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April 10, 1985

Director, Office of Nuclear Reactor Regulation
Attention: J. A. Zwolinski, Chief
Operating Reactors Branch No. 5
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Gentlemen:

Subject: Docket No. 50-206
Additional Changes to IST Program for Pumps and Valves
San Onofre Nuclear Generating Station
Unit 1

References: A. Letter M. O. Medford (SCE) to D. M. Crutchfield (NRC), dated January 24, 1984, IST Program for Pumps and Valves

B. Letter M. O. Medford (SCE) to D. M. Crutchfield (NRC), dated June 15, 1984, In-Service Testing of Valves Program

C. Letter M. O. Medford (SCE) to W. A. Paulson (NRC), dated September 11, 1984, Changes to IST Program for Pumps and Valves

D. Letter M. O. Medford (SCE) to J. B. Martin (NRC), dated March 7, 1984, NRC IE Bulletin 83-03

The revised In-Service Testing (IST) program for pumps and valves on the San Onofre Nuclear Generating Station, Unit 1, which was submitted to the NRC by Reference A and then updated by References B and C, consists of Engineering Procedure SO1-V-2.14 (Pumps), Engineering Procedure SO1-V-2.15 (Valves), Pump Relief Request No's 1 through 8 and Valve Relief Request No's 1 through 9. Reference A noted that for some valves included in the IST program, maximum permissible stroke times were unavailable at the time but would be determined and transmitted to the NRC by the end of the first quarter after Unit 1 resumed full power. The valves affected by this lack of information were identified in Reference A by Footnote 5 to Attachment 8.2 of Engineering Procedure SO1-V-2.15.

Insert pages enclosed with this letter provide the above information and include several other changes to the IST program, as explained below.

A047

1. Engineering Procedure SOI-V-2.15, Attachment 8.2

a) Maximum permissible stroke times for all valves previously identified by Footnote 5 are specified except for valves CV-2048 and CV-2049 in the air conditioning/post accident sampling system (PASS), for which a stroke time will be established and included in the IST program after the PASS system has become fully operational. Footnote 5 has been deleted.

b) For valves CV-146 and CV-197 in the air conditioning system,a separate maximum stroke time for each stroke direction has been specified. (Previously only the larger of the two values was specified without reference to a direction.)

c) Valves POV-5 and POV-6 in the salt water cooling system have been removed from the IST program and replaced by valves SWC-382 and SWC-383, respectively. This reflects a design change by which the control function of the two former valves has been assumed by the two latter valves. (Valves POV-5 and POV-6 are now maintenance valves.)

d) For valves CV-951, CV-953, CV-962 and CV-992 in the reactor cycle sampling system, it has been determined that the closed-to-open stroke direction has no safety significance. Accordingly, as clarified on the insert page, these valves will only be stroke tested in the open-to-closed direction.

e) Valve CV-113 in the auxiliary feedwater system fails as is. Therefore, the fail safe test is inapplicable to CV-113 and has been deleted.

f) Outer containment isolation valve CV-949 in the reactor cycle sampling system was failed closed several years ago with the air supply disconnected and the portion of sampling line attached to the valve capped inside the containment and removed from service. For this reason, CV-949 presently does not perform a safety function and need not be tested. A footnote has been added to clarify this situation.

2. Valve Relief Request No. 1

In consequence of the findings reported to your regional office by Reference D regarding the inspection of check valves DWS-306, DWS-309, DWN-306 and DWN-309 in the diesel generator cooling water system and subsequent discussions held on the same subject with NRC

staff inspectors, it has been decided to increase the frequency of disassembly and inspection for all four check valves from "once every other refueling" to "once every refueling."

If you have any questions regarding the above changes, please contact me.

Very truly yours,

M. O. Medford

cc: USNRC Document Control Desk (Washington, D.C. 20555)

F. R. Huey (USNRC Senior Resident Inspector, Units 1, 2 and 3)

ENCLOSURE

Consists of following insert pages:

A.	VRR No. 1 (Revision 1)	dated 3/85
B.	P. 5 of 7 to Attachment 8.1	dated 3/85
C.	P. 2 of 24 to Attachment 8.2	dated 3/85
D.	P. 4 of 24 to Attachment 8.2	dated 3/85
E.	P. 5 of 24 to Attachment 8.2	dated 3/85
F.	P. 7 of 24 to Attachment 8.2 thru P.17 of 24	dated 3/85
G.	P. 20 of 24 to Attachment 8.2 thru P. 22 of 24	dated 3/85

VALVE RELIEF REQUEST NO. 1

SYSTEM:	Diesel Generator Cooling Water System
COMPONENT:	DWS-306 DWS-309 DWN-306 DWN-309
CATEGORY:	C
CLASS:	No ASME Class Designation
FUNCTION:	To prevent backflow through the keep-warm pumps and cooling water pumps.
TEST REQUIREMENTS:	Full-stroke exercise open and closed every three months
BASIS FOR RELIEF:	There are no provisions for checking valve closure in the systems. During refueling, preventative maintenance is performed on the diesel generators. As a part of this maintenance, the check valves will be disassembled and inspected at every refueling outage.
ALTERNATE TESTING:	Stroke open quarterly, disassemble and inspect all check valves at each refueling outage.

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IN-SERVICE TESTING PROGRAM
ASME-CLASS 1, 2, & 3 VALVES
SAN ONOFRE NUCLEAR GENERATING STATION
UNIT 1

VALVE NUMBER	COORD.	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTR. TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STROKE TIME (Sec.)	RELIEF REQUEST	REMARKS

EXPLANATION OF NOTES

NOTES:

1. All motor operated valves fail-as-is and therefore do not require a fail safe test per IWV-3415.

2. The maximum stroke time associated with this valve is an assigned value in pursuant to IWV-3413. This stroke time is not a protected value and may be changed with approval of the station technical manager.

3. The maximum stroke time associated with this valve is a protected value and cannot be changed without a revision to the safety analysis or the technical specifications.

