NPF-10/15-353

ATTACHMENT "A" EXISTING SPECIFICATIONS UNIT 2

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3/4.5.2 ECCS SUBSYSTEMS - Tavg GREATER THAN OR EQUAL TO 350°F

LIMITING CONDITION FOR OPERATION

3.5_2 Two independent Emergency Core Cooling System (ECCS) subsystems shall be OPERABLE with each subsystem comprised of:

- a. One OPERABLE high-pressure safety injection pump,
- b. One OPERABLE low-pressure safety injection pump, and .
- c. One OPERABLE charging pump capable of taking suction from either the boric acid makeup tank or the refueling water storage tank.

d. An independent OPERABLE flow path capable of taking suction from the refueling water tank on a Safety Injection Actuation Signal and automatically transferring suction to the containment sump on a Recirculation Actuation Signal.

APPLICABILITY: MODES 1, 2 and 3*.

ACTION:

- a. With one ECCS subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- b. In the event the ECCS is actuated and injects water into the Reactor Coolant System, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 90 days. describing the circumstances of the actuation and the total accumulated actuation cycles to date. The current value of the usage factor for each affected safety injection nozzle shall be provided in this Special Report whenever its value exceeds 0.70.

With pressurizer pressure greater than or equal to 400 psia.

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EMERGENCY CORE COOLING SYSTEMS

SURVEILLANCE REQUIREMENTS

4.5.2 Each ECCS subsystem shall be demonstrated OPERABLE: a. At least once per 12 hours by verifying that the following valves are in the indicated positions with power to the valve operators removed:

		i and panel de the	e valve upela
Valv	e Number	Valve Function	Valve Posit
a.	HV9353	SDC Warmup	CLOSED
Ь.	HV9359	SDC Warmup	CLOSED
c.	HV8150	SDC(HX) Isolation	CLOSED
d.	HV8150 HV8151	SDC(HX) Isolation	CLOSED
e.	HV8152	SDC(HX) Isolation	
	HV8153	SDC(HX) Isolation	CLOSED
	HV0396		CLOSED
	HV8161	SDC Bypass Flow Control	
		SDC(HX) Bypass Flow Isolation	OPEN
i.	HV9420	Hot Leg Injection	CLOSED
		Isolation	
j.	HV9434	Hot Leg Injection	CLOSED
		Isolation	
k.	HV8160	SDC Bypass Flow Control	ÖPEN
1.	HV8162	LPSI Miniflow Isolation	OPEN
Π.	HV8163	LPSI Miniflow Isolation	OPEN
			UPEN

- b. At least once per 31 days by:
 - Verifying that the ECCS piping is full of water by venting the ECCS pump casings and accessible discharge piping high points, and
 - 2. Verifying that each valve (manual, power operated or automatic) in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position.
- c. By a visual inspection which verifies that no loose debris (rags, trash, clothing, etc.) is present in the containment which could be transported to the containment sump and cause restriction of the pump suctions during LOCA conditions. This visual inspection shall be performed:
 - 1. For all accessible areas of the containment prior to establishing CONTAINMENT INTEGRITY, and
 - 2. Of the areas affected within containment at the completion of containment entry when CONTAINMENT INTEGRITY is established.
- d. At least once per refueling interval by:
 - Verifying automatic isolation of the shutdown cooling system from the Reactor Coolant System when RCS pressure is simulated greater than or equal to 715 psia, and that the interlocks prevent opening the shutdown cooling system isolation valves when simulated RCS pressure is greater than or equal to 376 psia.

SAN ONOFRE-UNIT 2

SURVEILLANCE REQUIREMENTS (Continued)

