MEETING MINUTES

SAN ONOFRE, UNIT 2, IST PROGRAM

March 16 & 17, 1982

8204270575

Valve Testing Program

A. General Questions

1. Yes, the valves to which note 7 are applicable are recorded as required per code.

2. 10-024-C-406, 10-025-C-406 — LPSI pumps cannot overcome RCS pressure. Aligning the system discharge to the RWST would defeat both trains of LPSI. Valves will be full stroke exercised during cold shutdown.

   HV-9337, HV-9339, HV-9377, HV-9378 — These valves are interlocked to prevent opening at pressures above 376 psia. These valves will be full stroke exercised during cold shutdown.

   HV-9340, HV-9350, HV-9360, HV-9370 — Accumulator discharge valves. These valves are required to be open during power operation by technical specifications. Power is removed during power operation. These valves will be full stroke exercised during cold shutdown.

   8-072-A-552, 8-073-A-552, 8-074-A-552, 8-075-A-552 — There is no flow path available to exercise these valves during power operation. These valves will be full flow exercised during cold shutdown. LPSI pumps cannot overcome RCS pressure during power operation.

   HV-9420, HV-9434 — These valves are required to be closed with power removed during power operation by technical specifications. Opening these valves would result in defeating high pressure cold leg safety injection. Valves will be full stroke exercised during cold shutdown.

HV-8150 HV-8151	These valves are required to be closed with power removed during power operation by technical specifications. Opening either of these valves could defeat both trains of LPSI. These valves will be full stroke exercised during cold shutdown.
HV-9200	Exercising this valve during power operation could result in loss of pressurizer level control. Also, technical specifications require a flow path for boration open during power operation. Closing this valve would isolate the boration flow path. This valve will be full stroke exercised during cold shutdown.
HV-9204 HV-9205 TV-0221 TV-9267	Exercising these valves during power operation could result in loss of pressurizer level control. These valves will be full stroke exercised during cold shutdown.
HV-9217 HV-9218	Exercising these valves could result in reactor coolant pump seal failure which could result in plant shutdown. These valves will be full stroke exercised during cold shutdown.
LV-0227B LV-0227C	Shutting 0227B during power operation would require aligning charging pump suction to another source and would inject highly concentrated boric acid into the reactor coolant system. Opening 0227C would result in injecting highly concentrated boric acid into the reactor coolant system causing plant shutdown. These valves will be full stroke exercised during cold shutdown.

HV-9235 HV-9240 HV-9247	Opening these valves during power operation could result in over boration of the RCS, which could result in plant shutdown. These valves will be full stroke exercised during cold shutdown.
3-033-D-675 3-035-D-675	These valves cannot be full stroke exercised during power operation since this would result in over boration of the RCS which could result in plant shutdown. These valves will be partial stroke exercised quarterly during power operation and full stroke exercised during cold shutdown.
HV-6211 HV-6216	Exercising these valves during power operation would secure cooling water flow to the RCP seals, which could result in seal damage and plant shutdown. These valves will be full stroke exercised during cold shutdown.
HV-8204 HV-8205	Main steam line isolations. Shutting these valves during power operation would result in plant shutdown. These valves will be part stroke exercised quarterly and full stroke exercised during cold shutdown.
HV-8419 HV-8421	Full stroke exercising these valves during power operation could result in a low steam generator pressure indication which would shut the main steam isolation valve and result in a plant shutdown. These valves will be full stroke exercised during cold shutdown.
6-124-C-599 6-448-C-599	Exercising these valves during power operation would result in placing unnecessary thermal stresses on the feed water piping which could result in premature failure of this piping. These valves will be full stroke exercised during cold shutdown.

HV-4048 HV-4052	Full stroke exercising these valves during power operation would result in losing feed water flow to the steam generator which could result in a plant shutdown. These valves wil be full stroke exercised during cold shutdown.
6-121-D-598 6-126-D-598	Same reason as for 6-124-C-599 and 6-448-C-599.

3. Utility will supply appropriate stroke times for applicable valves in the IST resubmittal.

4. No, all valves are not inaccessible. Position indication check is being performed per the ASME code.

5. The utility feels that the 72 hour interval is an appropriate interval because it corresponds to the usual time limit for limiting conditions for operation as identified in the plant's technical specifications. Open item for NRC to determine if the 72 hour interval is acceptable.

