

Attachment 2
Proposed Technical Specifications

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APPENDIX A
SAFETY TECHNICAL SPECIFICATIONS
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3.14 FIRE PROTECTION

3.14.1 FIRE SUPPRESSION WATER SYSTEM

APPLICABILITY: At all times.

SPECIFICATION: The fire suppression water system shall be OPERABLE with:

- a. Three fire suppression pumps, each with a rated capacity of at least 1000 gpm, with their discharge aligned to the fire suppression header. One pump must be from Unit 1; the remaining two pumps may be selected from the four pumps available at San Onofre Units 1, 2, and 3.
- b. Two separate water supplies (one from Unit 1 and one from Units 2 & 3), each with a minimum contained volume of 300,000 gallons, and
- c. An OPERABLE flow path from each required water supply and transferring the water through distribution piping with OPERABLE sectionalizing control or isolation valves to the yard hydrant curb valves, the first valve upstream of the water flow alarm device on each sprinkler or hose standpipe, and the first valve upstream of the deluge valve on each deluge or spray system required to be OPERABLE per Specifications 3.14.2, 3.14.3, and 3.14.5.

ACTION:

- A. With one required pump and/or one water supply inoperable, restore the inoperable equipment to OPERABLE status within 7 days or provide an alternate backup pump or supply. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.
- B. With the fire suppression water system otherwise inoperable, establish a backup fire suppression system within 24 hours.

BASIS:

The OPERABILITY of the fire suppression systems ensures that adequate fire suppression capability is available to confine and extinguish fires occurring in any portion of the facility where safety-related equipment is located. The fire suppression system consists of the water system, spray, and/or sprinklers, Halon, and fire hose stations. The collective capability of the fire suppression systems is adequate to minimize potential damage to safety-related equipment and is a major element in the facility fire protection program.

The requirement for OPERABILITY of separate fire water supplies from Unit 1 and Units 2 and 3 (including supply, pumping capability, and piping) will assure two separate supply connections to the Unit 1 fire main loop in accordance with BTP 9.5-1, Appendix A (1976), Section E.2.c. In the event that portions of the fire suppression water systems are inoperable, backup fire fighting equipment are required to be made

available until the inoperable equipment is restored to service.

In the event the fire suppression water system becomes inoperable, immediate corrective measures must be taken since this system provides the major fire suppression capability of the plant.

REFERENCES:

1. Fire Protection Program Review, BTP APCS 9.5-1, San Onofre Nuclear Generating Station, Unit 1, March 1977; submitted to the NRC by letter dated March 16, 1977 in Docket No. 50-206.
2. Fire Protection Safety Evaluation Report, by The Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, In The Matter of Southern California Edison Company, San Onofre Nuclear Generating Station Unit 1, Docket No. 50-206, July 19, 1979; provided to SCE by letter dated July 19, 1979 and Supplement #1 dated February 4, 1981.
3. Updated Fire Hazards Analysis, San Onofre Nuclear Generating Station, Units 1, 2 and 3.
4. Letter, M. O. Medford (SCE), to J. A. Zwolinski (NRC), dated October 4, 1985, Fire Protection Program Review.
5. Letter, M. O. Medford (SCE), to G. E. Lear (NRC), dated December 31, 1985,

3.14.2 SPRAY AND/OR SPRINKLER SYSTEMS

APPLICABILITY: Whenever equipment protected by the spray and/or sprinkler system is required to be OPERABLE.

SPECIFICATION: The following spray and/or sprinkler systems shall be OPERABLE.

a. See Table 3.14.2.1

ACTION:

- A. With one or more of the required spray and/or sprinkler systems protecting redundant safe shutdown systems outside containment inoperable, establish the following within 1 hour:
1. A continuous fire watch**; and
 2. Backup fire suppression equipment if applicable*.
- B. For other areas** outside containment establish an hourly fire watch patrol, within 1 hour.
- C. For areas** inside containment, establish a fire watch patrol in containment, at least once per 8 hours or monitor the temperature at least once per hour at the locations listed below:
1. Inside secondary shield:
 - A minimum of 2 out of 3 for each RCP:
 - RCP lower water bearing,
 - RCP upper guide bearing, and
 - RCP down thrust bearing;

* Fire hose will be run within 1 hour of entering the ACTION statement if an operable water supply is not available within 250 feet of the area protected by the inoperable spray and/or sprinkler system, or two 150 feet hose packs (1-3/4") on the fire truck are not operable. Fire hose will be supplied by the fire department responding to a fire if an operable water supply is available within 250 feet of the area protected by the inoperable spray and/or sprinkler system. With the required sprinkler and/or spray system inside containment inoperable and containment integrity established, fire hose will be supplied only to the nearest access point.

** Not required for areas that pose temporary radiation and/or life-threatening safety hazards. If the fire watch patrol cannot be restored within 24 hours, prepare and submit a Special Report to Commission pursuant to Specification 6.9.2 within the next 7 days outlining the action taken, the cause of hazards and the plans and schedule for restoring the required fire watch/patrol.

AND,

A minimum of 2 out of 3 of: After RCP motor cooling fan unit, After RCP standby motor cooling fan unit, and RCP motor space

2. Outside secondary shield:

A minimum of 3 out of 5 of:
Control rod cooler discharge,
Control rod shroud air inlet,
Reactor cavity air outlet,
Sphere space, and
Control rod cooler inlet

D. During refueling operations, when the Refueling Water Storage Tank water has been transferred to the refueling cavity, backup fire suppression equipment shall be provided.*

E. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

BASIS:

In the event that a fire spray and/or sprinkler system is inoperable, the establishment of fire patrols and backup suppression in the affected areas are required to provide fire suppression capability until the inoperable system is restored to operability. Backup suppression may include the fire brigade if an operable water supply is available within 250 feet of the affected area. The fire department backup fire suppression capability consists of a minimum of 1000 feet of 2-1/2 inch diameter (or larger) and 300 feet of 1-3/4 inch diameter (or larger) fire hose carried between site fire engines.

Accessible fire areas as identified in the action statements of the LCOs are defined as areas that do not pose radiation and/or life-threatening safety hazards which are of a temporary nature. The areas which pose a radiation and/or life-threatening safety hazards of a permanent nature

* Fire hose will be run within 1 hour of entering the ACTION statement if an operable water supply is not available within 250 feet of the area protected by the inoperable spray and/or sprinkler system, or two 150 feet hose packs (1-3/4") on the fire truck are not operable. Fire hose will be supplied by the fire department responding to a fire if an operable water supply is available within 250 feet of the area protected by the inoperable spray and/or sprinkler system. With the required sprinkler and/or spray system inside containment inoperable and containment integrity established, fire hose will be supplied only to the nearest access point.