- 2. A visual inspection of the containment sump and verifying that the subsystem suction inlets are not restricted by debris and that the sump components (trash racks, screens, etc.) show no evidence of structural distress or abnormal corrosion.
- e. At least once per refueling interval, during shutdown, by:
 - 1. Verifying that each automatic valve in the flow path actuates to its correct position on SIAS and RAS test signals.
 - 2. Verifying that each of the following pumps start automatically upon receipt of a Safety Injection Actuation Test Signal:
 - a. High-Pressure Safety Injection pump.
 - b. Low-Pressure Safety Injection pump.
 - c. Charging pump.
 - 3. Verifying that on a Recirculation Actuation Test Signal, the containment sump isolation valves open; and that on a RAS test signal coincident with a high-high containment sump test signal, all the recirculation valves to the refueling water tank close.
- f. By verifying that each of the following pumps develops the indicated developed head and/or flow rate when tested pursuant to Specification 4.0.5:
 - 1. High-Pressure Safety Injection pumps developed head, at an indicated flow rate of 650 gpm, greater than or equal to 2142 feet for P017, 2101 feet for P018 and 2103 for P019 (see NOTE 1).
 - 2. Low-Pressure Safety Injection pump developed head greater than or equal to 406.1 feet.
 - 3. Charging pump flow rate greater than or equal to 40 gpm.
- g. By performing a flow balance test, during shutdown, following completion of modifications to the ECCS subsystems that alter the subsystem flow characteristics and verifying the following flow rates:
 - 1. For High-Pressure Safety Injection pump cold leg injection with a single pump running:
 - a. The sum of the injection lines flow rates, excluding the highest flow rate, is greater than or equal to 657 gpm for P017 running, 667 gpm for P018 running and 672 gpm for P019 running, and
 - b. The total pump flow rate is greater than or equal to 900 gpm for PO17 running, 913 gpm for PO18 running and 918 gpm for PO19 running.

SAN ONOFRE-UNIT 2

TABLE 3.6-1 CONTAINMENT ISOLATION VALVES (Continued)

PEN	ETRATION BER	VALVE NUMBER	FUNCTION	MAXIMUM ISOLATION TIME (SEC)
D.	OTHER***	(Cont.)		
	41	HV-9333#	High pressure safety injection	NA
	44	HV-4057#*	Steam generator secondary coolant sample	NA
	48	8"-072-A-552#	Low pressure safety injection	NA
	48	HV-9322#	Low pressure safety injection	NA
	49	8"-073-A-552#	Low pressure safety injection	NA
	49	HV-9325#	Low pressure safety injection	NA
	50	8"-074-A-552#	Low pressure safety injection	NA
	50	HV-9328#	Low pressure safety injection	NA
	51	8"-075-A-552#	Low pressure safety injection	NA
	51	HV-9331#	Low pressure safety injection	NA
	52	8"-004-C-406	Containment spray inlet	NA
	52	HV-9367	Containment spray inlet	NA
	53 · · · ·	8"-006-C-406	Containment spray inlet	NA
	53	HV-9368	Containment spray inlet	NA
	54	HV-9304#	Containment emergency sump recirculation	NA
	55	HV-9302#	Containment emergency sump recirculation	NA
	55	HV-9305#	Containment emergency sump recirculation	NA
	55	HV-9303#	Containment emergency sump recirculation	NÅ
	57	HV-6366	Containment emergency A/C cooling water.inlet	NA
	58	HV-6372	Containment emergency A/C cooling water inlet	NA
	58 59	HV-6368	Containment emergency A/C cooling water inlet	NA
	59 60	HV-6370	Containment emergency A/C cooling water inlet	NA
	61	HV-6369	Containment emergency A/C cooling water outle	t NA
	62	HV-6371	Containment emergency A/C cooling water outle	E NA
	63	HV-6367	Containment emergency A/C cooling water outle	t NA
	67	HV-6373	Containment emergency A/C cooling water outle	t NA
	67	3"-157-A-550	Hot leg injection	NA
	71	HV-9434	Hot leg injection	NA
	71	3"-158-A-550	Hot leg injection	NA
	73A	HV-9420	Hot leg injection	NA
	7 3 7	HV-0352C#	Containment pressure detectors	NA I

* Manual valves may be opened on an intermittent basis under administrative control.
*** Valves secured in the ESFAS actuated position are considered OPERABLE pursuant to this specification.

Not subject to Type C leakage tests.

