UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

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. 128
License No. NPF-10

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

   A. The application for amendment by Southern California Edison Company, et al. (SCE or the licensee) dated October 14, 1992, as supplemented by letter dated December 18, 1995, 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. 128, 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 to be implemented within 30 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Mel B. Fields

Mel B. Fields, Project Manager
Project Directorate IV-2
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: February 28, 1996

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 128 TO FACILITY OPERATING LICENSE NO. NPF-10

DOCKET NO. 50-361

Revise Appendix A Technical Specifications, including the issued but not yet implemented Improved Technical Specifications (ITS), 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 areas of change. The corresponding overleaf pages for the original technical specifications are also provided to maintain document completeness.

REMOVE	INSERT
3/4 7-13	3/4 7-13
3/4 7-14	3/4 7-14
3/4 7-15	3/4 7-15
3/4 7-16*	3/4 7-16*
B 3/4 7-4	B 3/4 7-4
---	B 3/4 7-4a
ITS 3.7-24	ITS 3.7-24
ITS 3.7-25	ITS 3.7-25
ITS 3.7-26	ITS 3.7-26
ITS B 3.7-59	ITS B 3.7-59
ITS B 3.7-61	ITS B 3.7-61
ITS B 3.7-62	ITS B 3.7-62

*No changes were made to this page; reissued to become overleaf page.

PLANT SYSTEMS

3/4.7.5 CONTROL ROOM EMERGENCY AIR CLEANUP SYSTEM*

LIMITING CONDITION FOR OPERATION

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

APPLICABILITY: ALL MODES or during movement of irradiated fuel assemblies.

ACTION:

Each Unit shall enter applicable ACTIONS separately.

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

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

Units 2 or 3 in MODE 5 or 6; or defueled when moving irradiated fuel assemblies:

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

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

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

d. The provisions of Specification 3.0.4 are not applicable when entering MODES 5, 6, or defueled configuration.

SURVEILLANCE REQUIREMENTS

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

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

b. At least once per 31 days on a STAGGERED TEST BASIS by initating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying that the system operates for at least 2 hours.

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

   1. Deleted.

*Shared system with San Onofre - Unit 3.

SURVEILLANCE REQUIREMENTS (Continued)

2. Verifying that the cleanup system satisfies the in-place testing acceptance criteria and uses the test procedures of Regulatory Positions C.5.a, C.5.c and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978, and the system flow rate is 2050 ± 150 cfm for the ventilation unit and 35,705 cfm ± 10% for the air conditioning unit.

3. Verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978.

4. Verifying a system flow rate of 2050 ± 150 cfm for the ventilation unit and 35,705 cfm ± 10% for the air conditioning unit during system operation when tested in accordance with ANSI N510-1975.

d. After every 720 hours of charcoal adsorber operation by verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978.

e. At least once per 18 months by:

1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 7.0 inches Water Gauge ventilation unit and less than 7.3 inches Water Gauge air conditioning unit while operating the system at a flow rate of 2050 ± 150 cfm for the ventilation unit and 35,705 cfm ± 10% for the air conditioning unit.

2. Verifying that on a control room isolation test signal, the system automatically switches into the emergency mode of operation with flow through the HEPA filters and charcoal adsorber banks.

3. Verifying that on a toxic gas isolation test signal, the system automatically switches into the isolation mode of operation with flow through the HEPA filters and charcoal adsorber banks.

4. Verifying that the system maintains the control room at a positive pressure of greater than or equal to 1/8 inch W.G. relative to the outside atmosphere during system operation in the emergency mode.

5. Deleted.

SURVEILLANCE REQUIREMENTS (Continued)

f. After each complete or partial replacement of a HEPA filter bank by verifying that the HEPA filter banks remove greater than or equal to 99.95% of the DOP when they are tested in-place in accordance with ANSI N510-1975 while operating the system at a flow rate of 2050 ± 150 cfm for the ventilation unit and 35,705 cfm ± 10% for the air conditioning unit.

g. After each complete or partial replacement of a charcoal adsorber bank by verifying that the charcoal adsorbers remove greater than or equal to 99.95% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1975 while operating the system at a flow rate of 2050 ± 150 cfm for the ventilation unit and 35,705 cfm ± 10% for the air conditioning unit.