(e.g., containment) include alternate actions which would protect personnel from those hazards. For those areas within containment which are inaccessible during operation, temperature monitoring at the specified locations provides redundant confirmation of containment conditions due to the symmetrical configuration and close proximity of the equipment within containment. Local fire hazards within containment are uniquely protected or confined (see Reference 5). Circuits within containment required for dedicated safe shutdown are protected by either one-hour fire rated wrap and/or radiant heat shields. The specified spatial temperature monitoring provides sufficient indication of fire within containment.

REFERENCES:

1. Fire Protection Program Review, BTP APCSB 9.5-1, San Onofre Nuclear Generating Station, Unit 1, March 1977; submitted to the NRC by letter dated March 16, 1977 in Docket No. 50-206.
2. Fire Protection Safety Evaluation Report, by The Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, In The Matter of Southern California Edison Company, San Onofre Nuclear Generating Station Unit 1, Docket No. 50-206, July 19, 1979; provided to SCE by letter dated July 19, 1979 and Supplement #1 dated February 4, 1981.
3. Updated Fire Hazards Analysis, San Onofre Nuclear Generating Station, Units 1, 2 and 3.
4. Letter, M. O. Medford (SCE), to J. A. Zwolinski (NRC), dated October 4, 1985, Fire Protection Program Review.
5. Letter, M. O. Medford (SCE), to G. E. Lear (NRC), dated December 31, 1985,

TABLE 3.14.2.1

REQUIRED SPRINKLER AND SPRAY SYSTEMS

<u>Fire Area/ Zone</u>	<u>Hazard</u>	<u>Location</u>	<u>System Type</u>
1	Reactor coolant pumps, RHR pumps, cable	Inner Containment Sphere	Deluge - borated water spray*
	Cable insulation outside secondary shield	Outer Containment Sphere	Deluge - borated water spray*
2A	Charging Pumps	Charging Pump Room	Wet Pipe
4B/4D	Cable Insulation	Cable Trays, Yard/Breezeway Area	Deluge water spray
4D	Transformer oil	Station Service Transformer 1 Transformers 2 & 3	Deluge water spray Deluge water spray
9A	Turbine lubricating oil and cable insulation	System #1 chemical treatment area	Deluge water spray
	Turbine lubricating oil and cable insulation	System #2 lube oil reservoir area (north half)	Deluge water spray
	Turbine lubricating oil and cable insulation	System #3 lube oil reservoir area (south half)	Deluge water spray
	Turbine lubricating oil	System #4 480 V room wall & turbine building north wall	Wet pipe
	Turbine lubricating oil and cable insulation	System #5 north turbine building area protection	Wet pipe
	Hydrogen seal oil	Hydrogen seal oil unit	Deluge water spray
17A	Diesel Generator	North Diesel Generator	Pre-Action Sprinkler
18	Diesel Generator	South Diesel Generator	Pre-Action Sprinkler

* This includes a refueling water pump, 240,000 gallons of borated water in the refueling water storage tank and associated system valves.

3.14.3 FOAM SUPPRESSION SYSTEM

APPLICABILITY: Whenever equipment protected by the foam suppression system is required to be OPERABLE.

SPECIFICATION: The foam suppression system in the following area shall be OPERABLE.

a. Lube oil reservoir and conditioner.

ACTION: A. With the required foam system inoperable, establish the following within 1 hour;

1. A continuous fire watch**; and
2. Backup fire suppression equipment if applicable*.

B. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

BASIS: In the event that a foam suppression system is inoperable, the establishment of fire patrols and backup suppression in the affected areas is required to provide fire suppression capability until the inoperable system is restored to operability. Backup suppression may include the fire brigade if an operable water supply is available within 250 feet of the affected area. The fire department backup fire suppression capability consists of a minimum of 1000 feet of 2-1/2 inch diameter (or larger) and 300 feet of 1-3/4 inch diameter (or larger) fire hose carried between site fire engines.

REFERENCES: 1. Fire Protection Program Review, BTP APCSB 9.5-1, San Onofre Nuclear Generating Station, Unit 1, March 1977; submitted to the NRC by letter dated March 16, 1977 in Docket No. 50-206.

* Fire hose will be run within 1 hour of entering the ACTION statement if an operable water supply is not available within 250 feet of the area protected by the inoperable foam suppression system, or two 150 feet hose packs (1-3/4") on the fire truck are not operable. Fire hose will be supplied by the fire department responding to a fire if an operable water supply is available within 250 feet of the area protected by the inoperable foam suppression system.

** Not required for areas that pose temporary radiation and/or life-threatening safety hazards. If the fire watch patrol cannot be restored within 24 hours, prepare and submit a Special Report to Commission pursuant to Specification 6.9.2 within the next 7 days outlining the action taken, the cause of hazards, and the plans and schedule for restoring the required fire watch/patrol.

2. Fire Protection Safety Evaluation Report, by The Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, In The Matter of Southern California Edison Company, San Onofre Nuclear Generating Station Unit 1, Docket No. 50-206, July 19, 1979; provided to SCE by Letter dated July 19, 1979 and Supplement #1 dated February 4, 1981.
3. Updated Fire Hazards Analysis, San Onofre Nuclear Generating Station, Units 1, 2 and 3.
4. Letter, M. O. Medford (SCE), to J. A. Zwolinski (NRC), dated October 4, 1985, Fire Protection Program Review.
5. Letter, M. O. Medford (SCE), to G. E. Lear (NRC), dated December 31, 1985,

3.14.4 HALON SYSTEMS

APPLICABILITY: Whenever equipment protected by the Halon system is required to be OPERABLE.

SPECIFICATION: The Halon systems in the following areas shall be OPERABLE:

- a. 4160 volt switchgear room (2 Halon banks)
- b. 480 volt switchgear room (2 Halon banks)

ACTION:

- A. With only one bank of the required Halon systems inoperable, establish the following within 1 hour:
 1. An hourly fire watch**.
- B. With both banks of the required Halon systems inoperable, establish the following within 1 hour:
 1. A continuous fire watch**; and
 2. Backup fire suppression if applicable*.
- C. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

BASIS: The automatic Halon systems consist of double bottle banks to assure second Halon application capability. Both bottle banks must be in service for the system to remain fully operable. This is consistent with NFPA 12A (Halon 1301 Fire Extinguishing Systems) which recommends primary and secondary bottle banks be provided to ensure uninterrupted service during maintenance activities or following a discharge of the system. With only one Halon bank in service the system continues to provide a level of protection and a hourly fire watch is provided as

* Fire hose will be run within 1 hour of entering the ACTION statement if an operable water supply is not available within 250 feet of the area protected by the inoperable Halon system, or two 150 foot hose packs (1-3/4") on the fire truck are not operable. Fire hose will be supplied by the fire department responding to a fire if an operable water supply is available within 250 feet of the area protected by the inoperable Halon system.