SAN ONOFRE - UNIT 2

NPF-10/15-353

ATTACHMENT "B"

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EXISTING SPECIFICATIONS UNIT 3

3/4.5.2 ECCS SUBSYSTEMS - T GREATER THAN OR EQUAL TO 350°F

LIMITING CONDITION FOR OPERATION

3.5_2 Two independent Emergency Core Cooling System (ECCS) subsystems shall be OPERABLE with each subsystem comprised of:

- a. One OPERABLE high-pressure safety injection pump,
- b. One OPERABLE low-pressure safety injection pump, and -
- c. One OPERABLE charging pump capable of taking suction from either the boric acid makeup tank or the refueling water storage tank.

d. An independent OPERABLE flow path capable of taking suction from the refueling water tank on a Safety Injection Actuation Signal and automatically transferring suction to the containment sump on a Recirculation Actuation Signal.

APPLICABILITY: MODES 1, 2 and 3*.

ACTION:

- a. With one ECCS subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- b. In the event the ECCS is actuated and injects water into the Reactor Coolant System, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 90 days describing the circumstances of the actuation and the total accumulated actuation cycles to date. The current value of the usage factor for each affected safety injection nozzle shall be provided in this Special Report whenever its value exceeds 0.70.

With pressurizer pressure greater than or equal to 400 psia.

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SURVEILLANCE REQUIREMENTS

a.

4.5.2 Each ECCS subsystem shall be demonstrated OPERABLE:

At least once per 12 hours by verifying that the following valves are in the indicated positions with power to the valve operators removed:

1/-1	lian bl. e		a raise obeigroup L
val	lve Number	Valve Function	Valve Position
a.	HV9353	SDC Warmup	
b.	HV9359	SDC Warmup	CLOSED
c.		SDC(HX) Isolation	CLOSED
d.	HV8151	SDC(HX) Isolation	CLOSED
e. '			CLOSED
f.	HV8153	SDC(HX) Isolation	CLOSED
g.	HV0396	SDC(HX) Isolation	CLOSED
h.	HV8161	SDC Bypass Flow Control	CLOSED
•••	WATAT	SDC(HX) Bypass Flow	OPEN
i.	Deleted	Isolation	
		•	
j. k.	Deleted		
κ.	HV9420	Hot Leg Injection	CLOSED
٦		Isolation	
1.	HV9434	Hot Leg Injection	CLOSED
•		Isolation	
Π.	HV8160	SDC Bypass Flow	OPEN
		Control	UPEN
n. –	HV8162	LPSI Miniflow	0051
		Isolation	OPEN
) :	HV8163	LPSI Miniflow	00511
		Isolation	OPEN
		*40/G0/UI	

b. At least once per 31 days by:

- Verifying that the ECCS piping is full of water by venting the ECCS pump casings and accessible discharge piping high points, and
- Verifying that each valve (manual, power operated or automatic) in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position.
- By a visual inspection which verifies that no loose debris (rags, trash, clothing, etc.) is present in the containment which could be transported to the containment sump and cause restriction of the pump suctions during LOCA conditions. This visual inspection shall be performed:
 - 1. For all accessible areas of the containment prior to establishing CONTAINMENT INTEGRITY, and
 - 2. Of the areas affected within containment at the completion of containment entry when CONTAINMENT INTEGRITY is established.
- d. At least once per refueling interval by:
 - Verifying automatic isolation of the shutdown cooling system from the Reactor Coolant System when RCS pressure is simulated greater than or equal to 715 psia, and that the interlocks prevent opening the shutdown cooling system isolation valves when simulated RCS pressure is greater than or equal to 376 psia.

SAN ONOFRE - UNIT 3

c.

AMENDMENT NO. 61

SURVEILLANCE REQUIREMENTS (Continued)

