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

SOUTHERN CALIFORNIA EDISON COMPANY AND
SAN DIEGO GAS AND ELECTRIC COMPANY

DOCKET NO. 50-206

SAN ONOFRE NUCLEAR GENERATING STATION, UNIT 1

AMENDMENT TO PROVISIONAL OPERATING LICENSE

Amendment No. 56
License No. DPR-13

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

   A. The applications for amendment by Southern California Edison Company and San Diego Gas and Electric Company (the licensees) dated October 20, 1978, March 31, 1980, April 4, 1980, June 30, 1980, and December 1, 1980 as supported by information submitted by letters dated December 19, 1979, January 9, February 14, and May 16, 1980, in addition to an undated letter received by the Commission on October 9, 1980, comply with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and 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 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.

8106240053

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and Paragraph 3.B of Provisional Operating License No. DPR-13 is hereby amended to read as follows:

   B. Technical Specifications

   The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 56, are hereby incorporated in the license. Southern California Edison Company shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Richard P. [illegible]

Dennis M. Crutchfield, Chief
Operating Reactors Branch #5
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: June 11, 1981

ATTACHMENT TO LICENSE AMENDMENT NO. 56

PROVISIONAL OPERATING LICENSE NO. DPR-13

DOCKET NO. 50-206

Revise Appendix A Technical Specifications and Bases by removing the following pages and inserting the enclosed pages. The revised pages are identified by the captioned amendment number and contain vertical lines indicating the areas of change.

Remove Pages	Insert Pages
1	1
--	1a
7	7
--	7a and 7b
29	29
30	30
31	31**
32	32
32a	32a**
33a	33a*
--	33b thru 33i**
34	34*
35	35
40	40**
43a	43a**
52	52
53b	53b
53c	53c*

*Overleaf page included for the purpose of document completeness

**These pages involve Proposed Change No. 89 and are to be implemented within 60 days after the date of issuance of this amendment.

1.0 DEFINITIONS

Definitions given below apply to San Onofre Unit 1.

Operable:

A system, subsystem, train, component or device shall be Operable or have Operability when it is capable of performing its specified function(s). Implicit in this definition shall be the assumption that all necessary attendant instrumentation, controls, normal and emergency electrical power sources, cooling or seal water, lubrication or other auxiliary equipment that are required for the system, subsystem, train, component or device to perform its function(s) are also capable of performing their related support function(s).

Containment Integrity:

Containment Integrity means that all of the conditions below are satisfied:

(1) All non-automatic containment isolation valves (or blind flanges) are closed.

(2) The equipment door is properly closed.

(3) At least one door in each personnel air lock is properly closed.

(4) All automatic containment isolation valves are operable.

Channel Check:

A qualitative determination of acceptable operability by observation of channel behavior during operation. This determination shall include comparison of the channel with other independent channels measuring the same variable.

Channel Test:

Injection of a simulated signal into the channel to verify its proper response including, where applicable, alarm and/or trip initiating action.

Channel Calibration:

Adjustment of channel output such that it responds, with acceptable range and accuracy, to known values of the parameter which the channel measures. Calibration shall encompass the entire channel, including equipment actuation, alarm, or trip.

Correlation Check:

An engineering analysis of an incore flux map wherein at least one point along the incore versus excore correlation data plot is obtained.

Correlation Verification:

An engineering analysis of incore flux maps wherein multiple points along the incore versus excore correlation data plot are obtained.

Fire Suppression Water System:

A Fire Suppression Water System shall consist of a water source(s), pump(s), and distribution piping with associated isolation valves (i.e., system header, hose standpipe and spray header isolation valves).

Operational Mode - Mode

An Operational Mode (i.e., Mode) shall correspond to any one inclusive combination of core reactivity condition, power level, and average reactor coolant temperature specified in Table 1.2.