** Not required for areas that pose temporary radiation and/or life-threatening safety hazards. If the fire watch patrol cannot be restored within 24 hours, prepare and submit a Special Report to Commission pursuant to Specification 6.9.2 within the next 7 days outlining the action taken, the cause of hazards, and the plans and schedule for restoring the required fire watch/patrol.

a compensatory measure. With both Halon banks of the same system out of service, a constant fire watch with backup suppression will be provided. These action statements along with the availability of the site full time fire department will ensure that an adequate level of fire protection is provided at all times.

REFERENCES:

1. Fire Protection Program Review, BTP APCS 9.5-1, San Onofre Nuclear Generating Station, Unit 1, March 1977; submitted to the NRC by letter dated March 16, 1977 in Docket No. 50-206.
2. Fire Protection Safety Evaluation Report, by The Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, In The Matter of Southern California Edison Company, San Onofre Nuclear Generating Station Unit 1, Docket No. 50-206, July 19, 1979; provided to SCE by letter dated July 19, 1979 and Supplement #1 dated February 4, 1981.
3. Updated Fire Hazards Analysis, San Onofre Nuclear Generating Station, Units 1, 2 and 3.
4. Letter, M. O. Medford (SCE), to J. A. Zwolinski (NRC), dated October 4, 1985, Fire Protection Program Review.
5. Letter, M. O. Medford (SCE), to G. E. Lear (NRC), dated December 31, 1985,

3.14.5 FIRE HOSE STATIONS

APPLICABILITY: Whenever equipment in the areas protected by the fire hose stations is required to be OPERABLE.

SPECIFICATION: The following fire hose stations shall be OPERABLE:

- a. See Table 3.14.5.1

ACTION:

- A. With one or more of the fire hose stations shown in Table 3.7-6 inoperable, route a fire hose* to provide equivalent nozzle flow capacity to the unprotected area(s) from an OPERABLE hose station or alternate fire water supply, within 1 hour if the inoperable fire hose is the primary means of fire suppression; otherwise provide the additional hose within 24 hours. Where it can be demonstrated that the physical routing of the fire hose would result in a recognizable hazard to plant workers, plant equipment, or the hose itself, a fire hose shall be stored in an area easily accessible to the unprotected area. Signs identifying the purpose and location of the fire hose shall be mounted at the inoperable hose station.
- B. The provision of Specifications 3.0.3 and 3.0.4 are not applicable.

BASIS: In the event that a fire hose station is inoperable, the establishment of backup suppression in the affected areas is required to provide fire suppression capability until the inoperable system is restored to operability.

REFERENCES: 1. Fire Protection Program Review, BTP APCSB 9.5-1, San Onofre Nuclear Generating Station, Unit 1, March 1977; submitted to the NRC by letter dated March 16, 1977 in Docket No. 50-206.

* Fire hose will be run within 1 hour of entering the ACTION statement if an operable water supply is not available within 250 feet of the area protected by the inoperable hose station, or two 150 feet hose packs (1-3/4") on the fire truck are not operable. Fire hose will be supplied by the fire department responding to a fire if an operable water supply is available within 250 feet of the area protected by the inoperable hose station. With the required hose station inside containment inoperable and containment integrity established, fire hose will be supplied only to the nearest access point.

2. Fire Protection Safety Evaluation Report, by The Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, In The Matter of Southern California Edison Company, San Onofre Nuclear Generating Station Unit 1, Docket No. 50-206, July 19, 1979; provided to SCE by Letter dated July 19, 1979 and Supplement #1 dated February 4, 1981.
3. Updated Fire Hazards Analysis, San Onofre Nuclear Generating Station, Units 1, 2 and 3.
4. Letter, M. O. Medford (SCE), to J. A. Zwolinski (NRC), dated October 4, 1985, Fire Protection Program Review.
5. Letter, M. O. Medford (SCE), to G. E. Lear (NRC), dated December 31, 1985,

TABLE 3.14.5.1
FIRE HOSE STATIONS

<u>Fire Area/ Zone</u>	<u>Location</u>	<u>Elevation</u>	<u>Hose Station Number</u>
1	Inside Sphere	42' - 0"	25
2A	Reactor Auxiliary Building, Lower Level	5' - 0"	17
2P	Boric Acid Injection Pump Room	20" - 0"	16
4D	Turbine Plant Cooling Water Area	14' - 0"	8
9A	Chemical Feed and Lubrication-Oil Reservoir Area	14" - 0"	22
9A	East Feedwater Pump/Condenser Area	8' - 6"	5
9A	East Feedwater Pump/Condenser Area	14' - 0"	3
9A	East Feedwater Pump/Condenser Area	14' - 0"	4
9A	West Feedwater Pump/Condenser Area	14' - 0"	7
9A	West Feedwater Pump/Condenser Area	8' - 6"	6
9B	Turbine and Heater Decks	35' - 6"	10
9B	Turbine and Heater Decks	35' - 6"	11
9B	Turbine and Heater Decks	42' - 0"	12
9B	Turbine and Heater Decks	42' - 0"	13
9B	Turbine and Heater Decks	35' - 6"	14
9B	Turbine and Heater Decks	35' - 6"	15
12	Administration/Control Building First Floor Single-Story Office Area	20' - 0"	26
11A	Administration/Control Building First Floor Health Physics and Locker Area	20' - 0"	27
2D	Cryogenic Building Back Yard Area	20' - 0"	24

TABLE 3.14.5.1

FIRE HOSE STATIONS
(Continued)

<u>Fire Area/ Zone</u>	<u>Location</u>	<u>Elevation</u>	<u>Hose Station Number</u>
24	Ventilation Equipment Room, Backyard Area	20' - 0"	23
16	Control Room Area	42' - 0"	29
16	Administration/Control Building, Third Floor East Office Space and Storage	42' - 0"	30
8	4160 Volt Switchgear Room	14' - 0"	9
17B	Diesel-Generator Room No. 1	20' - 0"	2
17A	Diesel-Generator Room No. 2	20' - 0"	1
4A	Sphere Enclosure Cable Penetration Area	20' - 0"	18
4A	Sphere Enclosure Cable Penetration Area	20' - 0"	19
4B	Sphere Enclosure Cable Penetration Area	20' - 0"	20
4B	Sphere Enclosure Cable Penetration Area	20' - 0"	21
29	Administration/Control Building, Second Floor North Stairwell	32' - 0"	28

3.14.6 FIRE DETECTION INSTRUMENTATION

APPLICABILITY: Whenever equipment protected by the fire detection instrument is required to be OPERABLE.