4. Stroke times specified for this protected valve are minimum and maximum acceptable values in the given stroke direction.

*

6. This valve is a pressure relief valve and will be tested at the frequency stated in IWV-3511.

7. The pressurizer safety valves and main steam safety valves shall be tested per Technical Specification Table 4.1.2.

8. The main steam power operated relief valves shall be tested per Technical Specification Table 4.1.2.

9. Any leakage from this valve is monitored during normal operation per Technical Specification 3.1.4 and is collected in the Quench Tank.

10. The seat leakage test for this valve will be performed in accordance with 10CFR50 Appendix J requirements. The test frequency is specified in the Technical Specification 4.3.1. This frequency will not exceed each refueling outage.

11. This valve is within a non-safety related system; however, it is used for containment isolation and therefore will receive a seat leakage test in accordance with 10CFR50 Appendix J requirements.

12. This valve is Type A passive and will only receive a seat leakage test.

13. This valve is an RCS pressure isolation valve and will be leak tested per Technical Specification 3.3.5.

14. This valve is tested every 18 months per Technical Specification 4.15.

* Note 5. has been deleted

IN-SERVICE TESTING PROGRAM
ASME-CLASS 1, 2 & 3 VALVES
SAN ONOFRE NUCLEAR GENERATING STATION
UNIT 1

VALVE NUMBER	COORD.	CLASS	VALVE CATEGORY	VALVE SIZE (INCHES)	VALVE TYPE	ACTR. TYPE	NORMAL/ FAILED POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STOKE TIME (Sec.)	RELIEF REQUEST	REMARKS
REACTOR COOLANT GAS VENT P & ID # 568766-17 (includes CC #26) (Continued)													
SV-2402	E-8	3	B	3/4	GA	SO	C/C	O	BT FST PIT	CS CS RR	2	*	Notes 2, 9
SV-2403	A-7	2	B	3/4	GA	SO	C/C	O	BT FST PIT	CS CS RR	2	*	Notes 2, 9
SV-2404	A-7	3	B	3/4	GA	SO	C/C	O	BT FST PIT	CS CS RR	2	*	Notes 2, 9
SV-3401	F-8	2	B	3/4	GA	SO	C/C	O	BT FST PIT	CS CS RR	2	*	Notes 2, 9
SV-3402	E-8	3	B	3/4	GA	SO	C/C	O	BT FST PIT	CS CS RR	2	*	Notes 2, 9
SV-3403	B-7	2	B	3/4	GA	SO	C/C	O	BT FST PIT	CS CS RR	2	*	Notes 2, 9
SV-3404	B-7	3	B	3/4	GA	SO	C/C	O	BT FST PIT	CS CS RR	2	*	Notes 2, 9
CHEMICAL AND VOLUME CONTROL SYSTEM P & ID # 568767-21 (includes CC #18)													
CV-202	B-2	1	B	2	GL	AO	O&C/C	C	BT FST PIT	OP CS RR	4	VRR-6	
CV-203	B-3	1	B	2	GL	AO	O&C/C	C	BT FST PIT	OP CS RR	4	VRR-6	
CV-204	C-2	1	B	2	GL	AO	O&C/C	C	BT FST PIT	OP CS RR	4	VRR-6	
CV-276	D-3	2	B	3/4	GL	AO	O/O	O&C	BT FST PIT	CS CS RR	20-O 20-C	*	Note 2
CV-304	C-2	1	B	2	GL	AO	O/C	O&C	BT FST PIT	CS CS RR	100-O 80-C	*	Note 2

IN-SERVICE TESTING PROGRAM
ASME-CLASS 1, 2 & 3 VALVES
SAN ONOFRE NUCLEAR GENERATING STATION
UNIT 1

VALVE NUMBER	COORD.	CLASS	VALVE CATEGORY	VALVE SIZE (INCHES)	VALVE TYPE	ACTR. TYPE	NORMAL/ FAILED POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STOKE TIME (Sec.)	RELIEF REQUEST	REMARKS
CHEMICAL AND VOLUME CONTROL SYSTEM P & ID # 568767-21 (includes CC #18) (Continued)													
FCV-1115C	H-3	1	B	2	ANGLE	AO	O/O	O&C	BTP BT FST	OP CS CS	30-O 15-C	*	Note 2
FCV-1115D	H-1	1	B	2	GL	AO	C/C	O	BT FST	CS CS	35	*	Note 2
FCV-1115E	H-2	1	B	2	GL	AO	C/C	O	BT FST	CS CS	40	*	Notes 2
FCV-1115F	H-3	1	B	2	GL	AO	C/C	O	BT FST	CS CS	30	*	Note 2
MOV-18	H-3	2	B	4	GA	MO	C/FAI	O	BT PIT	OP RR	120		Notes 1 & 2
MOV-19	H-4	2	B	4	GA	MO	C/FAI	O	BT PIT	OP RR	120		Notes 1 & 2
MOV/LCV-1100C	D-7	2	B	4	GA	MO	O/FAI	C	BT PIT	CS RR	20	*	Notes 1 & 2
PCV-1115A	F-1	2	B	2	ANGLE	AO	O/O	C	BT FST PIT	CS CS RR	40	*	Note 2
PCV-1115B	F-2	2	B	2	ANGLE	AO	O/O	C	BT FST PIT	CS CS RR	15	*	Note 2
PCV-1115C	F-3	2	B	2	ANGLE	AO	O/O	C	BT FST PIT	CS CS RR	40	*	Note 2
RV-289	D-4	2	C	3x4	RV	SA	C	--	RVT	--	--		Note 6
RV-2004	C-3	2	C	3	RV	SA	C	--	RVT	--	--		Note 6
236-4-C42	F-7	2	C	4	CK	SA	O	C	CVT	CS	--	*	
247-3-C58	F-5	2	C	3	CK	SA	O	O&C	CVT	OP	--		
248-3-C58	G-5	2	C	3	CK	SA	O	O&C	CVT	OP	--		
264-2-C58	F-3	1	C	2	CK	SA	O	C	CVT	CS	--	*	