TABLE 1.2

OPERATIONAL MODES

MODE	REACTIVITY CONDITION, K_{eff}	% RATED THERMAL POWER*	AVERAGE COOLANT TEMPERATURE
1. POWER OPERATION	≥ 0.99	$>$ 5%	$\geq 350^{\circ}F$
2. STARTUP	≥ 0.99	$\leq$ 5%	$\geq 350^{\circ}F$
3. HOT STANDBY	< 0.99	0	$\geq 350^{\circ}F$
4. HOT SHUTDOWN	≤ 0.95	0	$350^{\circ}F > T_{avg} > 200^{\circ}F$
5. COLD SHUTDOWN	≤ 0.95	0	$\leq 200^{\circ}F$
6. REFUELING**	≤ 0.95	0	$\leq 140^{\circ}F$

* Excluding decay heat.

** Reactor vessel head unbolted or removed and fuel in the vessel.

3.0 LIMITING CONDITIONS FOR OPERATION (GENERAL)

Applicability: Applies to the operational requirements to be implemented when specific actions are not identified within individual Limiting Conditions for Operation.

Objective: To ensure that the station is placed in a safe condition when circumstances arise which are not identified within individual Limiting Conditions for Operation.

Specification:

A. In the event a Limiting Condition for Operation and/or associated Action requirements cannot be satisfied because of circumstances in excess of those addressed in the specification, the unit shall be placed in at least HotStandby within 1 hour, and in at least Cold Shutdown within the following 30 hours unless corrective measures are completed that permit operation under the permissible Action statements for the specified time interval as measured from initial discovery or until the reactor is placed in a mode of operation in which the specification is not applicable. Exceptions to these requirements shall be stated in the individual specifications.

B. When a system, subsystem, train, component or device is determined to be inoperable solely because its emergency power source is inoperable, or solely because its normal power source is inoperable, it may be considered Operable for the purpose of satisfying the requirements of its applicable Limiting Condition for Operation, provided: (1) its corresponding normal or emergency power source is Operable, and (2) all of its redundant system(s), subsystems(s), train(s), component(s), and device(s) are Operable, or likewise satisfy the requirements of this specification. Unless both conditions (1) and (2) are satisfied, the unit shall be placed in at least Hot Standby within 1 hour, and in at least Cold Shutdown within the following 30 hours. This specification is not applicable during the Cold Shutdown or Refueling modes of operation.

Basis: Specification A delineates the action to be taken for circumstances not directly provided for in the Action statements and whose occurrence would violate the intent of the specification. For example, Technical Specification 3.3 requires in part that two recirculation pumps be

Operable in order for the reactor to be made or maintained critical and provides explicit action requirements if one recirculation pump is inoperable. Under the terms of Specification A, if more than one recirculation pump is inoperable, the unit is required to be in at least Hot Standby within 1 hour and in at least Cold Shutdown within 30 hours unless corrective measures are completed. It is assumed that the unit is brought to the required mode of operation within the required times by promptly initiating and carrying out the appropriate action statement.

Specification B delineates what additional conditions must be satisfied to permit operation to continue, consistent with the Action statements for power sources, when a normal or emergency power source is not Operable. It specifically prohibits operation when one division is inoperable because its normal or emergency power source is inoperable and a system, subsystem, train, component, or device in another division is inoperable for another reason.

The provisions of this specification permit the Action statements associated with individual systems, subsystems, trains, components, or devices to be consistent with the Action statements of the associated electrical power source. It allows operation to be governed by the time limits of the Action statement associated with the Limiting Condition for Operation for the normal or emergency power source, not the individual Action statements for each system, subsystem, train, component or device that is determined to be inoperable solely because of the inoperability of its normal or emergency power source.

For example, Specfication 3.7 requires that two emergency diesel generators be Operable. The Action statement provides for a 72 hour out-of-service time when one emergency diesel generator is not Operable. If the definition of Operable were applied without consideration of Specification B, all systems, subsystems, trains, components and devices supplied by the inoperable emergency power source would also be inoperable. This would dictate invoking the applicable Action statements for each of the applicable Limiting Conditions for Operation. However, the provisions of Specification B permit the time limits for continued operation to be consistent with the Action statement for the inoperable emergency diesel generator instead, provided the other specified conditions are satisfied. In this case, this would mean that the corresponding normal power source must be Operable, and all redundant systems, subsystems, trains, components and devices must be Operable, or otherwise satisfy Specification B (i.e., be capable of performing their design function and have at least one normal or one emergency power source Operable). If they are not satisfied, shutdown is required in accordance with this specification.

