



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

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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. 91
License No. NPF-10

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Southern California Edison Company, San Diego Gas and Electric Company, the City of Riverside, California, and the City of Anaheim, California (the licensee) dated November 8, 1990, complies 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 application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

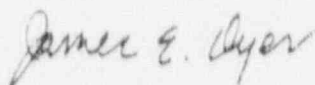
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C(2) of Facility Operating License No. NPF-10 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 91, are hereby incorporated in the license. Southern California Edison Company 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



James E. Dyer, Director
Project Directorate V
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: December 28, 1990

ATTACHMENT TO LICENSE AMENDMENT NO. 91

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 the captioned amendment number and contain marginal lines indicating the areas of change.

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3/4.7 PLANT SYSTEMS

3/4.7.1 TURBINE CYCLE

SAFETY VALVES

LIMITING CONDITION FOR OPERATION

3.7.1.1 All main steam safety valves shall be OPERABLE with lift settings as specified in Table 3.7-1.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

- a. With both reactor coolant loops and associated steam generators in operation and with one or more main steam safety valves inoperable, operation in MODES 1, 2 and 3 may proceed provided, that within 4 hours, either the inoperable valve is restored to OPERABLE status or the Power Level-High trip setpoint is reduced per Table 3.7-2; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.1.1 No additional Surveillance Requirements other than those required by Specification 4.0.5.

TABLE 3.7-1
MAIN STEAM SAFETY VALVES

	<u>VALVE NUMBER</u>		<u>LIFT SETTING (+ 1%)*</u>	<u>ORIFICE SIZE</u>
	<u>Line No. 1</u>	<u>Line No. 2</u>		
a.	2PSV-8401	2PSV-8410	1100 psia	16 in ²
b.	2PSV-8402	2PSV-8411	1107 psia	16 in ²
c.	2PSV-8403	2PSV-8412	1114 psia	16 in ²
d.	2PSV-8404	2PSV-8413	1121 psia	16 in ²
e.	SV-8405	2PSV-8414	1128 psia	16 in ²
f.	2PSV-8406	2PSV-8415	1135 psia	16 in ²
g.	2PSV-8407	2PSV-8416	1142 psia	16 in ²
h.	2PSV-8408	2PSV-8417	1149 psia	16 in ²
i.	2PSV-8409	2PSV-8418	1155 psia	16 in ²

* The lift setting pressure shall correspond to ambient conditions of the valve at nominal operating temperature and pressure.

TABLE 3.7-2

MAXIMUM ALLOWABLE VALUE LINEAR POWER LEVEL-HIGH TRIP WITH INOPERABLE
MAIN STEAM SAFETY VALVES DURING OPERATION WITH BOTH STEAM GENERATORS

<u>Maximum Number of Inoperable Safety Valves on Any Operating Steam Generator</u>	<u>Maximum Allowable Value Linear Power Level-High Trip (Percent of RATED THERMAL POWER)</u>
1	98.6
2	86.3
3	74.0
4	61.6

3/4.7 PLANT SYSTEMS

BASES

3/4.7.1 TURBINE CYCLE

3/4.7.1.1 SAFETY VALVES

The OPERABILITY of the main steam safety valves (MSSVs) ensures that the secondary system pressure will not exceed 110% (1210 psia) of its design pressure of 1100 psia during the most severe anticipated system operational transient. The total relief capacity available is greater than the maximum steam flow required after a turbine trip from 102% RATED THERMAL POWER coincident with an assumed loss of condenser heat sink.

The MSSV lift setpoints are staggered, as shown in Table 3.7-1, such that only those valves needed for pressure relief will actuate. The MSSV lift settings and relieving capacities meet the requirements of Section III of the ASME Boiler and Pressure Vessel Code, 1974 Edition, as described in the Overpressure Protection Report (UFSAR Appendix 5.2A). The total available relieving capacity for all valves on all of the steam lines is 15,473,628 lbs/hr at 1190 psia. A minimum of one OPERABLE safety valve per steam generator ensures that sufficient relieving capacity is available for removing decay heat.

STARTUP and/or POWER OPERATION is allowable with safety valves inoperable within the limitations of the ACTION requirements on the basis of the reduction in secondary system steam flow and THERMAL POWER required by the reduced reactor trip settings of the Power Level-High channels. The reduced reactor trip allowable values are derived on the following bases:

$$SP = \frac{(X) - (Y)(V)}{X} \times 111.0$$

where:

SP = reduced reactor trip allowable value in percent of RATED THERMAL POWER.

V = maximum number of inoperable safety valves per steam line.

111.0 = Power Level-High Trip allowable value from Table 2.2-1.

X = Total relieving capacity of all safety valves per steam line in lbs/hour (7,736,814 lbs/hr at 1190 psia).

Y = Maximum relieving capacity of any one safety valve in lbs/hour (859,646 lbs/hr at 1190 psia).

PLANT SYSTEMS

BASES

3/4.7.1.2 AUXILIARY FEEDWATER SYSTEM

The OPERABILITY of the auxiliary feedwater system ensures that the Reactor Coolant System can be cooled down to less than 350°F from normal operating conditions in the event of a total loss of off-site power.