SPECIFICATION: As a minimum, the following fire detection instrumentation shall be OPERABLE:

a. See Table 3.14.6.1

ACTION:

A. With one or more of the required fire detection instruments inoperable:

1. For areas* outside containment establish within 1 hour an hourly fire watch patrol.
2. For areas* inside containment, establish a fire watch patrol in containment, at least once per 8 hours or monitor the temperature at least once per hour at the locations listed below:

a. Inside secondary shield:

A minimum of 2 out of 3 for each RCP:
RCP lower water bearing, RCP upper guide bearing, and RCP down thrust bearing;

AND,

A minimum of 2 out of 3 of: After RCP motor cooling fan unit, After RCP standby motor cooling fan unit, and RCP motor space

b. Outside secondary shield:

A minimum of 3 out of 5 of: Control rod cooler discharge, Control rod shroud air inlet, Reactor cavity air outlet, Sphere space, and Control rod cooler inlet

3. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

* Not required for areas that pose temporary radiation and/or life-threatening safety hazards. If the fire watch patrol cannot be restored within 24 hours, prepare and submit a Special Report to Commission pursuant to Specification 6.9.2 within the next 7 days outlining the action taken, the cause of hazards, and the plans and schedule for restoring the required fire watch/patrol.

BASIS:

The OPERABILITY of the fire detection instrumentation ensures that adequate warning capability is available for the prompt detection of fires. This capability is required in order to detect and locate fires in their early stages. Prompt detection of fires will reduce the potential for damage to safety-related equipment and is an integral element in the overall facility fire protection program.

In the event that a portion of the fire detection instrumentation is inoperable, the establishment of frequent fire patrols in the affected areas is required to provide detection capability until the inoperable instrumentation is restored to operability.

Accessible fire areas as identified in the action statements of the LCOs are defined as areas that do not pose radiation and/or life-threatening safety hazards which are of a temporary nature. The areas which pose a radiation and/or life-threatening safety hazards of a permanent nature (e.g., containment) include alternate actions which would protect personnel from those hazards. For those areas within containment which are inaccessible during operation, temperature monitoring at the specified locations provides redundant confirmation of containment conditions due to the symmetrical configuration and close proximity of the equipment within containment. Local fire hazards within containment are uniquely protected or confined (see Reference 5). Circuits within containment required for dedicated safe shutdown are protected by either one-hour fire rated wrap and/or radiant heat shields. The specified spatial temperature monitoring provides sufficient indication of fire within containment.

REFERENCES:

1. Fire Protection Program Review, BTP APCS 9.5-1, San Onofre Nuclear Generating Station, Unit 1, March 1977; submitted to the NRC by letter dated March 16, 1977 in Docket No. 50-206.
2. Fire Protection Safety Evaluation Report, by The Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, In The Matter of Southern California Edison Company, San Onofre Nuclear Generating Station Unit 1, Docket No. 50-206, July 19, 1979; provided to SCE by letter dated July 19, 1979 and Supplement #1 dated February 4, 1981.
3. Updated Fire Hazards Analysis, San Onofre Nuclear Generating Station, Units 1, 2 and 3.
4. Letter, M. O. Medford (SCE), to J. A. Zwolinski (NRC), dated October 4, 1985, Fire Protection Program Review.
5. Letter, M. O. Medford (SCE), to G. E. Lear (NRC), dated December 31, 1985,

TABLE 3.14.6.1

FIRE DETECTION INSTRUMENTS

Fire Area/Zone	Location	<u>Required Instruments Operable</u>	
		<u>Early Warning</u>	<u>Actuation</u>
1	Containment Sphere Inside Secondary Shield Outside Secondary Shield	8 20	
2A	Reactor Auxiliary Bldg. Lower Level	9	
4A&B	East and West Penetration Areas	33	
4C	Doghouse	2	
4B/4D	Cable Trays Yard/Breezeway Area		2
4D	Service Transformer 1 Service Transformer 2 & 3		2 2
4G	DSD Diesel Generator Enclosure DSD Switchgear/Battery Room	6 3	
7	480V Switchgear Room		8
8	4160V Switchgear Room		16
9A	Turbine Building Ground Floor Instrument Air Compressors Exciter and MCC 3 Area Lube Oil Reservoir	1 16 29	2 12**
11A	Health Physics and Locker Room	5* (4 at present)	
11B	HVAC Equipment Room	3	
12	Offices 1st Floor Power Block	7	

* Upon completion of DCP 3449.01.

**Includes 6 line-type detectors.

TABLE 3.14.6.1

FIRE DETECTION INSTRUMENTS
(Continued)

<u>Fire Area/Zone</u>	<u>Location</u>	<u>Required Instruments Operable</u>	
		<u>Early Warning</u>	<u>Actuation</u>
13A	DC Switchgear Room No. 1	2	
13B	Battery Room No. 1	1	
16	Control Room	20	
17A	North Diesel Room		6
17B	Battery Room No. 2	1	
18	South Diesel Room		8
25	West Cable Shaft		1
26	East Cable Shaft		1
34	Pipe Tunnel	4	

Note: The fire detectors not identified are not credited to protect safety related equipment or do not provide protection from potential fire hazards to safety related equipment.

3.14.7 FIRE BARRIERS

APPLICABILITY: At all times when the equipment protected by the fire barrier is required to be operable.

SPECIFICATION: All fire barriers (rated or credited non-rated walls and floor/ceilings, cable tray enclosures and other fire barriers) separating redundant equipment or cables which could affect the ability to achieve and maintain safe shutdown in the event of fire or, defining areas of the plant which have specific (per SER dated 7/19/79 and SER Supplement #1 dated 2/4/81) rating requirements and their penetration sealing devices (fire doors, fire dampers, cable, ventilation duct, and piping penetration seals) shall be OPERABLE.

- ACTION:
- A. With one or more of the above required barriers and/or sealing devices within a fire area/zone* inoperable, establish an hourly fire watch patrol for areas with detection and/or suppression equipment operable on one side within 1 hour**. For area(s) with no operable detection or suppression equipment operable on one side, establish a continuous fire watch.
 - B. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

BASIS: The OPERABILITY of the fire barriers and barrier penetration seals ensures that fire damage will be limited. These design features minimize the possibility of a single fire involving more than one fire area prior to detection and extinguishment.