3/4.7.6 SNUBBERS

LIMITING CONDITION FOR OPERATION

3.7.6 All snubbers shall be OPERABLE. The only snubbers excluded from this requirement are those installed on nonsafety-related systems and then only if their failure or failure of the system on which they are installed, would have no adverse effect on any safety-related system.

APPLICABILITY: MODES 1, 2, 3 and 4. (MODES 5 and 6 for snubbers located on systems required OPERABLE in those MODES).

ACTION:

With one or more snubbers inoperable, within 72 hours replace or restore the inoperable snubber(s) to OPERABLE status and perform an engineering evaluation per Specification 4.7.6.g on the attached component or declare the attached system inoperable and follow the appropriate ACTION statement for that system.

SURVEILLANCE REQUIREMENTS

4.7.6 Each snubber shall be demonstrated OPERABLE by performance of the following augmented inservice inspection program.

a. Inspection Types

As used in this specification, type of snubber shall mean snubbers of the same design and manufacturer, irrespective of capacity.

b. Visual Inspections

Snubbers are categorized as inaccessible or accessible during reactor operation. Each of these categories (inaccessible and accessible) may be inspected independently according to the schedule determined by Table 4.7-2. The visual inspection interval for each category of snubber shall be determined based upon the criteria provided in Table 4.7-2 and the first inspection interval determined using this criteria shall be based upon the previous inspection interval as established by the requirements in effect before amendment 95 .

3/4.7.1.6 ATMOSPHERIC DUMP VALVES (Continued)

The provisions of Specification 3.0.4 in MODES 2, 3, and 4 do not apply when only one ADV is inoperable, and the ADV can be made OPERABLE within the allowed action times. However, with two inoperable ADVs the plant must be placed on shutdown cooling. Therefore, the provisions of Specification 3.0.4 do apply with two inoperable ADVs.

3/4.7.2 STEAM GENERATOR PRESSURE/TEMPERATURE LIMITATION

The limitation on secondary side steam generator pressure and temperature ensures that the pressure induced stresses in the steam generators do not exceed the maximum allowable fracture toughness stress limits. The limitations of 70°F and 200 psig are based on a steam generator RT_{NDT} of 40°F and are sufficient to prevent brittle fracture.

3/4.7.3 COMPONENT COOLING WATER SYSTEM

The OPERABILITY of the component cooling water system ensures that sufficient cooling capacity is available for continued operation of safety related equipment during normal and accident conditions. The redundant cooling capacity of this system, assuming a single failure, is consistent with the assumptions used in the accident analyses.

3/4.7.4 SALT WATER COOLING SYSTEM

The OPERABILITY of the salt water cooling system ensures that sufficient cooling capacity is available for continued operation of equipment during normal and accident conditions. The redundant cooling capacity of this system, assuming a single failure, is consistent with the assumptions used in the accident analyses.

3/4.7.5 CONTROL ROOM EMERGENCY AIR CLEANUP SYSTEM

The CREACUS provides a protected environment from which operators can control the plant following an uncontrolled release of radioactivity, or toxic gas.

The CREACUS consists of two independent, redundant trains that recirculate and filter the control room air. Each train consists of a prefilter, a high efficiency particulate air (HEPA) filter, an activated charcoal adsorber section for removal of gaseous activity (principally iodine), and a fan. A second bank of HEPA filter follows the adsorber section (for emergency air conditioning unit only) and is used to retain carbon fines downstream of carbon adsorber. Each emergency ventilation air supply unit includes prefilter, HEPA filter, charcoal adsorber, and fan. Ductwork, motor-operated dampers, and instrumentation also form part of the system. Air and motor-operated dampers are provided for air volume control and system isolation purposes.

Upon receipt of the actuating signal, normal air supply to the control room is isolated,and the stream of ventilation air is recirculated through the system's filter trains. The prefilters remove any large particles in the air to prevent excessive loading of the HEPA filters and charcoal adsorbers. Continuous operation of each train for at least 2 hours per month verifies proper system operation.

