominal 24 month fuel cycle. In order to maintain radiation exposures as low as reasonably achievable, and not enter a technical specification action statement, the unit would need to be in a shutdown mode to conduct the testing associated with this surveillance. The current 18 month surveillance interval could necessitate plant shutdown solely for performing surveillance requirements. To avoid an otherwise unnecessary shutdown, the proposed change would increase the surveillance test interval from 18 months to "refueling interval."

Since the proposed change would increase the surveillance interval from 18 months to "refueling interval" for a nominal 24 month cycle, the actual time interval between surveillances will be a function of the plant capacity factor for that particular fuel cycle. The equilibrium fuel cycle will be approximately 513 effective full power days. Assuming a production factor of 90% and a 75 day refueling outage, the actual cycle length and surveillance interval would be approximately 21 months. Currently, Specification 4.0.2 allows a 25% extension of surveillance interval (to 22.5 months), which would accommodate uninterrupted operation for the equilibrium cycle length. However, the TS 4.0.2 limitation on the application of a 25% extension (three consecutive intervals do not exceed 3.25 times the nominal interval) eventually would impact operation. Thus the proposed change does not represent a significant increase over present TS requirements.

Moreover, a review of the history of the required 18 month surveillance tests, from the start of commercial operation to present, was performed by the licensee. The surveillances at Unit 2 were all satisfactory. During containment walkdowns, preventive maintenance, or other surveillances, boric acid crystals were noted on the piping (evidence of external leakages). The amount discovered was not enough to fail a leak rate surveillance (less than 1 gpm). These were resolved by minor maintenance. The surveillances at Unit 3 were all satisfactory, except one failed leak rate test on four valves. The motor operator torque settings were re-adjusted to allow the valves to seat properly. Since this incident, IE Bulletin 85-03 was issued concerning improper torque settings. In response to this bulletin the licensee evaluated actual torque requirements on each type of valve and set limits which are specific to each valve. In addition, three other valves have been repaired for minor seat leakage discovered during other TS surveillances.

Two other TS surveillance requirements monitor leakage from the RCS. A water balance inventory is performed every 72 hours in modes 1, 2, 3 and 4, as required by TS 4.5.2.1.c. In addition, a leak rate test prior to entry into Mode 2 and following valve maintenance or valve actuation is performed. These surveillances provide a high level of assurance that the valves included in TS 3/4.4.5.2.2 are maintaining the RCS pressure boundary.

The staff has evaluated the licensee's submittal. The modification would not significantly increase the current TS requirements and would not alter the ability to detect leakage. Additionally, since the surveillance history does not detect any significant operational problems, and the operational and radiological concerns would be increased by keeping the 18 month interval, it is prudent to allow the surveillance interval to be changed to every refueling.

Therefore, based upon the above information, the staff approves the amendment allowing the surveillance interval to be changed to once per refueling interval.

2.2 PCN 271

By letter dated December 28, 1988, the licensee proposed a change that would revise Technical Specification 3/4.3.4, "Turbine Overspeed Protection." This specification is provided to ensure that the turbine overspeed protection instrumentation and the turbine speed control valves are operable and will protect the turbine from excessive overspeed. The main generator overspeed tripping circuits are designed to trip the turbine if the factory recommended maximum speed is approached. This circuit consists of dual train protection with two independent tripping mechanisms and electrical circuits which initiate a trip on the turbine if the turbine speed reaches the trip setpoint. Turbine overspeed protection is considered necessary to prevent postulated turbine missiles from being generated and potentially damaging safety related structures.

Specifically, Surveillance Requirement 4.3.4.c specifies that the turbine overspeed protection systems shall be demonstrated operable at least once per 18 months by performance of a channel calibration on the turbine overspeed protection systems. The proposed change would revise the 18 month surveillance frequency to a "refueling interval," nominally 24 months.

The licensee states that this surveillance is performed by Turbine Overspeed Test Surveillance S023-II-11.168 and S023-10-4. The on-line turbine overspeed trip test is performed by the operator selecting the onload test function on the turbine control panel. Surveillance S023-II-11.168 is followed for the on-line test. To perform the offload turbine overspeed test, the offload test function is selected. This configures the turbine trip circuitry to trip from one selected concentric ring at a time. The turbine speed is then manually increased

until the turbine trips. Surveillance S023-10-4 is followed for this test. Turbine Overspeed Trip Test Surveillance S023-II-11.168 and S023-10-4 results have been reviewed and no significant problems have been discovered. From the period 1982 until 1985, testing was accomplished under operational procedure S023-10-4. In 1985, a new surveillance was developed specifically for the Electrical Test Department, S023-II-11.168. Since the development of the new surveillance, three surveillances for Unit 2 and two surveillances for Unit 3 have been completed. Only one problem was noted. One Maintenance Order completed January 1986, found that Ring No. 2 did not function. Maintenance Orders were generated to resolve the problem. This problem was not significant due to the fact that other trips generated by the turbine governor and other trip ring would still have functioned to trip the turbine. No other problems of any significance were found during performance of the turbine overspeed protection system surveillance.