* Not required for areas that pose temporary radiation and/or life-threatening safety hazards. If the fire watch patrol cannot be restored within 24 hours, prepare and submit a Special Report to Commission pursuant to Specification 6.9.2 within the next 7 days outlining the action taken, the cause of hazards, and the plans and schedule for restoring the required fire watch/patrol.

** In lieu of the fire detectors, the following automatic suppression systems may be used in accordance with the action statement.

Turbine Building - North Wall: Sprinkler system #4 & #5
480 Volt Room - East Wall: Sprinkler system #4 & #5
480 Volt Room - South Wall: Sprinkler system #4 (Portion at wall located inside Turbine Bldg)
4160 Volt Room - West Wall: Sprinkler system #5
Charging Pump Room - East Wall: Charging Pump Sprinkler System

In the event an assembly is determined inoperable, the establishment of a continuous fire watch or an hourly fire watch patrol with operable fire detection on one side of the assembly is required. The usage of an hourly patrol with automatic fire suppression system or detection is acceptable to provide adequate protection for the inoperable fire rated assembly.

- REFERENCES:
1. Fire Protection Program Review, BTP APCSB 9.5-1, San Onofre Nuclear Generating Station, Unit 1, March 1977; submitted to the NRC by letter dated March 16, 1977 in Docket No. 50-206.
 2. Fire Protection Safety Evaluation Report, by The Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, In The Matter of Southern California Edison Company, San Onofre Nuclear Generating Station Unit 1, Docket No. 50-206, July 19, 1979; provided to SCE by letter dated July 19, 1979 and Supplement #1 dated February 4, 1981.
 3. Updated Fire Hazards Analysis, San Onofre Nuclear Generating Station, Units 1, 2 and 3.
 4. Letter, M. O. Medford (SCE), to J. A. Zwolinski (NRC), dated October 4, 1985, Fire Protection Program Review.
 5. Letter, M. O. Medford (SCE), to G. E. Lear (NRC), dated December 31, 1985,

3.14.8 DEDICATED AND ALTERNATE SHUTDOWN SYSTEMS

APPLICABILITY: Modes 1, 2, 3 and 4

SPECIFICATION: The Dedicated Shutdown (DSD) and Alternate Shutdown (ASD) equipment, shown on Table 3.14.8.1, shall be OPERABLE.

- ACTION:
- A. With less than the minimum DSD or Alternate Shutdown equipment in Table 3.14.8.1 OPERABLE,
 - 1. Restore the inoperable equipment to OPERABLE status within 7 days from the time of discovery of loss, or
 - 2. For each affected fire zone designated for DSD or Alternate Shutdown, provide equivalent shutdown capability, and
 - 3. Restore the inoperable equipment to OPERABLE status within 60 days, or be in HOT STANDBY within the following 24 hours, and cold shutdown within 30 hours.
 - B. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

BASIS: The objective of the dedicated shutdown system (DSD) is to provide, in conjunction with existing plant systems, the capability to achieve safe shutdown for any postulated fire in accordance with the safe shutdown requirements of 10CFR50 Appendix R. Similarly, "Alternate" methods of shutdown have been developed that require the use of systems/equipment that are not normally used for plant shutdown. Having these means of shutdown in Modes 1, 2, 3, and 4 provides assurance that cold shutdown (Mode 5) can be achieved and maintained at any time.

The systems normally used for safe shutdown at San Onofre Unit 1 include reactor coolant, auxiliary feedwater, main steam, chemical and volume control, residual heat removal, component cooling water, and salt water cooling systems. Based on fire hazards analyses, fires postulated to occur in any one of several of the plant's fire zones have the potential for making one or more of these systems unavailable as the result of fire damage to system components, associated electrical power circuits, instrument air supplies, system instrumentation, and controls.

By recognizing the potential consequences of such fire scenarios, the design of the DSD represents one integrated combination of systems capable of being used in the event of

any fire having the potential of making the existing normal safe shutdown systems unavailable. The DSD incorporates:

- Remote shutdown capability
- Independent onsite power source
- RCS charging capability
- Auxiliary feedwater flow capability
- Independently powered instrumentation and controls

Similarly, alternate shutdown methods rely on existing plant equipment used in off-normal modes to assure safe shutdown capability in the event of certain fires. Table 3.14.8.1 lists the minimum equipment required to be OPERABLE in order to provide these capabilities. Use of the equipment in Table 3.14.8.1, as it is used to mitigate certain fires, is described in the references.

In the event that one or more components listed in Table 3.14.8.1 is rendered inoperable for more than 7 days, the Technical Specifications permit continued plant operation for up to 60 days, if equivalent shutdown capability is provided. The equivalent shutdown capability provided when ASS/DSS equipment is inoperable depends on the specific equipment involved and, therefore, should be sufficient to assure that the intended shutdown actions can be accomplished, or that fires can be reasonably precluded during that time for which ASS/DSS equipment would otherwise be required, consistent with the ASS/DSS design basis. Temporary procedures or special fire watch patrols established to provide this equivalent capability should be approved by the Plant Manager prior to implementation.

Boron concentration at the PASS Skid will be measured utilizing either potentiometric analysis (auto-titrator) or PASS boronometer. Potentiometric analysis utilizing grab samples and an auto-titrator provides a very accurate and reliable method of determining boron concentration. This technique is utilized by Unit 1 chemists routinely in support of plant operations. Continuous sampling of boron concentration is not required since inadvertent dilution of the primary system as a result of the spurious actuation of equipment is not likely since design basis fires causing the loss of neutron source range monitors have been analyzed to not impact the operability of components which have the capability of supplying unborated water to the RCS make up path. The PASS boronometer remains available.