There are two CREACUS operational modes. Emergency mode is an operational mode when the control room is isolated to prevent operation personnel from the radioactive exposure through the duration of any one of the postulated limiting faults discussed in FSAR, Chapter 15 (Ref. 2). Isolation mode is an operational mode when control room is isolated to protect operation personnel from toxic gases and smoke.

Actuation of the CREACUS places the system into either of two separate states of the operation, depending on the initiation signal. Actuation of the system to the emergency mode of operation closes the unfiltered-outside-air intake and exhaust dampers and aligns the system for recirculation of control room air through the redundant trains of HEPA and charcoal filters. The emergency mode initiates pressurization of the control room. Outside air is added to the air being recirculated from the control room.

Pressurization of the control room prevents infiltration of infiltered air from the surrounding areas of the building.

The actions taken in the toxic gas isolation mode are the same, except that the signal switches control room ventilation to an isolation mode, preventing outside air from entering the control room.

3/4.7.5 CONTROL ROOM EMERGENCY AIR CLEANUP SYSTEM (Continued)

The control room supply and the outside air supply of the normal control room HVAC is monitored by radiation and toxic-gas detectors respectively. One detector output above the setpoint will cause actuation of the emergency mode or isolation mode as required. The actions of the toxic gas isolation mode are more restrictive, and will override the actions of the emergency radiation mode. However, toxic gas and radiation events are not considered to occur concurrently.

A single train will pressurize the control room to at least 0.125 inches water gauge, and provides an air exchange rate in excess of 45% per hour.

Redundant recirculation trains provide the required filtration should an excessive pressure drop develop across the other filter train. Normally open isolation dampers are arranged in series pairs so that the failure of one damper to shut will not result in a breach of isolation. The CREACUS is designed in accordance with Seismic Category 1 requirements.

The CREACUS is designed to maintain the control room environment for 30 days of continuous occupancy after a Design Basis Accident (DBA) without exceeding a 5 rem whole body dose.

Cumulative operation of the system for at least 2 hours over a 31 day period is sufficient to reduce the buildup of moisture on the adsorbers and HEPA filters. The two hour time frame is based on a conservative engineering evaluation which calculates the time required to evaporate the moisture contained in the air trapped inside the CREACUS duct upstream of charcoal beds.

3.7 PLANT SYSTEMS

3.7.11 Control Room Emergency Air Cleanup System (CREACUS)

LCO 3.7.11 Two CREACUS trains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, 4, 5, and 6,
During movement of irradiated fuel assemblies.

ACTIONS

----------NOTES----------

1. The provisions of LCO 3.0.4 are not applicable when entering MODES 5, 6, or defueled configuration.

2. Each Unit shall enter applicable ACTIONS separately.

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One CREACUS train inoperable.	A.1	Restore CREACUS train to OPERABLE status.	7 days
B. Required Action and associated Completion Time of Condition A not met in MODE 1, 2, 3, or 4.	B.1 AND	Be in MODE 3.	6 hours
	B.2	Be in MODE 5.	36 hours
C. Required Action and associated Completion Time of Condition A not met in MODES 5 or 6, or during movement of irradiated fuel assemblies.	C.1 OR	Place OPERABLE CREACUS train in emergency radiation protection mode.	Immediately

(continued)

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
C. (continued)	C.2.1	Suspend CORE ALTERATIONS.	Immediately
	AND		
	C.2.2	Suspend movement of irradiated fuel assemblies.	Immediately
D. Two CREACUS trains inoperable in MODE 1, 2, 3, or 4.	D.1	Enter LCO 3.0.3.	Immediately
E. Two CREACUS trains inoperable in MODES 5 or 6, or during movement of irradiated fuel assemblies.	E.1	Suspend CORE ALTERATIONS.	Immediately
	AND		
	E.2	Suspend movement of irradiated fuel assemblies.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.11.1	Operate each CREACUS train for ≥ 2 hours.	31 days
SR 3.7.11.2	Perform required CREACUS filter testing in accordance with Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.7.11.3	Verify each CREACUS train actuates on an actual or simulated actuation signal.	24 months
SR 3.7.11.4	Verify each CREACUS train can maintain a positive pressure of ≥ 0.125 inches water gauge, relative to the atmosphere during the emergency radiation state of the emergency mode of operation.	24 months

BASES

APPLICABILITY

In MODES 1, 2, 3, and 4, the CREACUS must be OPERABLE to limit operator exposure during and following a DBA.