6. Utility will revise paragraph to incorporate Category C check valve testing interval.

B. Reactor Coolant System

1. Valve listing will be included in IST program when the NRC approves use of this system. A modification to the IST program will be submitted at that time.

2. Valve 3-152-A-551 will be changed to Category A/C in the IST program. It is leak rate tested in accordance with technical specifications.

C. Safety Injection System

1. Valve FV-0306 does have to shut to perform a safety function. Full stroke exercising this valve during power operation would isolate both trains of low pressure safety injection. This valve will be full stroke exercised during cold shutdown.

2. Utility does not take credit in the accident analysis for closing valves HV-9300 and 9301. These valves will not be included in the IST program.

3. Valves HV-9304 and 9305 are normally open "B" passive valves and will not be included in the IST program.

   HV-9302 and 9303 are not passive valves. Open item for utility to determine exercising interval and supply adequate technical justification if cold shutdown interval is decided upon.

4. Both valves HV-9316 and 14-079-C-173 are scheduled to be removed from the system during the first refueling outage. These valves are B passive and will not be included in the IST program.

5. Valve 3-155-C-329 will be changed to valve 3-155-C-551 in the IST program.

6. Partial stroke exercising of check valves 4-012-C-358, 4-015-C-358, 4-016-C-358, and 4-017-C-553 will be investigated by the utility.

   These check valves cannot be full stroke exercised during power opration because the HPSI pumps cannot overcome RCS pressure. During cold shutdown full stroke exercising these valves could result in a low temperature overpressurization of the RCS. These valves will be full stroke exercised during refueling outages.

7. Valves HV-8152 and HV-8153 will be full stroke exercised during cold shutdowns. For justification for not exercising during power operation, see Item A.2 valves HV-8150 and 8151.

8. 16-077-C-645
16-084-C-645

During power operation these valves cannot be a full stroke exercised since the only available full flow flowpath is to the RCS and the LPSI pumps cannot overcome RCS pressure. During cold shutdown these valves cannot be full stroke exercised since the only full flow flowpath (into the RCS) does not have sufficient expansion volume to accommodate the flow required.

Open item for utility to determine if these valves are full stroke exercised during refueling outages.

24-001-C-724
24-002-C-724
24-003-C-724
24-004-C-724

During power operation and cold shutdowns, these valves cannot be full stroke exercised because this would require running CS, LPSI, and HPSI pumps concurrently and no test flow path exists for this flow. These valves will be partial stroke exercised quarterly. Open item for utility to determine method and frequency of full stroke exercising.

9. Valves HV-9334 and 2-099-C-334 will be full stroke exercised quarterly per the ASME code.

10. All of the listed valves perform a pressure boundary isolation function and are leak rate tested in accordance with technical specifications. These valves will be changed to either Category A or A/C as applicable in the IST program.

11. Valves HV-9341 and 9361 are normally shut valves which are not required to change position during an accident. These valves are considered B passive and will not be included in the IST program.

12. HV-9345, 9355, 9365, and 9375 are used as a backup to the SIT isolation valves during shutdown. During power operations, technical specifications require power to be locked out to these valves, so an inadvertant depressurization of the SIT will not occur. These valves will be full stroke exercised during cold shutdown.

13. Check valves 3-018-A-551, 3-019-A-551, 3-020-A-551, and 3-021-A-551 are partial stroke exercised quarterly using the charging pumps via the HPSI flow path. During power operation, these check valves cannot be full stroke exercised because the HPSI pumps cannot overcome the RCS pressure and the charging pumps do not have sufficient flow to full stroke exercise these valves. During cold shutdown, full stroke exercising these valves could result in a low temperature overpressurization of the RCS. These valves will be full stroke exercised during refueling outages.

14. Check valves 12-027-A-551, 12-029-A-551, 12-031-A-551, and 12-033-A-551 cannot be full stroke exercised during cold shutdown. The utility will investigate methods for full stroke exercising these valves. Utility will provide sufficient justification for not full stroke exercising during power operation, cold shutdown and refueling outages.

15. Utility will investigate alternative methods for full stroke exercising the listed check valves. Open item for NRC to determine if any further action is necessary.

16. Same response as C.11.

17. P&ID 40192 was provided for our review at the working meeting. The utility has agreed to review all containment isolation valves which receive a type C test in accordance with Appendix J, and insure that all applicable valves are incorporated into the IST program.