As a further example, Specification 3.7 requires in part that two physically independent offsite power lines be Operable. The Action statement provides a 24 hour out-of-service time when both required offsite power lines are not Operable. If the definition of Operable were applied without consideration of Specification B, all systems, subsystems, trains, components and devices supplied by the inoperable normal power sources, both of the offsite power lines, would also be inoperable. This would dictate invoking the applicable Action statements for each of the applicable LCOs. However, the provisions of Specification B permit the time limits for continued operation to be consistent the the Action statement for the inoperable normal power sources instead, provided the other specified conditions are satisfied. In this case, this would mean that for one division, the emergency power source must be Operable (as must be the components supplied by the emergency power source) and all redundant systems, subsystems, trains, components and devices in the other division must be Operable, or likewise satisfy Specification B (i.e., be capable of performing their design functions and have an emergency power source Operable). In other words, both emergency power sources must be Operable and all redundant systems, subsystems, trains, components and devices in both divisions must also be Operable. If these conditions are not satisfied, shutdown is required in accordance with this specification.

In the Cold Shutdown or Refueling modes of operation, Specification B is not applicable, and thus the individual Action statements for each applicable Limiting Condition for Operation in these modes of operation must be adhered to."

TABLE 3.5.1
INSTRUMENT OPERATING CONDITIONS

Functional Unit	COLUMN I Minimum Operational Channels	COLUMN II Minimum Redundancy* Required	COLUMN III Required Operating Action if Column I or Column II Cannot be Met
1. Nuclear Power-Critical	3	For 3-Channel Operation --1 For 4 Channel Operation --2	Maintain hot standby conditions.
-Subcritical	3	1	Maintain hot standby if at least one source and one intermediate channel are available; otherwise maintain 10% $\Delta k/k$ shutdown margin.
2. Pressurizer Variable Low Pressure	2	1	Maintain load below 10% F. P.
3. Pressurizer Fixed High Pressure	2	1	Maintain hot standby conditions.
4. Pressurizer High Level	2	1	Maintain hot standby conditions.
5. Reactor Coolant Flow — 3-Loop Operation	3	1**/2***	Maintain load below 10% F. P.
6. Pressurizer Low Pressure (Safety Injection Function)	2	1	Maintain hot standby conditions.

* Redundancy is defined as N-M, where N is the number of channels in operation, and M is the number of channels in operation which, when tripped, will cause an automatic shutdown.

** For operation at ≤50% of full power
*** For operation at >50% of full power.

TABLE 3.5.1 (continued)

INSTRUMENT OPERATING CONDITIONS

Functional Unit	COLUMN I Minimum Operational Channels	COLUMN II Minimum Redundancy* Required	COLUMN III Required Operating Action if Column I or Column II Cannot be Met
7. Pressurizer Low Level (Safety Injection Function)	2	1	Maintain hot standby conditions.
8. Manual Trip	1		Maintain hot standby conditions.
9. Containment Sphere Pressure (Isolation Valve Signal)	1		Maintain cold shutdown.
10. Steam Feed-Water Flow Mismatch	3	1	Operator shall assume continuous surveillance and actuate manual scram if required.

* Redundancy is defined as N-M where N is the number of channels in operation, and M is the number of channels in operation which, when tripped, will cause an automatic shutdown.

3.5.2 Control Group Insertion Limits

Applicability: This standard applies to the insertion limits for the control banks during Startup and Power Operation.

Objective: To ensure (1) an acceptable core power distribution during power operation, (2) a limit on potential reactivity insertions for a hypothetical control rod ejection, and (3) core subcriticality after a reactor trip.

Specification:

A. The position of all control rods shall be at or above limits shown in Figure 3.5.2.1. except during low power physics tests.

B. The energy weighted average of the positions of control bank 2 shall be at least 90% withdrawn after the first 20% burnup of a core cycle. The average shall be computed at least twice every month and shall consist of all control bank 2 positions during the core cycle.