In MODES 5 and 6, the CREACUS is required to cope with the release from a rupture of a waste gas tank.

During movement of irradiated fuel assemblies, the CREACUS must be OPERABLE to cope with the release from a fuel handling accident.

ACTIONS

ACTION statements are modified by two NOTES. NOTE 1 says: "The provisions of LCO 3.0.4 are not applicable when entering MODES 5, 6, or defueled configuration." Therefore, since CREACUS can be inoperable during each individual MODE, it should not be required to have two OPERABLE CREACUS trains before MODE change from defueled from MODE 6 to defueled configuration, and from MODE 4 to MODE 5.

Specification 3.0.4 establishes that entry into an operational mode or other specified condition shall not be made unless the conditions of the LCO are met. Applicability statement "During movement of irradiated fuel assemblies" ensures the OPERABILITY of both CREACUS trains prior to the start of movement of irradiated fuel assemblies.

NOTE 2 says: "Each Unit shall enter applicable ACTIONS separately." CREACUS is a shared system between Unit 2 and Unit 3. LCO doesn't address the operational situation when the Units are in different operational MODES. Without this NOTE it may not be clear what ACTIONS should be taken.

A.1

With one CREACUS train inoperable, action must be taken to restore OPERABLE status within 7 days. In this Condition, the remaining OPERABLE CREACUS subsystem is adequate to perform control room radiation protection function. However, the overall reliability is reduced because a single failure in the OPERABLE CREACUS train could result in loss of CREACUS function. The 7 day Completion Time is based on the low probability of a DBA occurring during this time period, and the ability of the remaining train to provide the required capability.

BASES

ACTIONS (continued)

This places the unit in a condition that minimizes the accident risk. This does not preclude the movement of fuel to a safe position.

SURVEILLANCE REQUIREMENTS

SR 3.7.11.1

Standby systems should be checked periodically to ensure that they function properly. Since the environment and normal operating conditions on this system are not severe, testing each train once every month provides an adequate check on this system.

Cumulative operation of the system for at least 2 hours over a 31 day period is sufficient to reduce the buildup of moisture on the adsorbers and HEPA filtes. The 2 hour time frame is based on a conservative engineering evaluation which calculated the time required to evaporate the moisture contained in the air trapped inside the CREACUS duct upstream of charcoal beds. The 31 day Frequency is based on the known reliability of the equipment, and the two train redundancy available.

SR 3.7.11.2

This SR verifies that the required CREACUS testing is performed in accordance with the Ventilation Filter Testing Program (VFTP). The CREACUS filter tests are based on Regulatory Guide 1.52 (Ref. 3). The VFTP includes testing HEPA filter performance, charcoal adsorber efficiency, minimum system flow rate, and the physical properties of the activated charcoal (general use and following specific operations). Specific test frequencies and additional information are discussed in detail in the VFTP.

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.7.11.3

This SR verifies each CREACUS train starts and operates on an actual or simulated actuation signal. The Frequency of 24 months is consistent with that specified in Reference 3.

SR 3.7.11.4

This SR verifies the integrity of the control room enclosure and the assumed inleakage rates of potentially contaminated air. The control room positive pressure, with respect to potentially contaminated atmosphere, is periodically tested to verify proper function of the CREACUS. During the emergency radiation state of the emergency mode of operation, the CREACUS is designed to pressurize the control room ≥ 0.125 inches water gauge positive pressure with respect to the atmosphere in order to prevent unfiltered inleakage. The CREACUS is designed to maintain this positive pressure with one train.