IN-SERVICE TESTING PROGRAM
ASME-CLASS 1, 2 & 3 VALVES
SAN ONOFRE NUCLEAR GENERATING STATION
UNIT 1

VALVE NUMBER	COORD.	CLASS	VALVE CATEGORY	VALVE SIZE (INCHES)	VALVE TYPE	ACTR. TYPE	NORMAL/ FAILED POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STOKE TIME (Sec.)	RELIEF REQUEST	REMARKS
CHEMICAL AND VOLUME CONTROL SYSTEM P & ID # 568767-21 (includes CC #18) (Continued)													
272-2-C58	F-2	1	C	2	CK	SA	O	C	CVT	CS	--	*	
280-2-C58	F-1	1	C	2	CK	SA	O	C	CVT	CS	--	*	
308-2-C58	B-2	1	C	2	CK	SA	O	C	CVT	CS	--	*	
338-2-C42	F-5	2	C	2	CK	SA	O	O	CVT	OP	--		
339-2-C42	F-5	2	C	2	CK	SA	O	O	CVT	OP	--		
354-2-C58	C-2	1	C	2	CK	SA	C	O&C	CVT	CS	--	*	
362-2-CA4	D-5	2	C	2	CK	SA	C	O	CVT	CS	--	*	
AUXILIARY COOLING SYSTEM P & ID # 568768-15 (includes CC #17)													
CV-722A	H-5	3	B	1 1/2	GL	AO	O/C	C	BT FST PIT	CS CS RR	5	*	Note 2
CV-722B	H-6	3	B	1 1/2	GL	AO	O/C	C	BT FST PIT	CS CS RR	5	*	Note 2
CV-722C	H-9	3	B	1 1/2	GL	AO	O/C	C	BT FST PIT	CS CS RR	5	*	Note 2
CV-737A	C-7	3	B	6	BALL	HY	C/O	O	BT FST PIT	OP OP RR	15		Note 2
CV-737B	C-7	3	B	6	BALL	HY	C/O	O	BT FST PIT	OP OP RR	15		Note 2
MOV-720A	B-9	3	B	10	GA	MO	O/FAI	O	BT PIT	OP RR	200		Notes 1, 2
MOV-720B	B-7	3	B	10	GA	MO	C/FAI	O	BT PIT	OP RR	200		Notes 1, 2
RV-721A	H-7	3	C	1/2x1	RV	SA	C	--	RVT	--	--		Note 6
RV-721B	H-8	3	C	1/2x1	RV	SA	C	--	RVT	--	--		Note 6
RV-721C	H-9	3	C	1/2x1	RV	SA	C	--	RVT	--	--		Note 6

IN-SERVICE TESTING PROGRAM
ASME-CLASS 1, 2 & 3 VALVES
SAN ONOFRE NUCLEAR GENERATING STATION
UNIT 1

VALVE NUMBER	COORD.	CLASS	VALVE CATEGORY	VALVE SIZE (INCHES)	VALVE TYPE	ACTR. TYPE	NORMAL/ FAILED POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STOKE TIME (Sec.)	RELIEF REQUEST	REMARKS
AUXILIARY COOLING SYSTEM P & ID # 568768-15 (includes CC #17)													
741A-1-1/2-C38	H-6	3	C	1-1/2	CK	SA	C	O&C	CVT	CS	--	*	
742A-1-1/2-C38	H-7	3	C	1-1/2	CK	SA	C	O&C	CVT	CS	--	*	
743A-1-1/2-C38	H-8	3	C	1-1/2	CK	SA	C	O&C	CVT	CS	--	*	
RESIDUAL HEAT REMOVAL P & ID # 5130354-0													
HCV-602	D-7	2	B	6	BTF	AO	C/FAI	O	BTP BT PIT	OP CS RR	40	*	Note PIT in closed position only
MOV-813	F-6	1	B	8	GA	MO	C/FAI	O	BT PIT	CS RR	120	*	Notes 1 & 2
MOV-814	F-7	1	B	8	GA	MO	C/FAI	O	BT PIT	CS RR	120	*	Notes 1 & 2
MOV-822A	C-2	2	B	6	GA	MO	C/FAI	O	BT PIT	OP RR	120		Notes 1 & 2
MOV-822B	C-4	2	B	6	GA	MO	C/FAI	O	BT PIT	OP RR	120		Notes 1 & 2
MOV-833	E-7	1	B	6	GA	MO	C/FAI	O	BT PIT	CS RR	90	*	Notes 1 & 2
MOV-834	E-6	1	B	6	GA	MO	C/FAI	O	BT PIT	CS RR	100	*	Notes 1 & 2
RV-206	C-2	2	C	2-1/2 x 4	RV	SO	C	--	RVT	--	--		Note 6
819A-6-C54	G-6	2	C	6	CK	SA	O	O&C	CVT	CS	--	*	
819B-6-C54	H-6	2	C	6	CK	SA	O	O&C	CVT	CS	--	*	
SAFETY INJECTION SYSTEM P & ID # 568769-15 (includes CC #33)													
CV-875A	A-9	2	B	3	GL	AO	C/C	O	BT FST PIT	CS CS RR	25	*	Note 2
CV-875B	C-9	2	B	3	GL	AO	C/C	O	BT FST PIT	CS CS RR	30	*	Note 2