C. If it is determined that a rod has been dropped, retrieval shall be performed without increasing power level. An evaluation of the effect of the dropped rod shall be made to establish permissible power levels for continued operation. If retrieval is not successful within 3 hours, appropriate action, as determined from the evaluation, shall be taken. In no case shall operation longer than 3 hours be permitted if the dropped rod is worth more than 0.4% $\Delta k/k$.

D. (Deleted)

Basis: During Startup and Power Operation, the shutdown groups are fully withdrawn and control of the reactor is maintained by the control groups. The insertion limits are set in consideration of maximum specific power, shutdown capability, and the rod ejection accident. The considerations associated with each of these quantities are as follows:

1. The initial design maximum value of specific power is 15 kW/ft. The values of $F^N_{\Delta H}$ and F_Q total associated with this specific power are 1.75 and 3.23, respectively.

   A more restrictive limit on the design maximum value of specific power, $F^N_{\Delta H}$ and F_Q is applied to operation in accordance with the current safety analysis including fuel densification and ECCS performance. The values of the specific power, $F^N_{\Delta H}$ and F_Q are 13.97 kW/ft., 1.55 and 2.95, respectively. The control group insertion limits in conjunction with Specification B prevent exceeding these values even assuming the most adverse Xe distribution.

2. The minimum shutdown capability required is 1.25% $\Delta\rho$ at BOL, 1.9% $\Delta\rho$ at BOL and defined linearly between these values for intermediate cycle lifetimes. The rod insertion limits ensure that the available shutdown margin is greater than the above values.

3. The worst case ejected rod accident (8) covering HFP-BOL, HZP-BOL, HFP-EOL and HZP-EOL shall satisfy the following accident safety criteria:

   a) Average fuel pellet enthalpy at the hot spot below 225 cal/gm for nonirradiated fuel and 200 cal/gm for irradiated fuel.

   b) Fuel melting is limited to less than the innermost 10% of the fuel pellet at the hot spot.

   Low power physics tests are conducted approximately one to four times during the core cycle at or below 10% power. During such tests, rod configurations different from those specified in Figure 3.5.2.1 may be employed.

   It is understood that other rod configurations may be used during physics tests. Such configurations are permissible based on the low probability of occurrence of steam line break or rod ejection during such rod configurations.

   Operation of the reactor during cycle stretch out is conservative relative to the safety considerations of the control rod insertion limits, since the positioning of the rods during stretch out results in an increasing net available shutdown.

   Compliance with Specification B prevents unfavorable axial power distributions due to operation for long intervals at deep control rod insertions.

The presence of a dropped rod leads to abnormal power distribution in the core. The location of the rod and its worth in reactivity determines its effect on the temperatures of nearby fuel. Under certain conditions continued operation could result in fuel damage, and it is the intent of Specification C to avoid such damage.

Reference:
(1) Final Engineering Report and Safety Analysis, revised July 28, 1970.

(2) Amendment No. 18 to Docket No. 50-206.

(3) Amendment No. 22 to Docket No. 50-206.

(4) Amendment No. 23 to Docket No. 50-206.

(5) Description and Safety Analysis, Proposed Change No. 7, dated October 22, 1971.