REFERENCES:

1. Updated Fire Hazards Analysis, San Onofre Nuclear
Generating Station, Units 1, 2 and 3.
2. Letter, M. O. Medford (SCE), to J. A. Zwolinski (NRC),
dated October 4, 1985, Fire Protection Program Review.
3. Letter, M. O. Medford (SCE), to G. E. Lear (NRC), dated
December 31, 1985,

TABLE 3.14.8.1

DSD AND ALTERNATE SHUTDOWN MINIMUM OPERABLE EQUIPMENT

A. Remote shutdown panel C38 instrumentation

Indications:

Pressurizer pressure (PI-434A)

Pressurizer level (LI-430A)

Steam generator wide range level* (LI-450C, LI-451C, LI-452C)

Reactor coolant temperature* (hot leg and cold leg) (TI-402B and TI-5402A, TI-412B and TI-5412A, TI-422B TI-5422A)

Controls:

Charging flow controller (FC-5112)

Steam dump controller (FC-1076A)

PORV (CV546) and PORV block valve (CV530) control (HS-5546)

B. Dedicated diesel generator (X-2000)

Dedicated fuel day tank (D-959) with at least 130 gallons of diesel fuel and associated transfer pump

Portable fuel transfer pump and connecting hoses

Underground Fuel Tank (D-958) with 1875 gallons of diesel fuel

C. Pressurizer heater units, Group D, Units 21, 23 and 25 (2 of 3 units required available)**

D. Auxiliary feedwater pump G-10W**

E. North charging pump G-8A air cooler**

* OPERABILITY of two of three channels for each listed parameter is acceptable provided that the operable channels for steam generator level and reactor coolant temperature correspond.

** Equipment "upstream" of DSD transfer switches that do not affect DSD OPERABILITY is not included in these items.

TABLE 3.14.8.1

DSD AND ALTERNATE SHUTDOWN MINIMUM OPERABLE EQUIPMENT
(Continued)

- F. Auxiliary Saltwater Cooling Pump (G-13C) (required for alternate shutdown only)
- G. Atmospheric steam dump valves CV-76, CV-77, CV-78 and CV-79 including SV-175 (at least 2 of 4 required to be available)**
- H. PORV CV-546, PORV Block Valve CV-530 and PORV Backup Nitrogen
- I. Dedicated hoses for steam generator blowdown and auxiliary feedwater makeup
- J. Flow path from Auxiliary Feedwater Storage tank to third Auxiliary Feedwater Pump (G-10W)
- K. Alternative suction path from the Refueling Water Storage Tank to the North Charging Pump including FCV-5051,
- L. DSD AC distribution equipment including,
 - 1. 4.16 kV Bus A4
 - 2. Load Center (MCC B30**) and Transformer (X55)
 - 3. UPS (including Batteries [D25], Battery Charger [D26] and Inverter [YV30])
 - 4. Transfer Switches for 4.16 kV (A4S1 and A4S2) and 480V (B31, B32) buses
- M. Communications equipment (four 2-way radios)
- N. The Post Accident Sampling System equipment is used for boron concentration measurement.

** Equipment "upstream" of DSD transfer switches that do not affect DSD OPERABILITY is not included in these items.

3.14.9 EIGHT HOUR EMERGENCY LIGHTING UNITS

APPLICABILITY: MODES 1, 2, 3 and 4

SPECIFICATION: All self-contained, battery-powered emergency lighting units (as required by 10CFR50, Appendix R, III.J) installed at San Onofre Unit 1 shall be OPERABLE.

ACTION: A. With one or more of the required 8 hour emergency lighting units inoperable, within 7 days either repair the inoperable lighting unit or replace it with an OPERABLE lighting unit of the like kind.

B. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

BASIS: The 8 hour emergency lighting units are provided in certain areas needed for operation of safe shutdown equipment and in access and egress routes, thereto. This equipment provides illumination for operators to manipulate required equipment concurrent with plant emergency shutdown operations upon loss of normal illumination as required by 10CFR50, Appendix R, III.J. The 8 hour emergency lighting units should be properly maintained and, if inoperable, should be promptly repaired or replaced.

REFERENCES:

1. Fire Protection Program Review, BTP APCSB 9.5-1, San Onofre Nuclear Generating Station, Unit 1, March 1977; submitted to the NRC by letter dated March 16, 1977 in Docket No. 50-206.
2. Fire Protection Safety Evaluation Report, by The Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, In The Matter of Southern California Edison Company, San Onofre Nuclear Generating Station Unit 1, Docket No. 50-206, July 19, 1979; provided to SCE by letter dated July 19, 1979 and Supplement #1 dated February 4, 1981.
3. Updated Fire Hazards Analysis, San Onofre Nuclear Generating Station, Units 1, 2 and 3.
4. Letter, M. O. Medford (SCE), to J. A. Zwolinski (NRC), dated October 4, 1985, Fire Protection Program Review.
5. Letter, M. O. Medford (SCE), to G. E. Lear (NRC), dated December 31, 1985,

4.15 FIRE PROTECTION

4.15.1 FIRE SUPPRESSION WATER SYSTEM

APPLICABILITY: Defines the surveillance requirements to demonstrate OPERABILITY of the fire suppression water system as specified in Section 3.14.1.

SPECIFICATION: The fire suppression water system shall be demonstrated OPERABLE:*

- A. At least once per 7 days by verifying the minimum water supply volume.
- B. At least once per 31 days on a STAGGERED TEST BASIS by starting each electric motor driven pump and operating it for at least 15 minutes.
- C. At least once per 31 days by verifying that each valve (manual, power operated or automatic) accessible** during plant operation in the flow path is in its correct position.
- D. At least once per fuel cycle by cycling each testable valve accessible during plant operation in the flow path through at least one complete cycle of full travel.
- E. At least once per 18 months by performing a system functional test which includes simulated automatic actuation of the system throughout its operating sequence, and:
 1. Verifying that each automatic valve in the flow path actuates to its correct position.
 2. Verifying that each pump develops at least 1000 gpm at a system head of 248 feet.
 3. Cycling each valve in the flow path that is not testable during plant operation through at least one complete cycle of full travel.

* For San Onofre Units 2 and 3 equipment, the San Onofre Units 2 and 3 Technical Specification Surveillance Requirements shall apply.

** Not required for areas that post temporary radiation and/or life-threatening safety hazards.

4. Verifying that each fire suppression pump starts (sequentially) to maintain the fire suppression water system pressure greater than or equal to 50 psig when supplying the Unit 1 Fire main only, or 95 psig when aligned with the Unit 2/3 fire main loop.
5. Verifying that each valve (manual, power operated or automatic) in the flow path is in its correct position, and
6. Performing a system flush.
7. Perform a flow test of the system in accordance with Chapter 5, Section 11, of the Fire Protection Handbook, 14th Edition, published by the National Fire Protection Association.

BASIS:

The original basis for the Unit 1 Fire Pumps to maintain 50 psig was based on a hydraulic calculation for the largest system demand. At that time, the largest demand was a fire in either emergency diesel enclosure plus a 1000 GPM allowable for hose streams. Since then additions have been added to the Unit 1 suppression system and a cross-tie established with the Units 2/3 fire main. The basis is revised to show the requirement to maintain 95 psig when the Unit 1 fire main is aligned to the Unit 2/3 suppression system. This is the normal operational configuration and should the cross-tie be disconnected, the setpoints of the Unit 1 Fire Pumps are adjusted to start the pumps at 50 psig.