18. 10-006-C-675 and 10-008-C-675 cannot be full stroke exercised during power operation because the HPSI pumps do not develop sufficient pressure to overcome RCS pressure (the only flow path available to full stroke exercise these valves). During cold shutdown, full stroke exercising could result in a low temperature overpressurization of the RCS. These valves will be full stroke exercised during refueling outages. Valves are partial stroke exercised quarterly.

19. HV-9334 will be changed to a Category A valve in the IST program.

20. Notes 9, 10, and 11 will be deleted from the IST program for valves 3-018-A-551, 3-019-A-551, 3-020-A-551, and 3-021-A-551.

D. Containment Spray System

1. None of the valves contained in the list are locked in position. Note 1 will be removed from the IST program for all valves in this list.

2. Valves HV-9433 and HV-9437 are pressure boundary isolation valves but are not required to be leak rate tested per technical specifications. These valves are normally shut valves which are not required to change position during an accident. They are B passive and will not be included in the IST program.

   Valves 3-157-A-551 and 3-158-A-551 are pressure boundary isolation valves and are leak rate tested per technical specifications. They are also containment isolation valves and are leak rate tested per Appendix J, also.

3. Valve 2-051-C-376 will be changed to valve 2-051-C-611 in the IST program.

4. Valves 2-051-C-611 and 2-053-C-611 are full stroke exercised quarterly via the pump test line. The utility stated that full flow can be verified via this test line.

5. The frequency of the containment spray system test is once every 5 years. Open item for utility to determine method and frequency to full stroke exercise valves 8-004-C-406 and 8-006-C-406.

6. Valves 8-012-C-406, 8-014-C-406, 16-087-C-675, and 16-088-C-675 cannot be full stroke exercised quarterly. During power operation, full stroke exercising of these check valves would require disabling both trains of LPSI. These check valves will be full stroke exercised at a cold shutdown interval during the process of going to cold shutdown (Mode 4).

7. 1-085-C-376 Are B passive and will not be included in the IST
1-086-C-376 program.

Valve 2-159-C-611 will be included in the IST program as a Category C vacuum breaker and tested per the ASME code.

8. Valve HV-9399 will be full stroke exercised quarterly as per the ASME code. This is a 2" valve.

9. Valves 16-087-C-675 and 16-088-C-675 will be changed to Category C in the IST program. See Item D.6, above.

E. Fuel Pool Cooling System

1. 36-110-P-MECH is considered a mechanical closure, not a valve. It will not be included in the IST program.

F. Chemical and Volume Control System

1. Valve HV-9200 is not locked open. Note 1 will be removed from the IST program for this valve. The valve will be fail safe tested during cold shutdown.

2. Valves 9201 and 2-019-A-554 are needed for pressurizer spray for cooling down the pressurizer when reactor coolant pumps are secured. Exercising these valves during power operation would result in unnecessary thermal stress transients to the pressurizer spray nozzel. Open item for utility to determine method and frequency for full stroke exercising these valves.

3. Valves HV-9204 and TV-0221 are pressure boundary isolation valves, but they are not leak rate tested per technical specifications. See Item A.2 for exercising frequency.

4. Check valves 2-020-A-554 and 2-021-A-554 are full stroke exercised quarterly during the charging pump tests. Valve 2-122-C-554 is exercised open quarterly by the charging pump test. To verify closure of this valve, a leak rate test must be performed. This valve will be changed to a Category A/C valve in the IST program as it is leak rate tested per Appendix J. A relief request will be supplied by the utility requesting relief to verify closure during refueling outages when the Appendix J test is performed.

5. Check valves 2-017-C-554, 2-067-C-554, and 2-069-C-554 are full stroke exercised quarterly during the charging pump tests. Closure of check valve 4-015-C-554 cannot be performed during power operation because testing of the valve could result in introduction of highly concentrated boric acid to the reactor coolant system resulting in a plant shutdown. This valve will be exercised shut (it's safety related position) during cold shutdown.

6. Check valves 3-082-C-675, 3-083-C-675, and 6-052-C-675 cannot be full stroke exercised during power operation since this could introduce highly concentrated boric acid to the RCS which could result in a plant shutdown. These check valves will be full stroke exercised during cold shutdown. The exercising will not cause a low temperature overpressurization of the RCS.