ASME-CLASS 1, 2 & 3 VALVES
SAN ONOFRE NUCLEAR GENERATING STATION
UNIT 1

VALVE NUMBER	COORD.	CLASS	VALVE CATEGORY	VALVE SIZE (INCHES)	VALVE TYPE	ACTR. TYPE	NORMAL/ FAILED POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STOKE TIME (Sec.)	RELIEF REQUEST	REMARKS
SAFETY INJECTION SYSTEM P & ID # 568769-15 (includes CC #33) (Continued)													
HV-851A	B-6	2	B	14	GA	HY	C/FAI	O	BT PIT	CS RR	4 min 45 max	*	Notes 3 & 4
HV-851B	D-6	2	B	14	GA	HY	C/FAI	O	BT PIT	CS RR	4 min 5 max	*	Notes 3 & 4
HV-853A	B-9	2	B	16	GA	HY	C/FAI	O	BT PIT	CS RR	3 min 6 max	*	Notes 3 & 4
HV-853B	D-9	2	B	16	GA	HY	C/FAI	O	BT PIT	CS RR	3 min 6 max	*	Notes 3 & 4
MOV-356	G-2	1	B	2	GA	MO	C/FAI	O	BT PIT	CS RR	30	*	Notes 1 & 3
MOV-357	F-2	1	B	2	GA	MO	C/FAI	O	BT PIT	CS RR	30	*	Notes 1 & 3
MOV-358	E-2	1	B	2	GA	MO	C/FAI	O	BT PIT	CS RR	30	*	Notes 1 & 3
MOV-850A	D-2	1	B	6	GA	MO	C/FAI	O	BT PIT	CS RR	9.5 min 11 max	*	Notes 1, 3 & 4
MOV-850B	C-2	1	B	6	GA	MO	C/FAI	O	BT PIT	CS RR	9.5 min 11 max	*	Notes 1, 3 & 4
MOV-850C	B-2	1	B	6	GA	MO	C/FAI	O	BT PIT	CS RR	9.5 min 11 max	*	Notes 1, 3 & 4
MOV-866A	G-1	2	B	4	GA	MO	C/FAI	O	BT PIT	CS RR	240	*	Notes 1 & 2
MOV-866B	G-2	2	B	4	GA	MO	O/FAI	O	BT PIT	CS RR	240	*	Notes 1 & 2
MOV-880	E-5	2	B	4	GA	MO	C/FAI	O	BT PIT	CS RR	25	*	Note 1
MOV-883	C-13	2	B	8	GA	MO	O/FAI	C	BT PIT	CS RR	350	*	Note 1
MOV-LCV-1100B	F-9	2	B	4	GA	MO	C/FAI	O	BT PIT	CS RR	10	*	Notes 1 & 3
SV702A	D-3	2	B	3/4	GA	SO	C/C	C	BT	OP	2		Note 18
SV702B	C-2	2	B	3/4	GA	SO	C/C	C	BT	OP	2		Note 18
SV702C	D-3	2	B	3/4	GA	SO	C/C	C	BT	OP	2		Note 18
SV702D	C-2	2	B	3/4	GA	SO	C/C	C	BT	OP	2		Note 18

SAN ONOFRE NUCLEAR GENERATING STATION
UNIT 1

VALVE NUMBER	COORD.	CLASS	VALVE CATEGORY	VALVE SIZE (INCHES)	VALVE TYPE	ACTR. TYPE	NORMAL/ FAILED POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STOKE TIME (Sec.)	RELIEF REQUEST	REMARKS
SAFETY INJECTION SYSTEM P & ID # 568769-15 (includes CC #33) (Continued)													
MOV-LCV-1100D	G-9	2	B	4	GA	MO	C/FAI	O	BT PIT	CS RR	10	*	Notes 1 & 3
RV-868	A-3	2	C	1	RV	SA	C	--	RVT	--	--		Note 6
RV-882	E-5	2	C	1/2x1	RV	SA	C	--	RVT	--	--		Note 6
SV-2900	B-6	2	B	3/4	GA	SO	C/C	O	BT FST PIT	CS CS RR	2	*	Note 2
SV-3900	D-6	2	B	3/4	GA	SO	C/C	O	BT FST PIT	CS CS RR	2	*	Note 2
351-4-C42	F-10	2	C	4	CK	SA	C	O	CVT	CS	--	*	
862A-12-C42	B-11	2	C	12	CK	SA	C	O	CVP CVT	OP --	--	VRR-2	
862B-12-C42	D-11	2	C	12	CK	SA	C	O	CVP CVT	OP --	--	VRR-2	
863A-6-C34	H-2	2	C	6	CK	SA	C	O&C	CVT	RR	--	VRR-3	Must be disassembled and hand stroked
863B-6-C34	H-3	2	C	6	CK	SA	C	O&C	CVT	RR	--	VRR-3	Must be disassembled and hand stroked
867A-6-C58	D-2	1	AC	6	CK	SA	C	--	AT	RR	--	VRR-4	Note 13
867B-6-C58	C-2	1	AC	6	CK	SA	C	--	AT	RR	--	VRR-4	Note 13
867C-6-C58	B-2	1	AC	6	CK	SA	C	--	AT	RR	--	VRR-4	Note 13
881-4-C48	F-5	2	C	4	CK	SA	C	O&C	CVT	CS	--	*	
REACTOR CYCLE SAMPLING SYSTEM P & ID # 568770-12 (includes CC #11)													
CV-948	D-3	2	A	3/8	GL	AO	C/C	C	BT FST	OP CS	10	VRR-6	Note 2