For additional basis, see Technical Specification 3.14.1.

4.15.2 SPRAY AND/OR SPRINKLER SYSTEMS

APPLICABILITY: Defines the surveillance requirements to demonstrate OPERABILITY of the required spray and/or sprinkler systems as specified in Section 3.14.2.

SPECIFICATION: Each of the spray and/or sprinkler systems shown in Table 3.14.2.1 shall be demonstrated OPERABLE:

- a. At least once per 31 days by verifying that each valve (manual, power operated, or automatic) outside of containment in the flow path is in its correct position.
- b. At least once per 31 days during each cold shutdown exceeding 1 week by verifying that each valve (manual, power operated, or automatic) inside of containment in the flow path is in its correct position.
- c. At least once per 12 months by cycling each testable valve in the flow path through at least one complete cycle of full travel.
- d. At least once per 18 months:
 1. By performing a system functional test which includes simulated automatic actuation of the system, and
 - a. Verifying that the automatic valves in the flow path actuate to their correct positions on a test signal, and
 - b. Cycling each valve in the flow path that is not testable during plant operation through at least one complete cycle of full travel.
 2. By a visual inspection of the spray and sprinkler headers to verify their integrity, and
 3. By a visual inspection of each spray and sprinkler nozzle to verify the spray pattern is not obstructed.
- e. At least once per 3 years by performing an air flow test through each open spray/sprinkler header and verifying each open spray/sprinkler nozzle is unobstructed.

BASIS: For basis, see Technical Specification 3.14.2.

4.15.3 FOAM SUPPRESSION SYSTEMS

APPLICABILITY: Defines the surveillance requirements to demonstrate OPERABILITY of the required foam suppression systems as specified in Section 3.14.3.

SPECIFICATION: Each of the required foam suppression systems shall be demonstrated OPERABLE:

- a. At least once per 31 days by:
 1. Verifying the foam storage tank contains a minimum of 95 gallons of 3% AFFF concentrate.
 2. Verifying that each valve (manual, power operated, or automatic) in the flow path is in its correct position.
- b. At least once per 12 months by cycling each testable valve in the flow path through at least one complete cycle of full travel.
- c. At least once per 18 months:
 1. By performing a system functional test which includes simulated automatic actuation of the system, and verifying that the automatic valves in the flow path actuate to their correct positions on a test signal;
 2. By a visual inspection of the spray headers to verify their integrity;
 3. By a visual inspection of each spray and sprinkler nozzle to verify the spray pattern is not obstructed; and
 4. By a performance evaluation of the AFFF concentrate and/or premix solution quality.
- e. At least once per 3 years by performing an air flow test through each open head spray header and verifying each open head spray nozzle is unobstructed.

BASIS: For basis, see Technical Specification 3.14.3.

4.15.4 HALON SYSTEM

APPLICABILITY: Defines the surveillance requirements to demonstrate OPERABILITY of the required halon systems as specified in Section 3.14.4.

SPECIFICATION: Each of the required Halon systems shall be demonstrated OPERABLE:

- a. At least once per 31 days by verifying that each valve (manual, power operated, or automatic) in the flow path is in its correct position.
- b. At least once per 6 months by verifying Halon storage tank weight to be at least 95% of full charge weight and pressure to be at least 90% of full charge pressure adjusted for ambient temperature.
- c. At least once per 18 months:
 1. Verifying the system, including associated ventilation system fire dampers and fire door release mechanisms, actuates, manually and automatically, upon receipt of a simulated actuation signal;
 2. Performance of a visual inspection of the system headers to verify their integrity; and
 3. Performance of a visual inspection of the system nozzles to assure no blockage.

BASIS: For basis, see Technical Specification 3.14.4.

4.15.5 FIRE HOSE STATIONS

APPLICABILITY: Defines the surveillance requirements to demonstrate OPERABILITY of the required fire hose stations as specified in Section 3.14.5.

SPECIFICATION: Each of the fire hose stations shown in Table 3.14.5.1 shall be demonstrated OPERABLE:

- a. At least once per 31 days by a visual inspection of the fire hose stations accessible during plant operation to assure all required equipment is at the station.
- b. At least once per 18 months by:
 1. Visual inspection of the stations not accessible during plant operation to assure all required equipment is at the station,
 2. Removing the hose for inspection and re-racking, and
 3. Inspecting all gaskets and replacing any degraded gaskets in the couplings.
- c. At least once per 3 years by:
 1. Partially opening each hose station valve to verify valve OPERABILITY and no flow blockage.
 2. Conducting a hose hydrostatic test at a pressure of 150 psig or at least 50 psig above maximum fire main operating pressure whichever is greater.

BASIS: For basis, see Technical Specification 3.14.5.

4.15.6 FIRE DETECTION INSTRUMENTATION

APPLICABILITY: Defines the surveillance requirements to demonstrate OPERABILITY of the required fire detection instrumentation as specified in Section 3.14.6.

SPECIFICATION: Each of the required fire detection instruments identified in Table 3.14.6.1 shall be demonstrated OPERABLE:

- a. At least once per 6 months by a performance of a CHANNEL TEST of fire detection instruments which are accessible during plant operation. Fire detectors which are not accessible during plant operation shall be demonstrated OPERABLE by the performance of a CHANNEL TEST during each COLD SHUTDOWN exceeding 1 week unless performed in the previous 6 months.
- b. The NFPA Standard 72D (1975) supervised circuits associated with the detector alarms of each of the above required fire detection instruments shall be demonstrated OPERABLE at least once per 6 months.

BASIS: Areas accessible during plant operation do not pose a permanent personnel or plant hazard nor a mechanical accessibility problem with respect to surveillance of the fire protection equipment in the area. Fire detectors in containment are inaccessible during plant operation. Those fire detectors in the 480 volt and 4 kv switchgear rooms (fire areas 7 and 8, respectively) are inaccessible during Modes 1 and 2 due to the increased likelihood of a plant trip occurring from detector surveillance activities in these two areas. The equipment associated with areas which are not accessible during plant operation are surveilled at plant shutdown or every 18 months.

The CHANNEL TEST criteria for fire detectors is the insertion of a test signal from the detector to verify its proper response including, where applicable, alarm and/or trip initiating action. The CHANNEL TEST includes adjustments, as necessary, of the alarm, interlock, and/or trip setpoints, such that the setpoints are within the required range and accuracy. Continuity of supervised circuits is performed in accordance to the requirements of NFPA 72D (1975).