- 2. A visual inspection of the containment sump and verifying that the subsystem suction inlets are not restricted by debris and that the sump components (trash racks, screens, etc.) show no evidence of structural distress or abnormal corrosion.
- e. At least once per refueling interval, during shutdown, by:
 - 1. Verifying that each automatic valve in the flow path actuates to its correct position on SIAS and RAS test signals.
 - 2. Verifying that each of the following pumps start automatically upon receipt of a Safety Injection Actuation Test Signal:
 - a. High-Pressure Safety Injection pump.
 - b. Low-Pressure Safety Injection pump.
 - c. Charging pump. -
 - 3. Verifying that on a Recirculation Actuation Test Signal, the containment sump isolation valves open; and that on a RAS test signal coincident with a high-high containment sump test signal, all the recirculation valves to the refueling water tank close.
 - By verifying that each of the following pumps develops the indicated developed head and/or flow rate when tested pursuant to Specification 4.0.5:
 - High-Pressure Safety Injection pumps developed head, at an indicated flow rate of 650 gpm, greater than or equal to 2093 feet for P017, 2132 feet for P018 and 2099 for P019 (see NOTE 1).
 - 2. Low-Pressure Safety Injection pump developed head greater than or equal to 396 feet at miniflow.
 - 3. Charging pump flow rate greater than or equal to 40 gpm.
- g. By performing a flow balance test, during shutdown, following completion of modifications to the ECCS subsystems that alter the subsystem flow characteristics and verifying the following flow rates:
 - 1. For High-Pressure Safety Injection pump cold leg injection with a single pump running:
 - a. The sum of the injection lines flow rates, excluding the highest flow rate, is greater than or equal to 647 gpm for P017 running, 656 gpm for P018 running, and 661 gpm for P019 running, and
 - b. The total pump flow rate is greater than or equal to 882 gpm for PO17 running, 894 gpm for PO18 running, and 901 gpm for PO19 running.

SAN ONOFRE - UNIT 3

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AMENDMENT NO. 61

TABLE 3.6-1 (Continued) CONTAINMENT ISOLATION VALVES

	TRATION MBER	VALVE NUMBER	FUNCTION	MAXIMUM ISOLATION
٥.	OTHER***	(Cont.)		TIME (SEC)
	41	HV-9333#	High pressure of the second	
	44	HV-4057#*	High pressure safety injection	NA
	48	8"-072-A-552#	Steam generator secondary coolant sample	NA
	48 .	HV-9322#	com pressure salety intection	NA
	49	8"-073-A-552#	Low pressure safety injection	NA
	49	HV-9325#	Low pressure safety injection	NA
	50	8"-074-A-552#	Low pressure safety injection	NA
	50	HV-9328#	Low pressure safety injection	NA
	51	8"-075-A-552#	Low pressure safety injection	NA I
	51	HV-9331#	Low pressure safety injection	NA
	52	8"-004-C-405	Low pressure safety injection	NA
	52	HV-9367	Containment spray inlet	NA
	53	8"-006-C-406	Containment spray inlet	NA
	53	HV-9368	Containment spray inlet	NA
	54	HV-9304#	Containment spray inlet	NA
	54	HV-9302#	Containment emergency sump recirculation	NA
	5	HV-9305#	Containment emergency sump recirculation	NA
	5	HV-9303#	Containment emergency sump recirculation	NA
	6	HV-6366	Containment emergency sump recirculation	NA
	7	HV-6372	Containment emergency A/C cooling water inlet	NA
	8	HV-6368	Containment emergency A/C cooling water inlet	NA
	9	HV-6370	Containment emergency A/C cooling water inlet	NA
	0	HV-6369	Containment emergency A/C cooling water inlet	NA
6		HV-6371	Containment emergency A/C cooling water inlet Containment emergency A/C cooling water outlet	NA NA
6		HV-6367	Containment emergency A/C cooling water outlet	NA
6		HV-6373	Containment emergency A/C cooling water outlet	NA
6		3"-157-A-550	Containment emergency A/C cooling water outlet Hot leg injection	
6	7	HV-9434	Hot leg injection	NA
7		3"-158-A-550	Hot leg injection	NA
7	1	HV-9420	Hot leg injection	NA
73	3A	HV-0352C#	Containment pressure detectors	NA
			concernment pressure detectors	NA

* Manual valves may be opened on an intermittent basis under administrative control.
*** Valves secured in the ESFAS actuated position are considered OPERABLE pursuant to this specification.
Not subject to Take 0.1

Not subject to Type C leakage tests.

SAN ONOFRE-UNIT 3

AMENDMENT NO. 35

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NPF-10/15-353

ATTACHMENT "C" REVISED SPECIFICATIONS UNIT 2

3/4.5.2 ECCS SUBSYSTEMS - T GREATER THAN OR EDUAL TO 350°F

LIMITING CONDITION FOR OPERATION

3.5.2 Two independent Emergency Core Cooling System (ECCS) subsystems shall be OPERABLE with each subsystem comprised of:

- One OPERABLE high-pressure safety injection pump,
- b. One OPERABLE low-pressure safety injection pump, and
- c. One OPERABLE charging pump capable of taking suction from either the boric acid makeup tank or the refueling water storage tank.
- d. An independent OPERABLE flow path capable of taking suction from the refueling water tank on a Safety Injection Actuation Signal and automatically transferring suction to the containment sump on a Recirculation Actuation Signal.