TCN

SAN ONOFRE NUCLEAR GENERATING STATION
UNIT 1

VALVE NUMBER	COORD.	CLASS	VALVE CATEGORY	VALVE SIZE (INCHES)	VALVE TYPE	ACTR. TYPE	NORMAL/ FAILED POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STOKE TIME (Sec.)	RELIEF REQUEST	REMARKS
REACTOR CYCLE SAMPLING SYSTEM P & ID # 568770-12 (includes CC #11) (Continued)													
CV-949*	F-5	2	A	3/8	GL	AO	C/C	C	BT FST PIT	OP OP RR	12		Note 2
CV-951	B-2	2	A	3/8	GL	AO	C/C	C	AT BT FST	RR OP CS	12	VRR-6	Notes 2 & 11
CV-953	B-2	2	A	3/8	GL	AO	C/C	C	AT BT FST	RR OP CS	5	VRR-6	Notes 2 & 11
CV-955	C-2	2	A	3/8	GL	AO	C/C	C	AT BT FST	RR OP CS	8	VRR-6	Notes 2 & 11
CV-956	C-2	2	A	3/8	GL	AO	C/C	C	AT BT FST	RR OP CS	20	VRR-6	Notes 2 & 11
CV-957	C-5	2	A	3/8	GL	AO	C/C	C	AT BT FST PIT	RR OP OP RR	25		Notes 2 & 11
CV-962	D-2	2	A	3/8	GL	AO	C/C	C	AT BT FST	RR OP CS	10	VRR-6	Notes 2 & 11
CV-992	B-5	2	A	3/8	GL	AO	C/C	C	AT BT FST PIT	RR OP OP RR	15		Notes 2 & 11
CV-2145	E-2	2	B	3/4	GL	SO	O/C	O&C	BT FST	OP OP	1-O 1-C		Note 2
SV-3302	C-4	2	A	3/8	GA	SO	O/C	O&C	AT BT FST	RR OP OP	2		Notes 2 & 11
RADIOACTIVE WASTE DISPOSAL SYSTEMS P & ID # 568772-23													
CV-102	E-3	2	A	1 1/2	GL	AO	O/C	C	AT BT FST PIT	RR OP CS RR	5	VRR-6	Notes 2, 10, 11

*This valve is out of service indefinitely and therefore not being tested. If it is returned to service in the future, it will be tested to the requirements shown above.

ASME-CLASS 1, 2 & 3 VALVES
SAN ONOFRE NUCLEAR GENERATING STATION
UNIT 1

VALVE NUMBER	COORD.	CLASS	VALVE CATEGORY	VALVE SIZE (INCHES)	VALVE TYPE	ACTR. TYPE	NORMAL/ FAILED POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STOKE TIME (Sec.)	RELIEF REQUEST	REMARKS
RADIOACTIVE WASTE DISPOSAL SYSTEMS P & ID # 568772-23 (Continued)													
CV-103	E-3	2	A	1 1/2	GL	AO	O/C	C	AT BT FST PIT	RR OP OP RR	5		Notes 2, 10 & 11
CV-104	E-3	2	A	2	GL	AO	O/C	C	AT BT FST PIT	RR OP CS RR	5	VRR-6	Notes 1, 10, 11
CV-105	E-3	2	A	2	GL	AO	O/C	C	AT BT FST PIT	RR OP OP RR	5		Notes 2, 10 & 11
CV-106	C-2	2	A	2	GL	AO	O/C	C	AT BT FST PIT	RR OP CS RR	5	VRR-6	Notes 2, 10, 11
CV-107	C-2	2	A	2	GL	AO	O/C	C	AT BT FST PIT	RR OP OP RR	5		Notes 2, 10 & 11
CV-535	D-3	2	A	1	BALL	AO	O/C	C	AT BT FST PIT	RR OP OP RR	5		Notes 2, 10 & 11
CV-536	D-3	2	A	1	BALL	AO	O/C	C	AT BT FST PIT	RR OP CS RR	5	VRR-6	Notes 2, 10, 11
SV-99	A-7	2	B	1	GA	SO	O/C	C	BT	OP	2		
STEAM P & ID # 568773-14													
CV-76	D-4	2	B	4	GL	AO	C/C	O	BT FST	CS CS	30	*	Notes 8
CV-77	F-4	2	B	4	GL	AO	C/C	O	BT FST	CS CS	30	*	Notes 8
CV-78	C-4	2	B	4	GL	AO	C/C	O	BT FST	CS CS	30	*	Notes 8

ASME-CLASS 1, 2 & 3 VALVES
SAN ONOFRE NUCLEAR GENERATING STATION
UNIT 1

VALVE NUMBER	COORD.	CLASS	VALVE CATEGORY	VALVE SIZE (INCHES)	VALVE TYPE	ACTR. TYPE	NORMAL/ FAILED POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STOKE TIME (Sec.)	RELIEF REQUEST	REMARKS
STEAM P & ID # 568773-14 (Continued)													
CV-79	F-4	2	B	4	GL	AO	C/C	O	BT FST	CS CS	30	*	Note 8
RV-1	F-4	2	C	6x10	SV	SA	C	--	RVT	RR	--		Note 7
RV-2	C-4	2	C	6x10	SV	SA	C	--	RVT	RR	--		Note 7
RV-3	F-4	2	C	6x10	SV	SA	C	--	RVT	RR	--		Note 7
RV-4	C-4	2	C	6x10	SV	SA	C	--	RVT	RR	--		Note 7
RV-5	G-4	2	C	6x10	SV	SA	C	--	RVT	RR	--		Note 7
RV-6	C-4	2	C	6x10	SV	SA	C	--	RVT	RR	--		Note 7
RV-7	G-4	2	C	6x10	SV	SA	C	--	RVT	RR	--		Note 7
RV-8	B-4	2	C	6x10	SV	SA	C	--	RVT	RR	--		Note 7
RV-9	G-4	2	C	6x10	SV	SA	C	--	RVT	RR	--		Note 7
RV-10	B-4	2	C	6x10	SV	SA	C	--	RVT	RR	--		Note 7
TURBINE STOP (E)	D-6	2	B	24	GA	HY	O/O	C	BT PIT	OP RR	2		Note 2
TURBINE STOP (W)	E-6	2	B	24	GA	HY	O/O	C	BT PIT	OP RR	2		Note 2
CIRCULATING WATER SYSTEM P & ID # 568775-24 (includes CC #10)													
CV-100A	C-1	2	B	2	GA	SO	O/C	C	BT FST	OP OP	20		Note 2
POV-11 (SWC-381)	D-2	3	B	12	BTF	M	O&C/FAI	O	BT	OP			
SWC-338	D-2	3	C	12	CK	SA	O&C	O&C	CVT	OP	--		Aux. Saltwater pump discharge check valve
SWC-382	G-5	3	C	12	CK	SA	O&C	O&C	CVT	OP	--		
SWC-383	E-5	3	C	12	CK	SA	O&C	O&C	CVT	OP	--		