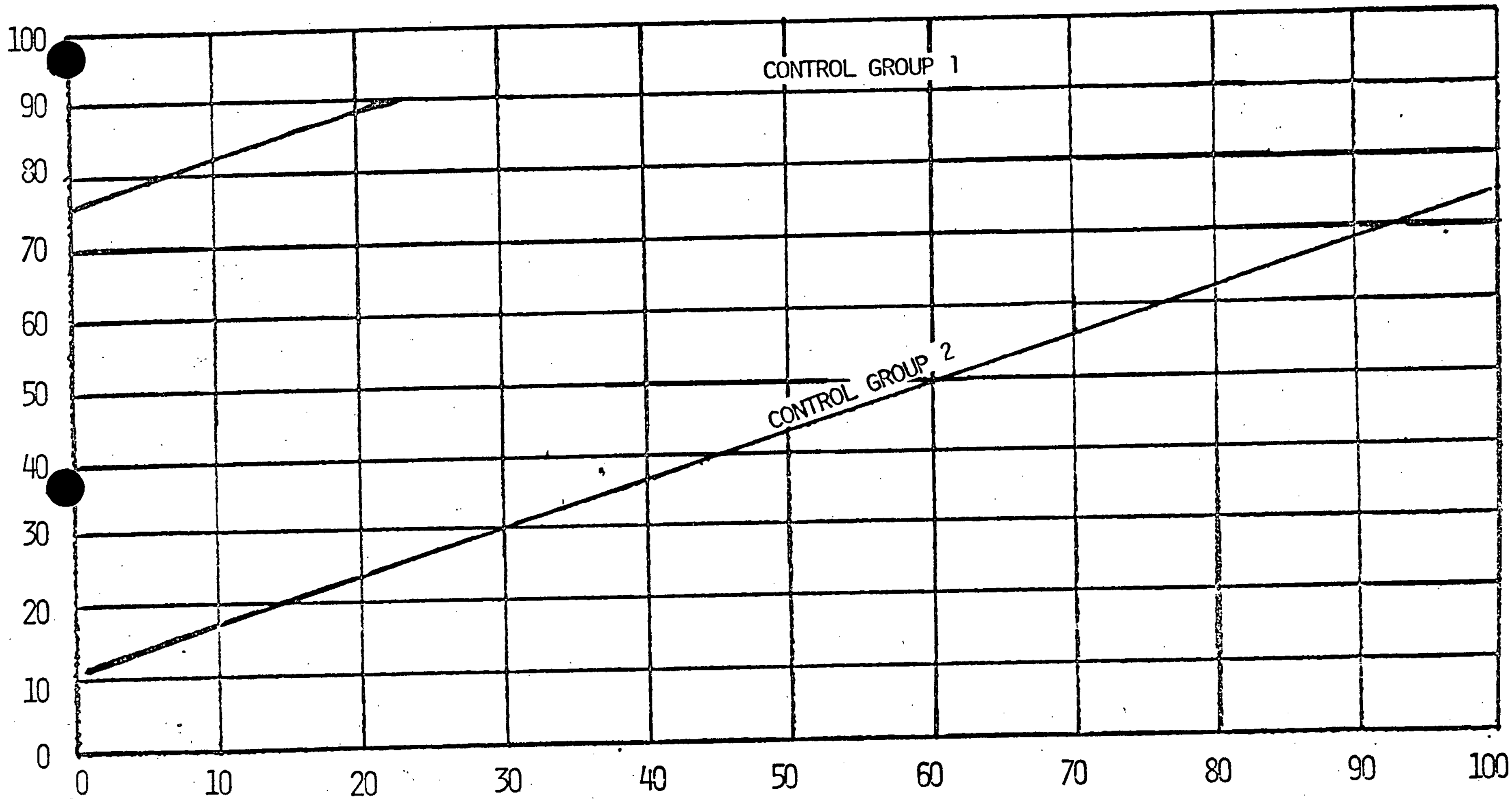
(6) Description and Safety Analysis Including Fuel Densification, San Onofre Nuclear Generating Station, Unit 1, Cycle 4, WCAP-8131, May, 1973.

(7) Description and Safety Analysis Including Fuel Densification, San Onofre Nuclear Generating Station, Unit 1, Cycle 5, January, 1975, Westinghouse Non-Proprietary Class 3.

(8) An Evaluation of the Rod Ejection Accident in Westinghouse Pressurized Water Reactors Using Spatial Kinetics Methods, WCAP-7588, Revision 1-A, January, 1975.

FIGURE 3.5.2.1

LIMITING CONDITION FOR OPERATION - CONTROL GROUP INSERTION LIMITS



POWER (PERCENT OF 1347 MWT)

Amendment No. 56

3.5.3 CONTROL AND SHUTDOWN ROD MISALIGNMENT

Applicability: Applies to the number of steps an individual control or shutdown rod may be misaligned from its group position during Startup and Power Operation.

Objective: To ensure that the effects of rod misalignment from the group position do not exceed the core design margins.

Specifications:

A. During Startup and Power Operation, all rods shall be OPERABLE and maintained within ± 35 steps (indicated by the Analog Detection System) of their step counter indicated bank position (indicated by the Digital Detection System), except during low power physics tests.