REFERENCES

1. UFSAR, Section 9.4.

2. UFSAR, Chapter 15.

3. Regulatory Guide 1.52 (Rev. 2).

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

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. 117
License No. NPF-15

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

   A. The application for amendment by Southern California Edison Company, et al. (SCE or the licensee) dated October 14, 1992, as supplemented by letter dated December 18, 1995, 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. 117, 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 to be implemented within 30 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Mel B. Fields

Mel B. Fields, Project Manager
Project Directorate IV-2
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: February 28, 1996

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 117 TO FACILITY OPERATING LICENSE NO. NPF-15

DOCKET NO. 50-362

Revise Appendix A Technical Specifications, including the issued but not yet implemented Improved Technical Specifications (ITS), 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 areas of change. The corresponding overleaf pages for the original technical specifications are also provided to maintain document completeness.

REMOVE	INSERT
3/4 7-13*	3/4 7-13*
3/4 7-14	3/4 7-14
3/4 7-15	3/4 7-15
3/4 7-16	3/4 7-16
B 3/4 7-4	B 3/4 7-4
---	B 3/4 7-4a
ITS 3.7-24	ITS 3.7-24
ITS 3.7-25	ITS 3.7-25
ITS 3.7-26	ITS 3.7-26
ITS B 3.7-59	ITS B 3.7-59
ITS B 3.7-61	ITS B 3.7-61
ITS B 3.7-62	ITS B 3.7-62

*No changes were made to this page; reissued to become overleaf page.

PLANT SYSTEMS

3/4.7.4 SALT WATER COOLING SYSTEM

LIMITING CONDITION FOR OPERATION

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

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

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

SURVEILLANCE REQUIREMENTS

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

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

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

3/4.7.5 CONTROL ROOM EMERGENCY AIR CLEANUP SYSTEM*

LIMITING CONDITION FOR OPERATION

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

APPLICABILITY: ALL MODES or during movement of irradiated fuel assemblies.

ACTION:

Each Unit shall enter applicable ACTIONS separately.

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

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

Units 2 or 3 in MODES 5 or 6; or defueled when moving irradiated fuel assemblies:

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

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

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

d. The provisions of Specification 3.0.4 are not applicable when entering MODES 5, 6 or defueled configuration.

SURVEILLANCE REQUIREMENTS

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

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

b. At least once per 31 days on a STAGGERED TEST BASIS by initating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying that the system operates for at least 2 hours.

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

   1. Deleted.

*Shared system with San Onofre - Unit 2.

SURVEILLANCE REQUIREMENTS

2. Verifying that the cleanup system satisfies the in-place testing acceptance criteria and uses the test procedures of Regulatory Positions C.5.a, C.5.c and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978, and the system flow rate is 2050 ± 150 cfm for the ventilation unit and 35,705 cfm ± 10% for the air conditioning unit.

3. Verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978.

4. Verifying a system flow rate of 2050 ± 150 cfm for the ventilation unit and 35,705 cfm ± 10% for the air conditioning unit during system operation when tested in accordance with ANSI N510-1975.

d. After every 720 hours of charcoal adsorber operation by verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978.

e. At least once per 18 months by:

1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 7.0 inches Water Gauge ventilation unit and less than 7.3 inches Water Gauge air conditioning unit while operating the system at a flow rate of 2050 ± 150 cfm for the ventilation unit and 35,705 cfm ± 10% for the air conditioning unit.

2. Verifying that on a control room isolation test signal, the system automatically switches into the emergency mode of operation with flow through the HEPA filters and charcoal adsorber banks.

3. Verifying that on a toxic gas isolation test signal, the system automatically switches into the isolation mode of operation with flow through the HEPA filters and charcoal adsorber banks.

4. Verifying that the system maintains the control room at a positive pressure of greater than or equal to 1/8 inch W.G. relative to the outside atmosphere during system operation in the emergency mode.