ASME-CLASS 1, 2 & 3 VALVES
SAN ONOFRE NUCLEAR GENERATING STATION
UNIT 1

VALVE NUMBER	COORD.	CLASS	VALVE CATEGORY	VALVE SIZE (INCHES)	VALVE TYPE	AGTR. TYPE	NORMAL/ FAILED POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STOKE TIME (Sec.)	RELIEF REQUEST	REMARKS
MISCELLANEOUS WATER SYSTEMS P & ID # 568776-22 (includes CC #29)													
CV-82	B-7	2	B	6	BTF	AO	C/O	O	BT FST PIT	CS CS RR	25	*	Note 2
CV-92	B-6	2	B	4	BTF	AO	C/C	O	BT PIT	RR RR	20	VRR-5	Notes 2, & 14
CV-114	B-6	2	B	6	BTF	AO	C/O	O	BT FST PIT	CS CS RR	30	*	Note 2
CV-115	C-7	2	A	2	GL	AO	O/C	C	AT BT FST PIT	RR OP OP RR	6		Notes 2 & 10
CV-515	C-10	2	A	6	BALL	HY	O/C	C	BT FST PIT	OP OP RR	50		Notes 2
CV-516	C-10	2	A	6	BALL	HY	O/C	C	BT FST PIT	OP OP RR	20		Notes 2, 6
CV-517	E-6	2	B	6	BALL	HY	O/C	O&C	BT FST PIT	OP OP RR	40-O 20-C		Note 2
CV-518	E-7	2	B	6	BALL	HY	O/C	O&C	BT FST PIT	OP OP RR	30-O 15-C		Note 2
CV-537	C-7	2	A	2	BALL	AO	O/C	C	AT BT FST PIT	RR OP CS RR	15	VRR-6	Notes 2, 10
1-1/2-600-229	F-2	2	C	1-1/2	CK	SA	C	O	CVT	OP	--		
2"-629	D-7	2	A	2	GA	M	C	--	AT	RR	--		Notes 10 & 12
2"-649	C-7	2	AC	2	CK	SA	C	--	AT	RR	--		Notes 10 & 12

ASME-CLASS 1, 2 & 3 VALVES
SAN ONOFRE NUCLEAR GENERATING STATION
UNIT 1

VALVE NUMBER	COORD.	CLASS	VALVE CATEGORY	VALVE SIZE (INCHES)	VALVE TYPE	ACTR. TYPE	NORMAL/ FAILED POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STOKE TIME (Sec.)	RELIEF REQUEST	REMARKS
MISCELLANEOUS WATER SYSTEMS P & ID # 568776-22 (includes CC #29) (Continued)													
6-300-241	H-5	2	C	6	CK	SA	C	O&C	CVT	CS	--	*	
6-300-241	H-5	2	C	6	CK	SA	C	O&C	CVT	CS	--	*	
8-250-271	F-4	2	C	8	CK	SA	C	O	CVP CVT	OP CS	--	*	
CHEMICAL FEED P & ID # 568777-16													
RV-2000	F-8	2	C	1	RV	SA	C	--	RVT	--	--		Note 6
RV-2001	F-9	2	C	1	RV	SA	C	--	RVT	--	--		Note 6
RV-2002	F-9	2	C	1	RV	SA	C	--	RVT	--	--		Note 6
RV-2003A	H-11	2	C	3/4	RV	SA	C	--	RVT	--	--		Note 6
RV-2003B	G-11	2	C	3/4	RV	SA	C	--	RVT	--	--		Note 6
SV-600	H-12	2	B	3/4	GL	SO	C/O	O	BT FST PIT	OP OP RR	5		Note 2
SV-601	G-12	2	B	3/4	GL	SO	C/O	O	BT FST PIT	OP OP RR	5		Note 2
3/4-600-237	G-12	2	C	3/4	CK	SA	C	O	CVT	OP	--		Check Valve for Spray Additive Pump G-200A
3/4-600-237	H-12	2	C	3/4	CK	SA	C	O	CVT	OP	--		Check Valve for Spray Additive Pump G-200B
FEEDWATER AND CONDENSATE SYSTEM P & ID # 568779-22													
CV-36	C-7	2	B	3	GL	AO	C/O	C	BT FST	OP OP	240		Note 2
CV-37	F-7	2	B	3	GL	AO	C/O	C	BT FST	OP OP	240		Note 2

ASME-CLASS 1, 2 & 3 VALVES
SAN ONOFRE NUCLEAR GENERATING STATION
UNIT 1

VALVE NUMBER	COORD.	CLASS	VALVE CATEGORY	VALVE SIZE (INCHES)	VALVE TYPE	ACTR. TYPE	NORMAL/ FAILED POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STOKE TIME (Sec.)	RELIEF REQUEST	REMARKS
FEEDWATER AND CONDENSATE SYSTEM P & ID # 568779-22 (Continued)													
CV-100	G-2	2	B	2	GA	AO	O/C	C	BT FST	OP OP	20		Note 2
CV-100B	F-1	2	B	3	GA	AO	O/C	C	BT FST	OP OP	5		Note 2
CV-142	E-2	2	B	4	GL	AO	C/C	O&C	BT BTP FST	CS OP CS	30-O 30-C	*	Note 2
CV-143	C-2	2	B	4	GL	AO	C/C	O&C	BT BTP FST	CS OP CS	30-O 30-C	*	Note 2
CV-144	D-1	2	B	4	GL	AO	C/C	O&C	BT BTP FST	CS OP CS	30-O 30-C	*	Note 2
FCV-456	F-2	2	B		GA	AO	O/O	C	BT BTP FST	CS OP CS	50	*	Notes 2
FCV-457	D-1	2	B		GA	AO	O/O	C	BT BTP FST	CS OP CS	55	*	Note 2
FCV-458	C-2	2	B		GA	AO	O/O	C	BT BTP FST	CS OP CS	35	*	Note 2
HV-852A	B-4	2	B	12	GA	HY	O/FAI	C	BT PIT	CS RR	3 min 4.5 max	*	Notes 3 & 4
HV-852B	E-4	2	B	12	GA	HY	O/FAI	C	BT PIT	CS RR	3 min 4.5 max	*	Notes 3 & 4