APPLICABILITY: MODES 1, 2 and 3*.

ACTION:

1

- a. With one ECCS subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- b. In the event the ECCS is actuated and injects water into the Reactor Coolant System, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 90 days describing the circumstances of the actuation and the total accumulated actuation cycles to date. The current value of the usage factor for each affected safety injection nozzle shall be provided in this Special Report whenever its value exceeds 0.70.

IN SERT "A"

With pressurizer pressure greater than or equal to 400 psia.

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AMENEMENT NO. 16

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SURVEILLANCE REQUIREMENTS

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4.5.2 Each ECCS subsystem shall be demonstrated OPERABLE:

a. At least once per 12 hours by verifying that the following valves are in the indicated positions with power to the valve operators removed:

	Val	ve Number	Valve Function	Valve Position
	a.	HV9353	SDC Warmup	CLOSED
	ь.	HV9359	SDC Warmup	CLOSED
	c.	HV8150	SDC(HX) Isolation	CLOSED
	d.	HV8151	SDC(HX) Isolation	CLOSED
	e	HV8152	SDC(HX) Isolation	
	f. ′	HV8153	SDC(HX) Isolation	CLOSED CLOSED
	g.	HV0396	SDC Bypass Flow Control	CLOSED
	νĥ.	HV8161	SDC(HX) Bypass Flow Isolation	OPEN
	i.	HV9420	Hot Leg Injection Isolation	CLOSED
	j.	HV9434	Hot Leg Injection Isolation	CLOSED
	k.	HV8160	SDC Bypass Flow Control	ODEN
	1.	HV8162	LPSI Miniflow Isolation	
<u>`</u>	п.	HV8163	LPSI Miniflow Isolation	OPEN

ć کر. At least once per 31 days by:

- Verifying that the ECCS piping is full of water by venting the ECCS pump casings and accessible discharge piping high points, and
- Verifying that each valve (manual, power operated or automatic) in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position.
- By a visual inspection which verifies that no loose debris (rags, trash, clothing, etc.) is present in the containment which could be transported to the containment sump and cause restriction of the pump suctions during LOCA conditions. This visual inspection shall be performed:
 - 1. For all accessible areas of the containment prior to establishing CONTAINMENT INTEGRITY, and
 - Of the areas affected within containment at the completion of containment entry when CONTAINMENT INTEGRITY is established.
- e.A. At least once per refueling interval by:
 - Verifying automatic isolation of the shutdown cooling system from the Reactor Coolant System when RCS pressure is simulated greater than or equal to 715 psia, and that the interlocks prevent opening the shutdown cooling system isolation valves when simulated RCS pressure is greater than or equal to 376 psia.

SAN ONOFRE-UNIT 2

INSERT "A" TO PAGE 3/4 5-3

c. With two Containment Emergency Sump (CES) isolation valves open and two Emergency Core Cooling System (ECCS) Mini-flow valves open in the same train (Containment integrity is not met), follow the ACTION requirements of Technical Specification 3.6.1.1.

INSERT "B" TO PAGE 3/4	5-4	
b. At least ond valves are to the valve	ce per 12 hours by verifying t in the positions listed below e operators.	hat the following and power is available
Valve Number	Valve Function	Valve Position
a. HV-9302	CES Isolation	Closed
b. HV-9303	CES Isolation	Closed
a. HV-9304	CES Isolation	Closed
b. HV-9305	CES Isolation	Closed
c. HV-9306	ECCS train Mini-flow	OPEN
d. HV-9307	ECCS train Mini-flow	OPEN
e. HV-9347	ECCS train Mini-flow	OPEN
f. HV-9348	ECCS train Mini-flow	OPEN

SURVEILLANCE REQUIREMENTS (Continued)