5. Deleted.

SURVEILLANCE REQUIREMENTS (Continued)

f. After each complete or partial replacement of a HEPA filter bank by verifying that the HEPA filter banks remove greater than or equal to 99.95% of the DOP when they are tested in-place in accordance with ANSI N510-1975 while operating the system at a flow rate of 2050 ± 150 cfm for the ventilation unit and 35,705 cfm ± 10% for the air conditioning unit. I

g. After each complete or partial replacement of a charcoal adsorber bank by verifying that the charcoal adsorbers remove greater than or equal to 99.95% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1975 while operating the system at a flow rate of 2050 ± 150 cfm for the ventilation unit and 35,705 cfm ± 10% for the air conditioning unit. I

3/4.7.1.6 ATMOSPHERIC DUMP VALVES (Continued)

the ADVs are subject to inservice testing per Surveillance 4.7.1.6.3, the frequency of Surveillance 4.7.1.6.1 is based on the length of a fuel cycle.

The provisions of Specification 3.0.4 in MODES 2, 3, and 4 do not apply when only one ADV is inoperable, and the ADV can be made OPERABLE within the allowed action times. However, with two inoperable ADVs the plant must be placed on shutdown cooling. Therefore, the provisions of Specification 3.0.4 do apply with two inoperable ADVs.

3/4.7.2 STEAM GENERATOR PRESSURE/TEMPERATURE LIMITATION

The limitation on secondary side steam generator pressure and temperature ensures that the pressure-induced stresses in the steam generators do not exceed the maximum allowable fracture toughness stress limits. The limitations of 90°F and 200 psig are based on a steam generator RT_{NDT} of 60°F and are sufficient to prevent brittle fracture.

3/4.7.3 COMPONENT COOLING WATER SYSTEM

The OPERABILITY of the Component Cooling Water (CCW) system ensures that sufficient cooling capacity is available for continued operation of safety related equipment during normal and accident conditions. The redundant cooling capacity of this system, assuming a single failure, is consistent with the assumptions used in the accident analyses.

The CCW system is normally pressurized to maintain the CCW system water-solid using nitrogen gas supplied to the CCW surge tank by the non-safety related Auxiliary Gas System. Makeup water to the surge tank is normally provided by the non-safety related, Nuclear Service Water system to compensate for normal system leakage.

Following a Design Basis Event, both the non-safety related Auxiliary Gas system and Nuclear Service Water system are assumed to be unavailable. A postulated Design Basis Event could result in CCW system voiding and a subsequent water hammer. The Backup Nitrogen Supply (BNS) system is an independent, safety related, Seismic Category I source of pressurized nitrogen for both CCW surge tanks. The BNS system is designed to minimize CCW system high-point voiding by maintaining the CCW critical loops water-solid during Design Basis Event mitigation.

BNS system OPERABILITY ensures that both CCW surge tanks will be pressurized for at least seven days following a Design Basis Event without bottle changeout. The BNS system is required to be OPERABLE whenever the associated train of CCW is required to be OPERABLE. The BNS system surveillance requirements provide adequate assurance that BNS system OPERABILITY will be maintained.

3/4.7.4 SALT WATER COOLING SYSTEM

The OPERABILITY of the salt water cooling system ensures that sufficient cooling capacity is available for continued operation of equipment during normal and accident conditions. The redundant cooling capacity of this system, assuming a single failure, is consistent with the assumptions used in the accident analyses.

3/4.7.5 CONTROL ROOM EMERGENCY AIR CLEANUP SYSTEM

The CREACUS provides a protected environment from which operators can control the plant following an uncontrolled release of radioactivity, or toxic gas.

The CREACUS consists of two independent, redundant trains that recirculate and filter the control room air. Each train consists of a prefilter, a high efficiency particulate air (HEPA) filter, an activated charcoal adsorber section for removal of gaseous activity (principally iodine), and a fan. A second bank of HEPA filter follows the adsorber section (for emergency air conditioning unit only) and is used to retain carbon fines downstream of carbon adsorber. Each emergency ventilation air supply unit includes prefilter, HEPA filter, charcoal adsorber, and fan. Ductwork, motor-operated dampers, and instrumentation also form part of the system. Air and motor-operated dampers are provided for air volume control and system isolation purposes.

Upon receipt of the actuating signal, normal air supply to the control room is isolated, and the stream of ventilation air is recirculated through the system's filter trains. The prefilters remove any large particles in the air to prevent excessive loading of the HEPA filters and charcoal adsorbers. Continuous operation of each train for at least 2 hours per month verifies proper system operation.