ASME-CLASS 1, 2 & 3 VALVES
SAN ONOFRE NUCLEAR GENERATING STATION
UNIT 1

VALVE NUMBER	COORD.	CLASS	VALVE CATEGORY	VALVE SIZE (INCHES)	VALVE TYPE	ACTR. TYPE	NORMAL/ FAILED POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STOKE TIME (Sec.)	RELIEF REQUEST	REMARKS
FEEDWATER AND CONDENSATE SYSTEM P & ID # 568779-22 (Continued)													
HV-854A	B-4	2	B	14	GA	HY	O/FAI	C	BT PIT	CS RR	5.5 min 7 max	*	Notes 3 & 4
HV-854B	E-4	2	B	14	GA	HY	O/FAI	C	BT PIT	CS RR	5.5 min 7 max	*	Notes 3 & 4
MOV-20	D-1	2	B	10	GA	MO	O/FAI	C	BT PIT	CS RR	90	*	Note 1
MOV-21	F-3	2	B	10	GA	MO	O/FAI	C	BT PIT	CS RR	90	*	Note 1
MOV-22	C-3	2	B	10	GA	MO	O/FAI	C	BT PIT	CS RR	90	*	Note 1
4-600-222	D-2	2	C	4	CK	SA	C	O&C	CVT	CS	--	*	
4-600-222	D-2	2	C	4	CK	SA	C	O&C	CVT	CS	--	*	
4-600-222	E-2	2	C	4	CK	SA	C	O&C	CVT	CS	--	*	
10-600-222	C-2	2	C	10	CK	SA	O	C	CVT	CS	--	*	
10-600-222	D-2	2	C	10	CK	SA	O	C	CVT	CS	--	*	
10-600-222	E-3	2	C	10	CK	SA	O	C	CVT	CS	--	*	
12-600-222	B-4	2	C	12	CK	SA	O	O&C	CVT	CS	--	*	Verify open during operation
12-600-222	G-4	2	C	12	CK	SA	O	O&C	CVT	CS	--	*	Verify open during operation
COMPRESSED AIR P & ID # 568780-19													
SV-125A	G-9	2	A	2	GA	SO	O/C	C	AT BT FST PIT	RR OP OP RR	2		Notes 2, 10 & 11
1-1/2-600-240	D-11	2	AC	1 1/2	CK	SA	O	--	AT	RR	--		Notes 10 & 11

ASME-CLASS 1, 2 & 3 VALVES
SAN ONOFRE NUCLEAR GENERATING STATION
UNIT 1

VALVE NUMBER	COORD.	CLASS	VALVE CATEGORY	VALVE SIZE (INCHES)	VALVE TYPE	ACTR. TYPE	NORMAL/ FAILED POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STOKE TIME (Sec.)	RELIEF REQUEST	REMARKS
COMPRESSED AIR P & ID # 568780-19 (Continued)													
1-1/2-600-240	D-12	2	AC	1 1/2	CK	SA	O	--	AT	RR	--		Notes 10 & 11
2-600-150	G-9	2	A	2	GL	M	C	--	AT	RR	--		Notes 10, 11 & 12 Locked Closed
2-600-240	G-9	2	AC	2	CK	SA	O	--	AT	RR	--		Notes 10 & 11
AIR CONDITIONING P & ID # 568782-20 (includes CC #18)													
CV-10	D-10	2	A	6	BTF	AO	O/C	C	AT BT FST PIT	RR OP OP RR	25		Notes 2 & 10
CV-40	D-9	2	A	2	3 Way	AO	O/C	C	AT BT FST	RR OP CS	5	VRR-6	Notes 2, 10
CV-116	D-9	2	A	6	BTF	AO	C/C	C	AT BT FST PIT	RR OP CS RR	25	VRR-6	Notes 2, 10
CV-146	F-6	2	A	1	GL	AO	O/C	O&C	AT BT FST PIT	RR OP CS RR	2-O 5-C	VRR-6	Notes 2, 10
CV-147	F-6	2	A	1	GL	AO	O/C	O&C	AT BT FST PIT	RR OP CS RR	2-O 5-C	VRR-6	Note 2, 10
CV-2048*	F-8	2	B	3/8	GL	AO	O/O	O&C	BT FST	OP OP			Note 2
CV-2049*	F-8	2	B	3/8	GL	AO	O/O	O&C	BT FST	OP OP			Note 2
POV-9	B-10	2	A	24	BTF	AO	C/C	C	AT	RR	--		Notes 10 & 12

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* Maximum stroke time for these valves will be specified later.