Each electric driven auxiliary feedwater pump is capable of delivering a total feedwater flow of 700 gpm at a pressure of 1170 psig to the entrance of the steam generators. The steam driven auxiliary feedwater pump is capable of delivering a total feedwater flow of 700 gpm at a pressure of 1170 psig to the entrance of the steam generators. This capacity is sufficient to ensure that adequate feedwater flow is available to remove decay heat and reduce the Reactor Coolant System temperature to less than 350°F when the shutdown cooling system may be placed into operation.

3/4.7.1.3 CONDENSATE STORAGE TANKS

The OPERABILITY of the condensate storage tank T-121 with the minimum water volume ensures that sufficient water is available to maintain the RCS at HOT STANDBY conditions for 2 hours followed by cooldown to shutdown cooling initiation, with steam discharge to atmosphere with concurrent loss of offsite power and most limiting single failure. The OPERABILITY of condensate storage tank T-120 in conjunction with tank T-121 ensures that sufficient water is available to maintain the RCS at HOT STANDBY conditions for 24 hours including cooldown to shutdown cooling initiation, with steam discharge to atmosphere with concurrent loss of offsite power and most limiting single failure. The contained water volume limits are specified relative to the highest auxiliary feedwater pump suction inlet in the tank for T-121, and to the T-121 cross connect siphon inlet for T-120. (Water volume below these datum levels is not considered recoverable for purposes of this specification.) Vortexing, internal structure, and instrument error are considered in determining the tank levels corresponding to the specified water volume limits.

Prior to achieving 100% RATED THERMAL POWER, Figure 3.7-1 is used to determine the minimum required water volume for T-121 for the maximum power level (hence maximum decay heat) achieved.



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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. 81
License No. NPF-15

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Southern California Edison Company, San Diego Gas and Electric Company, the City of Riverside, California, and the City of Anaheim, California (the licensee) dated November 8, 1990, complies 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 application, the provisions of the Act, and the rules and 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.

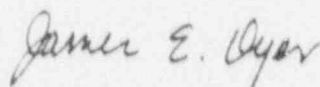
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C(2) of Facility Operating License No. NPF-15 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 81, are hereby incorporated in the license. Southern California Edison Company 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



James E. Dyer, Director
Project Directorate V
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: December 28, 1990

ATTACHMENT TO LICENSE AMENDMENT NO. 81

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 the captioned amendment number and contain marginal lines indicating the areas of change.

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3/4.7 PLANT SYSTEMS

3/4.7.1 TURBINE CYCLE

SAFETY VALVES

LIMITING CONDITION FOR OPERATION

3.7.1.1 All main steam safety valves shall be OPERABLE with lift settings as specified in Table 3.7-1.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

- a. With both reactor coolant loops and associated steam generators in operation and with one or more main steam safety valves inoperable, operation in MODES 1, 2 and 3 may proceed provided, that within 4 hours, either the inoperable valve is restored to OPERABLE status or the Power Level-High trip setpoint is reduced per Table 3.7-2; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.1.1 No additional Surveillance Requirements other than those required by Specification 4.0.5.

TABLE 3.7-1
MAIN STEAM SAFETY VALVES

	<u>VALVE NUMBER</u>		<u>LIFT SETTING ($\pm 1\%$)*</u>	<u>ORIFICE SIZE</u>
	<u>Line No. 1</u>	<u>Line No. 2</u>		
a.	3PSV-8401	3PSV-8410	1100 psia	16 in ²
b.	3PSV-8402	3PSV-8411	1107 psia	16 in ²
c.	3PSV-8403	3PSV-8412	1114 psia	16 in ²
d.	3PSV-8404	3PSV-8413	1121 psia	16 in ²
e.	3PSV-8405	3PSV-8414	1128 psia	16 in ²
f.	3PSV-8406	3PSV-8415	1135 psia	16 in ²
g.	3PSV-8407	3PSV-8416	1142 psia	16 in ²
h.	3PSV-8408	3PSV-8417	1149 psia	16 in ²
i.	3PSV-8409	3PSV-8418	1155 psia	16 in ²

*The lift setting pressure shall correspond to ambient conditions of the valve at nominal operating temperature and pressure.

TABLE 3.7-2

MAXIMUM ALLOWABLE VALUE LINEAR POWER LEVEL-HIGH TRIP WITH INOPERABLE
MAIN STEAM SAFETY VALVES DURING OPERATION WITH BOTH STEAM GENERATORS

<u>Maximum Number of Inoperable Safety Valves on Any Operating Steam Generator</u>	<u>Maximum Allowable Value Linear Power Level-High Trip (Percent of RATED THERMAL POWER)</u>
1	98.6
2	86.3
3	74.0
4	61.6

PLANT SYSTEMS

AUXILIARY FEEDWATER SYSTEM

LIMITING CONDITION FOR OPERATION

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

- a. Two motor-driven auxiliary feedwater pumps, each capable of being powered from separate emergency busses, and
- b. One steam turbine-driven auxiliary feedwater pump capable of being powered from an OPERABLE steam supply system.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

- a. With one auxiliary feedwater pump inoperable, restore the required auxiliary feedwater pumps to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- b. With two auxiliary pumps inoperable, be in at least HOT STANDBY within 6 hours and in HOT SHUTDOWN within the following 6 hours.
- c. With three auxiliary feedwater pumps inoperable, immediately initiate corrective action to restore at least one auxiliary feedwater pump to OPERABLE status as soon as possible.