There are two CREACUS operational modes. Emergency mode is an operational mode when the control room is isolated to prevent operation personnel from the radioactive exposure through the duration of any one of the postulated limiting faults discussed in FSAR, Chapter 15 (Ref. 2). Isolation mode is an operational mode when control room is isolated to protect operation personnel from toxic gases and smoke.

Actuation of the CREACUS places the system into either of two separate states of the operation, depending on the initiation signal. Actuation of the system to the emergency mode of operation closes the unfiltered-outside-air intake and exhaust dampers and aligns the system for recirculation of control room air through the redundant trains of HEPA and charcoal filters. The emergency mode initiates pressurization of the control room. Outside air is added to the air being recirculated from the control room.

Pressurization of the control room prevents infiltration of infiltered air from the surrounding areas of the building.

The actions taken in the toxic gas isolation mode are the same, except that the signal switches control room ventilation to an isolation mode, preventing outside air from entering the control room.

3/4.7.5 CONTROL ROOM EMERGENCY AIR CLEANUP SYSTEM (Continued)

The control room supply and the outside air supply of the normal control room HVAC is monitored by radiation and toxic-gas detectors respectively. One detector output above the setpoint will cause actuation of the emergency mode or isolation mode as required. The actions of the toxic gas isolation mode are more restrictive, and will override the actions of the emergency radiation mode. However, toxic gas and radiation events are not considered to occur concurrently.

A single train will pressurize the control room to at least 0.125 inches water gauge, and provides an air exchange rate in excess of 45% per hour.

Redundant recirculation trains provide the required filtration should an excessive pressure drop develop across the other filter train. Normally open isolation dampers are arranged in series pairs so that the failure of one damper to shut will not result in a breach of isolation. The CREACUS is designed in accordance with Seismic Category 1 requirements.

The CREACUS is designed to maintain the control room environment for 30 days of continuous occupancy after a Design Basis Accident (DBA) without exceeding a 5 rem whole body dose.

Cumulative operation of the system for at least 2 hours over a 31 day period is sufficient to reduce the buildup of moisture on the adsorbers and HEPA filters. The 2 hour time frame is based on a conservative engineering evaluation which calculated the time required to evaporate the moisture contained in the air trapped inside the CREACUS duct upstream of charcoal beds.

3.7 PLANT SYSTEMS

3.7.11 Control Room Emergency Air Cleanup System (CREACUS)

LCO 3.7.11 Two CREACUS trains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, 4, 5, and 6,
During movement of irradiated fuel assemblies.

ACTIONS

----------NOTES----------

1. The provisions of LCO 3.0.4 are not applicable when entering MODES 5, 6, or defueled configuration.

2. Each Unit shall enter applicable ACTIONS separately.

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One CREACUS train inoperable.	A.1	Restore CREACUS train to OPERABLE status.	7 days
B. Required Action and associated Completion Time of Condition A not met in MODE 1, 2, 3, or 4.	B.1 AND B.2	Be in MODE 3. Be in MODE 5.	6 hours 36 hours
C. Required Action and associated Completion Time of Condition A not met in MODES 5 or 6, or during movement of irradiated fuel assemblies.	C.1 OR	Place OPERABLE CREACUS train in emergency radiation protection mode.	Immediately

(continued)

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
C. (continued)	C.2.1	Suspend CORE ALTERATIONS.	Immediately
	AND		
	C.2.2	Suspend movement of irradiated fuel assemblies.	Immediately
D. Two CREACUS trains inoperable in MODE 1, 2, 3, or 4.	D.1	Enter LCO 3.0.3.	Immediately
E. Two CREACUS trains inoperable in MODES 5 or 6, or during movement of irradiated fuel assemblies.	E.1	Suspend CORE ALTERATIONS.	Immediately
	AND		
	E.2	Suspend movement of irradiated fuel assemblies.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.11.1	Operate each CREACUS train for ≥ 2 hours.	31 days
SR 3.7.11.2	Perform required CREACUS filter testing in accordance with Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.7.11.3	Verify each CREACUS train actuates on an actual or simulated actuation signal.	24 months
SR 3.7.11.4	Verify each CREACUS train can maintain a positive pressure of ≥ 0.125 inches water gauge, relative to the atmosphere during the emergency radiation state of the emergency mode of operation.	24 months

BASES

APPLICABILITY

In MODES 1, 2, 3, and 4, the CREACUS must be OPERABLE to limit operator exposure during and following a DBA.