For additional basis, see Technical Specification 3.14.6.

4.15.7 FIRE BARRIERS

APPLICABILITY: Defines the surveillance requirements to demonstrate OPERABILITY of the required fire barriers as specified in Section 3.14.7.

4.15.7.1 FIRE DOORS

SPECIFICATION: Each of the required fire doors shall be verified OPERABLE by inspecting the automatic hold-open, release and closing mechanism and latches at least once per 6 months, and by verifying:

- a. The OPERABILITY of the fire door supervision system for each electrically supervised fire door by performing a CHANNEL TEST at least once per 31 days,
- b. The position of each locked closed fire door at least once per 7 days.
- c. The position of each unlocked fire door without electrical supervision is closed at least once per 24 hours.

4.15.7.2 FIRE BARRIERS AND/OR SEALING DEVICES

SPECIFICATION: At least once per 18 months the required fire rated assemblies and penetration sealing devices other than fire doors shall be verified OPERABLE by:

- a. Performing a visual inspection of the exposed surfaces of each fire rated assembly.
- b. Performing a visual inspection of each fire damper and associated hardware.
- c. Performing a visual inspection of a least 10% of each type (mechanical and electrical) of sealed penetration. If apparent changes in appearance or abnormal degradations are found, a visual inspection of an additional 10% of each type of sealed penetration shall be performed. This inspection process shall continue until a 10% sample with no apparent changes in appearance or abnormal degradation is found. Samples shall be selected such that each penetration seal will be inspected at least once per 15 years.

BASIS: For basis, see Technical Specification 3.14.7.

4.15.8 DEDICATED AND ALTERNATE SHUTDOWN SYSTEMS SURVEILLANCE

APPLICABILITY: Defines the surveillance requirements to demonstrate OPERABILITY of the required dedicated and alternate shutdown equipment in the MODES specified in Section 3.14.8.

SPECIFICATION: Each of the required dedicated/alternate shutdown equipment identified in Table 3.14.8.1 shall be demonstrated OPERABLE:

- a. 1. The indicating instrumentation associated with the remote shutdown panel, as identified on Table 3.14.8.1, shall be demonstrated OPERABLE by performing a CHANNEL CHECK at least once per 31 days and a CHANNEL CALIBRATION at least once per 18 months.
2. The controls instrumentation associated with the remote shutdown panel, as identified on Table 3.14.8.1, shall be demonstrated OPERABLE at least once per 18 months by exercising the actuated components from the remote shutdown panel.
- b. The dedicated diesel generator shall be demonstrated OPERABLE:
 1. At least once per 92 days by verifying:
 - a) The diesel starts:
 - b) The dedicated fuel transfer pump starts and transfers fuel from the dedicated fuel storage tank to the day tank.
 - c) The dedicated diesel generator is running and loaded at ≥ 250 kW for ≥ 60 minutes.
 - d) The availability of 130 gallons of fuel in the day tank and 1875 gallons in the dedicated diesel fuel storage tank.
 - e) That samples of diesel fuel taken from the day tank and the fuel storage tank are within the acceptance limits specified by the diesel supplier when checked for viscosity, water and sediment.
 2. At least once per 18 months, during plant shutdown, by subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with the manufacturer's recommendations.

- c. The auxiliary saltwater cooling pump shall be demonstrated OPERABLE by testing the pump in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10CFR50.55a(g), except where specific written relief has been granted by the NRC pursuant to 10CFR50.55a(g)(6)(i).
- d. The dedicated power supply shall be demonstrated OPERABLE at least once per 18 months by energizing all dedicated diesel powered equipment via associated transfer switches and verifying that the equipment functions.
- e. Valve FCV-5051, which provides the alternative suction path to the North charging pump, shall be tested at least once per 18 months during plant shutdown by activating the valve to a fully open position by a test signal and observing the corresponding indications on the remote shutdown panel.
- f. The dedicated 125 volt battery bank and chargers shall be demonstrated OPERABLE:
 - 1. At least once per 31 days by verifying that:
 - a) The electrolyte level of each battery is above the plates, and
 - b) The overall battery voltage is greater than or equal to 120 volts for the 125 volt battery.
 - 2. At least once per 18 months by verifying that:
 - a) The batteries, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration, and
 - b) The battery-to-battery and terminal connections are clean, tight, and free of corrosion.
- g. The dedicated diesel generator batteries shall be verified OPERABLE at least once per 31 days by checking voltage reading on charger is greater than 24 volts.
- h. The steam generator letdown hoses, auxiliary feedwater makeup hoses, portable fuel transfer pump and portable fuel transfer hoses shall be demonstrated OPERABLE by performing the following:
 - 1. At least once per 31 days by visual inspection of the hoses, pump and portable fuel transfer pump to assure all equipment is at the designated storage locations.

2. At least once per 3 years, by hydrostatic test of all hoses.
 - i. The portable communications 2-way radios shall be demonstrated OPERABLE at least once per 31 days by performing a communications check on each radio.
 - j. The boron measuring capability of either the titrator (potentiometric analysis) or the PASS boronometer shall be demonstrated OPERABLE by measuring boron concentration at least once per 184 days.
 - k. The portable fuel transfer pump shall be demonstrated OPERABLE at least once every 18 months by running for 15 minutes.

BASIS:

The surveillance program for alternate/dedicated safe shutdown equipment was developed based on requirements for similar equipment in other sections of these Technical Specifications, the existing In-Service Testing program for safety-related pumps and valves at the plant, the equipment suppliers recommendations and engineering judgment. The dedicated diesel generator loading requirement is derived from operating the dedicated auxiliary feedwater pump.

For additional basis, see Technical Specification 3.14.8.

4.15.9 EIGHT HOUR EMERGENCY LIGHTING UNITS SURVEILLANCE

APPLICABILITY: Defines the surveillance requirements to demonstrate OPERABILITY of the required eight hour emergency lighting units in the MODES specified in Section 3.14.9.

SPECIFICATION: Each of the required 8 hour emergency lighting units shall be demonstrated OPERABLE by:

- a. Performing an 8-hour battery discharge test at least once every 12 months on at least 10% of the total population of 8-hour emergency lighting units. If any lights fail to illuminate, an additional 10% of lights will be tested. This surveillance process shall continue until a 10% sample with no such failures is found. Each lighting unit shall be tested at least once during a ten-year period.
- b. Performing a momentary discharge test at least once every 3 months.

BASIS: For basis, see Technical Specification 3.14.9.