- 2. A visual inspection of the containment sump and verifying that the subsystem suction inlets are not restricted by debris and that the sump components (trash racks, screens, etc.) show no evidence of structural distress or abnormal corrosion.
- $f \in At$ least once per refueling interval, during shutdown, by:
 - 1. Verifying that each automatic valve in the flow path actuates to its correct position on SIAS and RAS test signals.
 - 2. Verifying that each of the following pumps start automatically upon receipt of a Safety Injection Actuation Test Signal:
 - a. High-Pressure Safety Injection pump.
 - b. Low-Pressure Safety Injection pump.
 - c. Charging pump.
 - 3. Verifying that on a Recirculation Actuation Test Signal, the containment sump isolation valves open; and that on a RAS test signal coincident with a high-high containment sump test signal, all the recirculation valves to the refueling water tank close.
- By verifying that each of the following pumps develops the indicated developed head and/or flow rate when tested pursuant to Specification 4.0.5:
 - 1. High-Pressure Safety Injection pumps developed head, at an indicated flow rate of 650 gpm, greater than or equal to 2142 feet for P017, 2101 feet for P018 and 2103 for P019 (see NOTE 1).
 - Low-Pressure Safety Injection pump developed head greater than or equal to 406.1 feet.
 - 3. Charging pump flow rate greater than or equal to 40 gpm.

h A. By performing a flow balance test, during shutdown, following completion of modifications to the ECCS subsystems that alter the subsystem flow characteristics and verifying the following flow rates:

- 1. For High-Pressure Safety Injection pump cold leg injection with a single pump running:
 - a. The sum of the injection lines flow rates, excluding the highest flow rate, is greater than or equal to 657 gpm for P017 running, 667 gpm for P018 running and 672 gpm for P019 running, and
 - b. The total pump flow rate is greater than or equal to 900 gpm for P017 running, 913 gpm for P018 running and 918 gpm for P019 running.

SAN ONOFRE-UNIT 2

AMENDMENT NO. 73

TABLE 3.6-1 (Continued) CONTAINMENT ISOLATION VALVES

	ETRATION UMBER	VALVE NUMBER	FUNCTION	MAXIMUM ISOLATIO
•	OTHER***	(Cont.)		TIME (SE
	41	HV-9333#	High pressure safety injection	
	44	HV-4057#*	Steam generator secondary coolant sample	NA
	48	8"-072-A-552#	Low pressure safety injection	NA
	48	HV-9322#	Low pressure safety injection	NA
	49	8"-073-A-552#	Low pressure safety injection	NA
	49	HV-9325#	Low pressure safety injection	NA
	50	8"-074-A-552#	Low pressure safety injection	NA
	50	HV-9328#	Low pressure safety injection	NA
	51	8"-075-A-552#	Low pressure safety injection	NA
	51	HV-9331#	Low pressure safety injection	NA
	52	8"-004-C-406	Containment spray inlet	NA
	52	HV-9367	Containment spray inlet	NA
•	53	8"-006-C-406	Containment spray inlet	NA
	53	HV-9368	Containment spray inlet	NA
	54	HV-9304# @	Containment emongener and and the	NA
	54	HV-9302# 🔍	Containment emergency sump recirculation	NA
	55	HV-9305# 🖉	Containment emergency sump recirculation	NA
	55	HV-9303# @	Containment emergency sump recirculation	NA
	56	HV-6366	Containment emergency sump recirculation	NA
	57	HV-6372	Containment emergency A/C cooling water inlet	NA
	58	HV-6368	Containment emergency A/C cooling water inlet	NA
	59	HV-6370	Containment emergency A/C cooling water inlet	NA
	60	HV-6369	Concernmente emerciparov A/C cooling usess tatis	NA
	61	HV-6371	The second state of the se	NA
	62	HV-6367	THE THE THE THE TREATER ALL COALING WATER AND A	
	63	HV-6373	Contractioneric emergency A/E conting water aution	
	67	3"-157-A-550	The second	NA
	67	HV-9434	inde ied interriou	NA
	71	3"-158-A-550	Hot leg injection	NA
	/1	HV-9420	Hot leg injection	NA
•	73A	HV-0352C#	Hot leg injection	NA
			Containment pressure detectors	NA

* Manual valves may be opened on an intermittent basis under administrative control.
 *** Valves secured in the ESFAS actuated position are considered OPERABLE pursuant to this specification.
 # Not subject to Type C leakage tests.
 (P) The se UAlves ARE SURVEINed For Position And Power AURIAble by Technical Specification 3/4.5.2.