In MODES 5 and 6, the CREACUS is required to cope with the release from a rupture of a waste gas tank.

During movement of irradiated fuel assemblies, the CREACUS must be OPERABLE to cope with the release from a fuel handling accident.

ACTIONS

ACTION statements are modified by two NOTES. Note 1 says: "The provisions of LCO 3.0.4 are not applicable when entering MODES 5, 6, or defueled configuration." Therefore, since CREACUS can be inoperable during each individual MODE, it should not be required to have two OPERABLE CREACUS trains before MODE change from defueled from MODE 6 to defueled configuration, and from MODE 4 to MODE 5.

Specification 3.0.4 establishes that entry into an operational mode or other specified condition shall not be made unless the conditions of the LCO are met. Applicability statement "During movement of irradiated fuel assemblies" ensures the OPERABILITY of both CREACUS trains prior to the start of movement of irradiated fuel assemblies.

NOTE 2 says: "Each Unit shall enter applicable ACTIONS separately." CREACUS is a shared system between Unit 2 and Unit 3. LCO doesn't address the operational situation when the Units are in different operational MODES. Without this NOTE it may not be clear what ACTIONS should be taken.

A.1

With one CREACUS train inoperable, action must be taken to restore OPERABLE status within 7 days. In this Condition, the remaining OPERABLE CREACUS subsystem is adequate to perform control room radiation protection function. However, the overall reliability is reduced because a single failure in the OPERABLE CREACUS train could result in loss of CREACUS function. The 7 day Completion Time is based on the low probability of a DBA occurring during this time period, and the ability of the remaining train to provide the required capability.

(continued)

BASES

ACTIONS (continued)

This places the unit in a condition that minimizes the accident risk. This does not preclude the movement of fuel to a safe position.

SURVEILLANCE REQUIREMENTS

SR 3.7.11.1

Standby systems should be checked periodically to ensure that they function properly. Since the environment and normal operating conditions on this system are not severe, testing each train once every month provides an adequate check on this system.

Cumulative operation of the system for at least 2 hours over a 31 day period is sufficient to reduce the buildup of moisture on the adsorbers and HEPA filters. The 2 hour time frame is based on a conservative engineering evaluation which calculated the time required to evaporate the moisture contained in the air trapped inside the CREACUS duct upstream of charcoal beds. The 31 day Frequency is based on the known reliability of the equipment, and the two train redundancy available.

SR 3.7.11.2

This SR verifies that the required CREACUS testing is performed in accordance with the Ventilation Filter Testing Program (VFTP). The CREACUS filter tests are based on Regulatory Guide 1.52 (Ref. 3). The VFTP includes testing HEPA filter performance, charcoal adsorber efficiency, minimum system flow rate, and the physical properties of the activated charcoal (general use and following specific operations). Specific test frequencies and additional information are discussed in detail in the VFTP.

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.7.11.3

This SR verifies each CREACUS train starts and operates on an actual or simulated actuation signal. The Frequency of 24 months is consistent with that specified in Reference 3.

SR 3.7.11.4

This SR verifies the integrity of the control room enclosure and the assumed inleakage rates of potentially contaminated air. The control room positive pressure, with respect to potentially contaminated atmosphere, is periodically tested to verify proper function of the CREACUS. During the emergency radiation state of the emergency mode of operation, the CREACUS is designed to pressurize the control room $\geq$ 0.125 inches water gauge positive pressure with respect to the atmosphere in order to prevent unfiltered inleakage. The CREACUS is designed to maintain this positive pressure with one train.

REFERENCES

1. UFSAR, Section 9.4.

2. UFSAR, Chapter 15.

3. Regulatory Guide 1.52 (Rev. 2).