B. With Specification A, above, not met, the following specifications are applicable.

   1. With one or more rods inoperable due to being immovable as a result of excessive friction or mechanical interference or known to be untrippable, determine that the SHUTDOWN MARGIN BASIS of Specification 3.5.2 is satisfied within 1 hour and be in HOT STANDBY within 6 hours.

2. With more than one rod inoperable or misaligned from the step counter indicated position by more than ± 35 steps (indicated by the Analog Detection System), be in HOT STANDBY within 6 hours.

3. With one rod inoperable due to causes other than addressed by Specification B.1, above, or misaligned from its step counter indicated height by more than ± 35 steps (indicated by the Analog Detection System), POWER OPERATION may continue provided that within one hour either:

   a. The rod is restored to OPERABLE status within the above alignment requirements, or

   b. The rod is declared inoperable and the SHUTDOWN MARGIN BASIS of Specification 3.5.2 is satisfied. POWER OPERATION may then continue provided that:

1) A reevaluation of each accident analysis of Table 3.5.3-1 is performed within 5 days; this reevaluation shall confirm that the previously analyzed results of these accidents remain valid for the duration of operation under these conditions.

2) The SHUTDOWN MARGIN BASIS of Specification 3.5.2 is determined at least once per 12 hours.

3) A power distribution map is obtained from the movable incore detectors and $F_Q(Z)$ and F^N_H are verified to be within their limits within 72 hours.

4) Either the THERMAL POWER level is reduced to less than or equal to 75% of RATED THERMAL POWER within one hour and within the next 4 hours the high neutron flux trip setpoint is reduced to less than or equal to 85% of RATED THERMAL POWER, or

5) The remainder of the rods in the group with the inoperable rod are aligned to within ± 35 steps of the inoperable rod within one hour while maintaining the rod insertion limits of Figure 3.5.2.1.

<u>Basis</u>: The specifications of this section ensure that (1) acceptable power distribution limits are maintained, (2) the minimum SHUTDOWN MARGIN is maintained, and (3) limit the potential affects of rod misalignment on associated accident analyses.

The misalignment allowance of Specification B, assures core performance within allowed design margins including allowance for the inaccuracy of the position signals.

TABLE 3.5.3-1

ACCIDENT ANALYSES REQUIRING REEVALUATION IN THE EVENT OF AN INOPERABLE ROD

Rod Cluster Control Assembly Insertion Characterisitics

Rod Cluster Control Assembly Misalignment

Loss of Reactor Coolant From Small Ruptured Pipes Or From Cracks In Large Pipes Which Actuates The Emergency Core Cooling System

Single Rod Cluster Control Assembly Withdrawal At Full Power

Major Reactor Coolant System Pipe Ruptures (Loss of Coolant Accident)

Major Secondary System Pipe Rupture

Rupture of a Control Rod Drive Mechanism Housing (Rod Cluster Control Assembly Ejection)

3.5.4 ROD POSITION INDICATING SYSTEM

Applicability: Applies to the operating status of the Rod Position Indicating System.

Objective: To ensure the ability to accurately detect the position of control and shutdown rods.

Specification:

A. During Startup and Power Operation the Analog Detection System and the Digital Detection System shall be OPERABLE and capable of determining the control rod positions within $\pm$ 21 steps.

B. The Analog Detection System remains OPERABLE if the specified rod position indications can be obtained from direct LVDT voltage measurements.

C. With specifications A and B, above, not met, the following specifications are applicable.

1. With a maximum of one rod position indicator (Analog Detection System) per bank inoperable either:

a. Determine the position of the non-indicating rod(s) indirectly by the movable incore detectors within 8 hours, and at least once per 8 hours thereafter and immediately after any motion of the non-indicating rod which exceeds 56 steps in one direction since the last determination of the rod's position, or

b. Reduce THERMAL POWER to less than 50% of RATED THERMAL POWER within 8 hours.