SAN ONOFRE-UNIT 3

NPF-10/15-353

ATTACHMENT "D"

REVISED SPECIFICATIONS UNIT 3

3/4.5.2 ECCS SUBSYSTEMS - T avg GREATER THAN OR EQUAL TO 350°F

LIMITING CONDITION FOR OPERATION

3.5.2 Two independent Emergency Core Cooling System (ECCS) subsystems shall be OPERABLE with each subsystem comprised of:

- a. One OPERABLE high-pressure safety injection pump,
- b. One OPERABLE low-pressure safety injection pump, and
- c. One OPERABLE charging pump capable of taking suction from either the boric acid makeup tank or the refueling water storage tank.
- d. An independent OPERABLE flow path capable of taking suction from the refueling water tank on a Safety Injection Actuation Signal and automatically transferring suction to the containment sump on a Recirculation Actuation Signal.

APPLICABILITY: MODES 1, 2 and 3".

ACTION:

- a. With one ECCS subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 72 hours or be in at least HGT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- b. In the event the ECCS is actuated and injects water into the Reactor Coolant System, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 90 days describing the circumstances of the actuation and the total accumulated actuation cycles to date. The current value of the usage factor for each affected safety injection nozzle shall be provided in this Special Report whenever its value exceeds 0.70.

IN SERT "A"

With pressurizer pressure greater than or equal to 400 psia.

AMENOMENT NO. 16

SAN GNOFRE-UNIT 2

3/4 5-3

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SURVEILLANCE REQUIREMENTS

a.

C. tr.

4.5.2 Each ECCS subsystem shall be demonstrated OPERABLE:

At least once per 12 hours by verifying that the following valves are in the indicated positions with power to the valve operators removed:

1/-1	un Nuch		
var	ve Number	Valve Function	Valve Position
a. b. c. d. e. f. g.	HV9353 HV9359 HV8150 HV8151 HV8152 HV8153 HV0396	SDC Warmup SDC Warmup SDC(HX) Isolation SDC(HX) Isolation SDC(HX) Isolation SDC(HX) Isolation SDC(HX) Isolation	CLOSED CLOSED CLOSED CLOSED CLOSED CLOSED
h. i. j. k.	HV8161 Deleted Deleted	SDC(HX) Bypass Flow Isolation	OPEN
к. 1.	HV9420 HV9434	Hot Leg Injection Isolation Hot Leg Injection	CLOSED CLOSED
n.	HV8160	Isolation SDC Bypass Flow Control	OPEN
n.	HV8162	LPSI Miniflow Isolation	OPEN
;₀ €	HV8163	LPSI Miniflow Isolation	OPEN

At least once per 31 days by:

- Verifying that the ECCS piping is full of water by venting the ECCS pump casings and accessible discharge piping high points, and
- Verifying that each valve (manual, power operated or automatic) in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position.
- d.c. By a visual inspection which verifies that no loose debris (rags, trash, clothing, etc.) is present in the containment which could be transported to the containment sump and cause restriction of the pump suctions during LOCA conditions. This visual inspection shall be performed:
 - 1. For all accessible areas of the containment prior to establishing CONTAINMENT INTEGRITY, and
 - 2. Of the areas affected within containment at the completion of containment entry when CONTAINMENT INTEGRITY is established.
- e.t. At least once per refueling interval by:
 - Verifying automatic isolation of the shutdown cooling system from the Reactor Coolant System when RCS pressure is simulated greater than or equal to 715 psia, and that the interlocks prevent opening the shutdown cooling system isolation valves when simulated RCS pressure is greater than or equal to 376 psia.

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INSERT "A" TO PAGE 3/4 5-3

c. With two Containment Emergency Sump (CES) isolation valves open and two Emergency Core Cooling System (ECCS) Mini-flow valves open in the same train (Containment integrity is not met), follow the ACTION requirements of Technical Specification 3.6.1.1.