SURVEILLANCE REQUIREMENTS

4.7.1.2.1 Each auxiliary feedwater pump shall be demonstrated OPERABLE:

- a. At least once per 31 days by:
 1. Testing the turbine driven pump and both motor driven pumps pursuant to Specification 4.0.5. The provisions of Specification 4.0.4 are not applicable for the turbine-driven pump for entry into MODE 3.
 2. Verifying that each valve (manual, power operated or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.
 3. Verifying that both manual valves in the suction lines from the primary AFW supply tank (condensate storage tank T-121) to each AFW pump, and the manual discharge line valve of each AFW pump are locked in the open position.

3/4.7 PLANT SYSTEMS

BASES

3/4.7.1 TURBINE CYCLE

3/4.7.1.1 SAFETY VALVES

The OPERABILITY of the main steam safety valves (MSSVs) ensures that the secondary system pressure will not exceed 110% (1210 psia) of its design pressure of 1100 psia during the most severe anticipated system operational transient. The total relief capacity available is greater than the maximum steam flow required after a turbine trip from 102% RATED THERMAL POWER coincident with an assumed loss of condenser heat sink.

The MSSV lift setpoints are staggered, as shown in Table 3.7-1, such that only those valves needed for pressure relief will actuate. The MSSV lift settings and relieving capacities meet the requirements of Section III of the ASME Boiler and Pressure Vessel Code, 1974 Edition, as described in the Overpressure Protection Report (UFSAR Appendix 5.2A). The total available relieving capacity for all valves on all of the steam lines is 15,473,628 lbs/hr at 1190 psia. A minimum of one OPERABLE safety valve per steam generator ensures that sufficient relieving capacity is available for removing decay heat.

STARTUP and/or POWER OPERATION is allowable with safety valves inoperable within the limitations of the ACTION requirements on the basis of the reduction in secondary system steam flow and THERMAL POWER required by the reduced reactor trip settings of the Power Level-High channels. The reduced reactor trip allowable values are derived on the following bases:

$$SP = \frac{(X) - (Y)(V)}{X} \times 111.0$$

where:

SP = reduced reactor trip allowable value in percent of RATED THERMAL POWER.

V = maximum number of inoperable safety valves per steam line.

111.0 = Power Level-High Trip allowable value from Table 2.2-1.

X = Total relieving capacity of all safety valves per steam line in lbs/hour (7,736,814 lbs/hr at 1190 psia).

Y = Maximum relieving capacity of any one safety valve in lbs/hour (859,646 lbs/hr at 1190 psia).

PLANT SYSTEMS

BASES

3/4.7.1.2 AUXILIARY FEEDWATER SYSTEM

The OPERABILITY of the auxiliary feedwater system ensures that the Reactor Coolant System can be cooled down to less than 350°F from normal operating conditions in the event of a total loss of offsite power.

Each electric-driven auxiliary feedwater pump is capable of delivering a total feedwater flow of 700 gpm at a pressure of 1170 psig to the entrance of the steam generators. The steam-driven auxiliary feedwater pump is capable of delivering a total feedwater flow of 700 gpm at a pressure of 1170 psig to the entrance of the steam generators. This capacity is sufficient to ensure that adequate feedwater flow is available to remove decay heat and reduce the Reactor Coolant System temperature to less than 350°F when the shutdown cooling system may be placed into operation.

3/4.7.1.3 CONDENSATE STORAGE TANKS

The OPERABILITY of the condensate storage tank T-121 with the minimum water volume ensures that sufficient water is available to maintain the RCS at HOT STANDBY conditions for 2 hours followed by cooldown to shutdown cooling initiation, with steam discharge to atmosphere with concurrent loss of offsite power and most limiting single failure. The OPERABILITY of condensate storage tank T-120 in conjunction with tank T-121 ensures that sufficient water is available to maintain the RCS at HOT STANDBY conditions for 24 hours including cooldown to shutdown cooling initiation, with steam discharge to atmosphere with concurrent loss of offsite power and most limiting single failure. The contained water volume limits are specified relative to the highest auxiliary feedwater pump suction inlet in the tank for T-121, and to the T-121 cross connect siphon inlet for T-120. (Water volume below these datum levels is not considered recoverable for purposes of this specification.) Vortexing, internal structure and instrument error are considered in determining the tank levels corresponding to the specified water volume limits.

Prior to achieving 100% RATED THERMAL POWER, Figure 3.7-1 is used to determine the minimum required water volume for T-121 for the maximum power level (hence maximum decay heat) achieved.