2. With a maximum of one step counter indicator (Digital Detection System) per bank inoperable either:

a. Verify that all rod position indicators (Analog Detection System) for the affected bank are OPERABLE and that the most withdrawn rod and the least withdrawn rod of the bank are within a maximum of 35 steps of each other at least once per 8 hours, or

b. Reduce THERMAL POWER to less than 50% of RATED THERMAL POWER within 8 hours.

3. With more than one rod position indicator (Analog Detection System) per bank inoperable or more than one step counter indicator (Digital Detection System) per bank inoperable be inHOT STANDBY within 6 hours.

Basis: Control rod position and OPERABILITY of the rod position indicators are required to be verified on a nominal basis of once per shift with more frequent verifications required if an automatic monitoring channel is inoperable. These verification frequencies are adequate for assuring that the applicable LCO's are satisfied.

The indicator inoperability allowance of Specification C requires indirect measurement of rod position or a restriction in THERMAL POWERS; either of these restrictions provide assurance of fuel rod integrity during continued operation.

3.6 CONTAINMENT

Applicability: Applies to the operating status of the containment sphere.

Objective: To ensure containment integrity.

Specification: A. Leakage

The reactor coolant system temperature shall not be increased above 200°F if the containment leakage exceeds the maximum acceptable values specified in Surveillance Standard 4.3.

B. Access to Containment

(1) Containment integrity shall not be violated unless the reactor coolant system is below 500 psig and a shutdown margin greater than 1% Δk/k with all rods inserted is maintained for the most reactive temperature.

(2) Containment integrity shall not be violated when the reactor coolant system is open to the containment atmosphere unless a shutdown margin greater than 5% Δ k/k is maintained with all control rods inserted.

(3) Positive reactivity changes shall not be made by rod drive motion or boron dilution whenever the containment integrity is not intact.

C. Internal Pressure

The reactor shall not be made critical, nor be allowed to remain critical, if the containment sphere internal pressure exceeds 0.4 psig, or the internal vacuum exceeds 2.0 psig.

Basis: The bases for the shutdown margins and 500 psig pressure are as follows:

Δk/k	Event	Basis for Adequacy
1% (Below 500 psig)	Violation of Containment	Safety injection system disarmed; no credible automatic or operator action could cause return to criticality.
5%	Open reactor coolant system	Provides adequate margin so that maintenance activities can be carried out with the reactor head removed.[1]

Regarding internal pressure limitations, the containment design pressure of 46.4 psig would not be exceeded if the sphere internal pressure before a major loss of coolant accident was no greater than 0.4 psig. The design criteria also allows an internal vacuum not in excess of 2.0 psig. Thus, the specified limiting conditions for internal pressure are consistent with the design basis.(2) Although such design values could be exceeded without damage to the structure, it is considered that the importance of the containment function warrants the specified values.

Opening of the ventilation system backup valves, POV 9A and POV 10A, is not considered a violation of containment integrity during startup conditions provided that their corresponding in-line valves POV 9 and POV 10 are closed.

References:

(1) Supplement No. 3 to Final Engineering Report and Safety Analysis, Question No. 2.

(2) Final Engineering Report and Safety Analysis, Paragraph 5.3.

4.1 OPERATIONAL SAFETY ITEMS

Applicability

Applies to surveillance requirements for items directly related to Safety Standards and Limiting Conditions for Operation.

Objective

To specify the minimum frequency and type of surveillance to be applied to plant equipment and conditions.

Specification

A. Instrumentation shall be checked, tested, and calibrated as indicated in Table 4.1.1.

B. Equipment and sampling tests shall be as specified in Table 4.1.2.

C. The specific activity and boron concentration of the reactor coolant shall be determined to be within the limits by performance of the sampling and analysis program of Table 4.1.2., Item 1a.

D. The specific activity of the secondary coolant system shall be determined to be within the limit by performance of the sampling and analysis program of Table 4.1.2., Item 1a.

E. All control rods shall be determined to be above the rod insertion limits shown in Figure 3.5.2.1 by verifying that each analog detector indicates at least 21 steps above the rod insertion limits, to account for instrument inaccuracies, at least once per shift during Power Operation and at least once per shift during Startup conditions with K_{eff} equal to or greater than one.