INSERT "B" TO PAGE 3/4 5	- 4	
b. At least once valves are in to the valve o	per 12 hours by verifying th the positions listed below a operators.	nat the following and power is available
<u>Valve Number</u>	Valve Function	<u>Valve Position</u>
• a. HV-9302	CES Isolation	Closed
b. HV-9303	CES Isolation	Closed
a. HV-9304	CES Isolation	Closed
b. HV-9305	CES Isolation	Closed
c. HV-9306	ECCS train Mini-flow	OPEN
d. HV-9307	ECCS train Mini-flow	OPEN
e. HV-9347	ECCS train Mini-flow	OPEN
f. HV-9348	ECCS train Mini-flow	OPEN

SURVEILLANCE REQUIREMENTS (Continued)

- A visual inspection of the containment sump and verifying that the subsystem suction inlets are not restricted by debris and that the sump components (trash racks, screens, etc.) show no evidence of structural distress or abnormal corrosion.
- f e. At least once per refueling interval, during shutdown, by:
 - 1. Verifying that each automatic valve in the flow path actuates to its correct position on SIAS and RAS test signals.
 - 2. Verifying that each of the following pumps start automatically upon receipt of a Safety Injection Actuation Test Signal:
 - a. High-Pressure Safety Injection pump.
 - b. Low-Pressure Safety Injection pump.
 - c. Charging pump. _
 - 3. Verifying that on a Recirculation Actuation Test Signal, the containment sump isolation valves open; and that on a RAS test signal coincident with a high-high containment sump test signal, all the recirculation valves to the refueling water tank close.
- 9 A. By verifying that each of the following pumps develops the indicated developed head and/or flow rate when tested pursuant to Specification 4.0.5:
 - High-Pressure Safety Injection pumps developed head, at an indicated flow rate of 650 gpm, greater than or equal to 2093 feet for P017, 2132 feet for P018 and 2099 for P019 (see NOTE 1).
 - 2. Low-Pressure Safety Injection pump developed head greater than or equal to 396 feet at miniflow.
 - 3. Charging pump flow rate greater than or equal to 40 gpm.

b S. By performing a flow balance test, during shutdown, following completion of modifications to the ECCS subsystems that alter the subsystem flow characteristics and verifying the following flow rates:

- For High-Pressure Safety Injection pump cold leg injection with a single pump running:
 - a. The sum of the injection lines flow rates, excluding the highest flow rate, is greater than or equal to 647 gpm for P017 running, 656 gpm for P018 running, and 661 gpm for P019 running, and

b. The total pump flow rate is greater than or equal to 882 gpm for PO17 running, 894 gpm for PO18 running, and 901 gpm for PO19 running.

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TABLE 3.6-1 CONTAINMENT ISOLATION VALVES (Continued)

PENETRATIC NUMBER D. OTHER	VALVE NUMBER	FUNCTION	MAXIMUM ISOLATION TIME (SEC)
41 44 48 49 50 50 51 52 52 53 54 55 56 78 59 60 61 62 63 67 71 71 73A	HV-9333# HV-4057#* 8"-072-A-552# HV-9322# 8"-073-A-552# HV-9325# 8"-074-A-552# HV-9328# 8"-075-A-552# HV-9331# 8"-004-C-406 HV-9367 8"-006-C-406 HV-9367 8"-006-C-406 HV-9368 HV-9304# HV-9304# HV-9304# HV-9304# HV-9304# HV-9303# HV-6366 HV-6372 HV-6366 HV-6371 HV-6367 HV-6367 HV-6373 3"-157-A-550 HV-9434 3"-158-A-550 HV-9420 HV-0352C#	High pressure safety injection Steam generator secondary coolant sample Low pressure safety injection Low pressure safety injection Containment spray injet Containment spray injet Containment spray injet Containment emergency sump recirculation Containment emergency sump recirculation Containment emergency sump recirculation Containment emergency sump recirculation Containment emergency A/C cooling water injet Containment emergency A/C cooling water injet Containment emergency A/C cooling water injet Containment emergency A/C cooling water outlet Containment emergency A/C c	
	alves may be opened of ecured in the ESFAS a ification. ect to Type C leakage	n an intermittent basis under administrative cont actuated position are considered OPERABLE pursuant	

@ These VALVES ARE SURVEILLED FOR POSITION AND POWER AUAILAble by Technical Specification 3/4.5.2.

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