SONGS Units 2 and 3 have both entered their first nominal 24 month fuel cycle. The unit would need to be in a shutdown mode to conduct the offline testing associated with this surveillance. The current 18 month surveillance interval could necessitate plant shutdown solely for performing surveillance requirements. To avoid an otherwise unnecessary shutdown, the proposed change would increase the surveillance test interval from 18 months to "refueling interval."

Since the proposed change would increase the surveillance interval from 18 months to "refueling interval" for a nominal 24 month cycle, the actual time interval between surveillances will be a function of the plant capacity factor for that particular fuel cycle. The equilibrium fuel cycle will be approximately 513 effective full power days. Assuming a production factor of 90% and a 75 day refueling outage, the actual cycle length and surveillance interval would be approximately 21 months. Currently, Specification 4.0.2 allows a 25% extension of surveillance intervals (to 22.5 months), which would accommodate uninterrupted operation for the equilibrium cycle length. However, the TS 4.0.2 limitation on the application of a 25% extension (three consecutive intervals do not exceed 3.25 times the nominal interval) eventually would impact operation. Thus, the proposed change does not represent a significant increase over present TS requirements.

The staff has evaluated the licensee's submittal. The modification would not significantly increase the current TS requirement nor decrease the effectiveness or redundancy of the turbine trip circuitry. Moreover, the surveillance testing to date has not detected any significant operational problems. Since the operational concerns would be increased by keeping the 18 month interval, it is prudent to allow the surveillance interval to be changed to every refueling.

Therefore, based upon the above information, the staff approves the amendment allowing the surveillance interval to be changed to once per refueling interval.

2.3 PCN-279

By letter dated December 19, 1988, the licensee proposed a change that would revise Technical Specification (TS) 3/4.4.5.1, "Reactor Coolant System Leakage." Specifically, the proposed change would revise Surveillance Requirement 4.4.5.1.b to increase the interval to each refueling for surveillance tests which are currently performed every 18 months. This system functions to detect liquid level in the containment sump using two redundant transmitters which provide information to the control room. The level signal from train "B" also inputs to the Critical Function Monitoring System (CFMS), which converts changes in level signal to flowrate. The surveillance requires performing a channel calibration at least once every 18 months.

The licensee states that SONGS Units 2 and 3 have recently entered their first nominal 24 month fuel cycle. In order to maintain radiation exposures as low as reasonably achievable, and not enter a technical specification action statement, the unit would need to be in a shutdown mode to conduct the testing. The current 18 month surveillance interval could necessitate plant shutdown solely for performing surveillance requirements. To avoid an otherwise unnecessary shutdown, the proposed change would increase the surveillance test interval from 18 months to "once each refueling."

A review of the history of the required 18 month surveillance tests, from the start of commercial operation to present, was performed. The surveillances at Unit 2 were all satisfactory. At Unit 3 the 1985 surveillance found both channels out of calibration. During 1986, the Operations channel level comparisons were out of specification. The repair consisted of major overhaul and parts replacement in the electronic units. The 1987 surveillance was satisfactory.

In addition to the redundant leak detection methods, operational monthly and quarterly leak tests and channel comparisons serve to identify leaking systems in the event that the containment sump level detector is out of calibration. This redundancy provides the necessary reliability.

Since the proposed change would increase the surveillance interval from 18 months to "refueling interval" for a nominal 24 month cycle, the actual time interval between surveillances will be a function of the plant capacity factor for that particular fuel cycle. The equilibrium fuel cycle length will be approximately 513 effective full power days (EFPD). Assuming a production factor of 90% and a 75 day refueling outage, the actual cycle length and the surveillance interval would be approximately 21 months. Currently, Specification 4.0.2 allows a 25% extension of surveillance intervals (to 22.5 months), which would accommodate uninterrupted operation for the equilibrium cycle length. However, the TS 4.0.2 limitation on the application of a 25% extension (three consecutive intervals do not exceed 3.25 times the nominal interval) eventually would impact operation. Thus, the proposed change does not represent a significant increase over what is already permitted by the TS.

The staff has evaluated the licensee's submittal. The modification would not significantly increase the current TS requirements and would not alter leak detection methods. Moreover, since the surveillance history does not detect any significant operational problems, and the operational and radiological concerns would be increased by keeping the 18 month interval, it is prudent to allow the surveillance interval to be changed to every refueling.

Therefore, based upon the above information, the staff approves the amendment allowing the surveillance interval to be changed to once per refueling interval.

3.0 CONTACT WITH STATE OFFICIAL

The NRC staff has advised the 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 to requirements with respect to the installation or use of a facility component located within the restricted areas as defined in 10 CFR Part 20 and in surveillance requirements. The staff has determined that the amendments involve no significant change in the types, of any effluents 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 this 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.

Principal Contributor: Lawrence E. Kokajko

Dated: November 9, 1989