F. The position of each rod shall be determined to be within the group demand limit and each rod position indicator shall be determined to be OPERABLE by verifying that the rod position indication system (Analog Detection System) and the step counter indication system (Digital Detection System) agree within 35 steps at least once per shift during Startup and Power Operation except during time intervals when the Rod Position Deviation Monitor is inoperable, then compare the rod position indication system (Analog Detection System) and the step counter indication system (Digital Detection System) at least once per 4 hours.

G. Each rod not fully inserted in the core shall be determined to be operable by movement of at least 10 steps in any one direction at least once per 31 days.

Table 4.1.2 (Cont'd.)

2.	Safety Injection Water Samples	a. Boron concentration	Monthly when the reactor is critical and prior to return of criticality when a period of subcriticality extends the text interval beyond 1 month.
3.	Control Rod Drop	a. Verify that all rods move from full out to full in, in less than 2.7 seconds	At each refueling shutdown
4.	(Deleted)		
5.	Pressurizer Safety Valves	a. Pressure Set Point	At each refueling shutdown

4.4 EMERGENCY POWER SYSTEM PERIODIC TESTING

Applicability: Applies to testing of the Emergency Power System and Auxiliary Feedwater Pumps.

Objective: To verify that the Emergency Power System and Auxiliary Feedwater Pumps will respond promptly and properly when required.

Specification:

A. One Southern California Edison Company and one San Diego Gas and Electric transmission line shall be determined operable at least once per 7 days by verifying correct breaker alignments and power availability.

B. Each diesel generator shall be demonstrated operable:

1. At least once per 31 days on a staggered test basis by:

   a. Verifying the diesel starts from ambient condition,

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

   c. Verifying the diesel generator is synchronized and running at ≥4422 kW for ≥60 minutes,

   d. Verifying the diesel generator is aligned to provide standby power to the associated emergency buses.

   e. Verifying the day tank contains a minimum of 290 gallons of fuel,

   f. Verifying the fuel storage tank contains a minimum of 37,500 gallons of fuel, and

   g. Verifying that the automatic load sequencer is OPERABLE with the interval between each load block within ± 10% of its design interval.

c. At least once per refueling shutdown by verifying that:

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

(2) The cell-to-cell and terminal connections are clean, tight, free of corrosion and coated with anti-corrosion material,

(3) The battery charger for 125 volt D.C. Bus No. 1 will supply at least 500 amps at 130 volts for at least 8 hours,

(4) The battery charger for 125 volt D.C. Bus No. 2 will supply at least 45 amps at 125 volt for at least 8 hours, and

(5) The battery charger for UPS will supply at least 10 amps, at 480 volt for at least 1 hour.

d. At least once per refueling cycle, during shutdown by verifying that the battery capacity is adequate to supply and maintain in OPERABLE status all of the actual emergency loads when the battery is subjected to a battery service test. Battery for 125 volt D.C. Bus 1 shall be tested for 8 hours. Battery for 125 volt D.C. Bus 2 shall be tested for 3 hours. The UPS battery shall be tested for two consecutive complete strokes (open and close) for MOV 850C.

e. At least once per 60 months, during shutdown, by verifying that the battery capacity is at least 80% of the manufacturer's rating when subjected to a performance discharge test. This performance discharge test shall be performed subsequent to the satisfactory completion of the required battery service test.

E. At intervals not to exceed every second week when the reactor coolant system pressure is greater than 500 psig, the auxiliary feedwater pumps shall be started to demonstrate satisfactory operation. When the reactor coolant system pressure remains less than 500 psig for a period longer than 2 weeks, the motor driven auxiliary feedwater pump shall be tested prior to increasing reactor coolant system pressure above 500 psig, and the steam driven auxiliary feedwater pump shall be tested as soon as steam becomes available.

Basis:

The normal plant Emergency Power System is normally in continuous operation, and periodically tested.(1)

The tests specified above will be completed without any preliminary preparation or repairs which might influence the results of the test.

The tests will demonstrate that components which are not normally required will respond properly when required.

Reference:

(1) Supplement No. 1 to Final Engineering Report and Safety Analysis, Section 3, Questions 6 and 8.