IN-SERVICE TESTING PROGRAM
ASME-CLASS 1, 2 & 3 VALVES
SAN ONOFRE NUCLEAR GENERATING STATION
UNIT 1

VALVE NUMBER	COORD.	CLASS	VALVE CATEGORY	VALVE SIZE (INCHES)	VALVE TYPE	ACTR. TYPE	NORMAL/ FAILED POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STOKE TIME (Sec.)	RELIEF REQUEST	REMARKS
NITROGEN SYSTEM P & ID # 568784-18 (includes CC #26)													
3/4-600-142	F-8	2	A	3/4	GL	M	C	--	AT	RR	--		Notes 10, 11 & 12
3/4-600-142	F-8	2	A	3/4	GL	M	C	--	AT	RR	--		Notes 10, 11 & 12
DIESEL FUEL OIL - STORAGE & SUPPLY SYSTEM (DIESEL UNIT 1) P & ID # 5169250													
DFS-309	E-8	3	C	2	CK	SA	C	O&C	CVT	OP	--		
DFS-308	E-11	3	C	2	CK	SA	C	O&C	CVT	OP	--		
DIESEL GENERATOR COOLING WATER SYSTEM (DIESEL UNIT 1) P & ID # 5169252													
DWS-306	E-3	3	C	1 1/2	CK	SA	O C	O C	CVT CVT	OP RR	--	VRR-1	
DWS-309	C-3	3	C	8	CK	SA	O C	O C	CVT CVT	OP RR	--	VRR-1	
DIESEL STARTING AIR SYSTEM (DIESEL UNIT 1) P & ID #5169256													
SV-301	C-4	3	B	3	GA	SO	C/C	O	BT FST	OP OP	2		
SV-302	G-9	3	B	3	GA	SO	C/C	O	BT FST	OP OP	2		
SV-304	C-9	3	B	3	GA	SO	C/C	O	BT FST	OP OP	2		
SV-305	G-4	3	B	3	GA	SO	C/C	O	BT FST	OP OP	2		

IN-SERVICE TESTING PROGRAM
ASME-CLASS 1, 2 & 3 VALVES
SAN ONOFRE NUCLEAR GENERATING STATION
UNIT 1

VALVE NUMBER	COORD.	CLASS	VALVE CATEGORY	VALVE SIZE (INCHES)	VALVE TYPE	ACTR. TYPE	NORMAL/ FAILED POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STOKE TIME (Sec.)	RELIEF REQUEST	REMARKS
DIESEL STARTING AIR SYSTEM (DIESEL UNIT 1) Sheet 1 P & ID #5169253													
DSS-357	E-2	3	C	2	CK	SA	C	O&C	CVT	OP	--		
DSS-358	D-12	3	C	2	CK	SA	C	O&C	CVT	OP	--		
DSS-305	C-4	3	C	3	CK	SA	C	O	CVT	OP	--		
DSS-306	C-9	3	C	3	CK	SA	C	O	CVT	OP	--		
DSS-309	G-4	3	C	3	CK	SA	C	O	CVT	OP	--		
DSS-310	B-9	3	C	3	CK	SA	C	O	CVT	OP	--		
DIESEL FUEL OIL - STORAGE & SUPPLY SYSTEM (DIESEL UNIT 2) P & ID #5169260													
DFN-309	E-8	3	C	2	CK	SA	C	O&C	CVT	OP	--		
DFN-308	E-11	3	C	2	CK	SA	C	O&C	CVT	OP	--		
DIESEL GENERATOR COOLING WATER SYSTEM (DIESEL UNIT 2) P & ID # 5169262													
DWN-306	E-3	3	C	1 1/2	CK	SA	O O	O C	CVT CVT	OP RR	--	VRR-1	
DWN-309	C-4	3	C	8	CK	SA	O O	O C	CVT CVT	OP RR	--	VRR-1	
DIESEL AIR STARTING SYSTEM (DIESEL UNIT 2) P & ID #5169263													
DSN-357	E-2	3	C	2	CK	SA	C	O&C	CVT	OP	--		
DSN-358	E-11	3	C	2	CK	SA	C	O&C	CVT	OP	--		
DIESEL AIR STARTING SYSTEM (DIESEL UNIT 2) P & ID #5169266													
SV-401	C-4	3	B	3	GA	SO	C/C	O	BT FST	OP OP	2		
SV-402	G-8	3	B	3	GA	SO	C/C	O	BT FST	OP OP	2		
SV-404	C-9	3	B	3	GA	SO	C/C	O	BT FST	OP OP	2		
SV-405	G-4	3	B	3	GA	SO	C/C	O	BT FST	OP OP	2		

IN-SERVICE TESTING PROGRAM
ASME-CLASS 1, 2 & 3 VALVES
SAN ONOFRE NUCLEAR GENERATING STATION
UNIT 1

VALVE NUMBER	COORD.	CLASS	VALVE CATEGORY	VALVE SIZE (INCHES)	VALVE TYPE	ACTR. TYPE	NORMAL/ FAILED POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STOKE TIME (Sec.)	RELIEF REQUEST	REMARKS
DIESEL AIR STARTING SYSTEM (DIESEL UNIT 2) P & ID #5169266 (Continued)													
DSN-305	G-4	3	C	3	CK	SA	C	O	CVT	OP	--		
DSN-306	G-9	3	C	3	CK	SA	C	O	CVT	OP	--		
DSN 309	C-4	3	C	3	CK	SA	C	O	CVT	OP	--		
DSN-310	C-9	3	C	3	CK	SA	C	O	CVT	OP	--		
AUXILIARY FEEDWATER SYSTEM P & ID #5159570-0 (includes CC #14)													
CV-113	E-2	2	B	3	GL	AO	O/FAI	O&C	BT	OP OP	120		
CV-3201	D-2	2	B	3	GL	AO	C/C	O	BT FST	OP OP	50		Note 2
CV-3213	D-6	2	B	3	GL	AO	C/O	O&C	BT FST PIT	OP OP RR	20		Note 2
FCV-2300	D-9	2	B	3	GL	AO	O/O	O&C	BT FST PIT	OP CS RR	40-O 20-C	*	Note 2
FCV-2301	D-9	2	B	3	GL	AO	O/O	O&C	BT FST PIT	OP CS RR	40-O 20-C	*	Note 2
FCV-3300	B-9	2	B	3	GL	AO	O/O	O&C	BT FST PIT	OP CS RR	40-O 20-C	*	Note 2
FCV-3301	C-9	2	B	3	GL	AO	O/O	O&C	BT FST PIT	OP CS RR	40-O 20-C	*	Note 2
MOV-1202	B-6	2	B	3	GA	MO	C/FAI	O	BT PIT	OP RR	15		Note 1 & 2
SV-3200	D-2	2	B	1/2	GA	SO	C/O	O	BT FST PIT	OP OP RR	2		Note 2