7. Valve FV-0210Y does not perform a safety-related function and will not be included in the IST program. Valve 2FV-9253 will be added to the IST program as a Category B valve and full stroke exercised and stroke timed quarterly per the ASME code. Check valve 3-046-Y-675 will be included in the IST program as a Category C valve and verified closed (it's safety related position) quarterly per the ASME code.

8. Valve in question is a passive valve and will be deleted from the IST program.

9. Valves 2-130-C-334 and 2-129-A-554 do perform a safety related function in both the open and closed position. These valves cannot be full stroke exercised during power operation since this would result in placing unnecessary thermal stress transients on the pressurizer spray nozzle. These valves will be full stroke exercised during cold shutdown. Manual valve 2-130-C-334 has remote position indication. These valves are leak rate tested in accordance with Appendix J.

G. Component Cooling Water System

1. Fail safe testing or full stroke exercising of valves HV-6212 and 6213 during power operation could result in isolating reactor coolant pump seal water cooling flow which could result in reactor coolant pump damage and possible plant shutdown. These valves will be fail safe tested and full stroke exercised during cold shutdown. Failure of one of these valves during testing could result in loss of reactor coolant pump seal cooling water flow due to interlocks associated with these valves.

   Valves HV-6293A and B and HV-6522A and B do not perform a safety function and will be deleted from the IST program.

2. Valves HV-6376, 6377, 6378, and 6379 do not perform a safety function and will be deleted from the IST program.

Valves 1 1/2-029-D-691 and 1 1/2-030-D-691 do not perform a safety function and will be deleted from the IST program.

3. Valves HV-6218 and 6219 have the same response as given in Item G.1.

4. All valves listed in this question are passive valves and used for operator convenience only. All valves will either be deleted or not included in the IST program.

5. Check valves 1-265-D-627 and 1-267-D-627 do not perform a safey function and will be deleted from the IST program.

6. Check valves 3-268-D-681 and 3-269-D-681 do not perform a safety function and will be deleted from the IST program.

7. Valves HV-6211 and 6216 will not be full stroke exercised quarterly for the same reasons as given in Item G.1. These valves will be full stroke exercised during cold shutdown.

H. Nuclear Sampling System

1. The listed valves are not closed at all times during power operations. These valves will be full stroke exercised and stroke timed quarterly as per ASME code. Fail safe tests and position indication tests will be performed as required by ASME code. Note 9 will be removed from the IST program for these valves.

2. Valves 1/2-003-C-335 and 1/2-010-C-335 do not perform a safety function and will be deleted from the IST program.

I. Coolant Radwaste System

1. Valves HV-7512 and 7513 are not closed at all times during power operation. These valves will be full stroke exercised quarterly as per the code. Applicable fail safe testing and position indication testing will be performed as per the code.

J. Main Steam System

1. Valves HV-8200 and 8201 are considered to be passive open valves. They are not taken credit for being shut in the accident analysis because the air supply is non-safety grade and these valves fail open. These valves will be deleted from the IST program.

2. Valves HV-8202 and 8203 do not perform a safety function and will be deleted from the IST program.

3. Check valves 4-003-D-620 and 4-005-D-620 do perform a safety-related function in the closed position. Open item for utility to determine method and frequency of verifying valve closure for these check valves. Each check valve will be verified full open quarterly as per the ASME code.

4. Check valves 20-036-C-609 and 20-129-C-609 are required to shut so auxiliary feed will not short circuit into the main feed system. These valves cannot be exercised shut (their safety related position) during power operations since this would result in a loss of feedwater to the steam generators and a plant shutdown. These check valves will be verified shut during cold shutdown.

K. Auxiliary Feedwater System

1. Valves HV-4714 and 4731 will be fail safe tested quarterly as per the ASME code.

   Also, HV-4715 and 4730 cannot be full stroke exercised quarterly because of the possibility of exceeding containment pressure limitations if one of these valves fail during testing. There is a design requirement that these valves remain in automatic mode during power operation. These valves will be full stroke exercised during cold shutdown.

2. Valves 1/2-496-D-617, 1/2-497-D-617, 1/2-498-D-617, and 1/2-499-D-617 do not perform a safety-related function and will be deleted from the IST program.

3. Valve HV-4716 will be included in the IST program as a Category B valve and full stroke exercised quarterly as per the ASME code.

4. P&ID showing valve 6-532-D-598 was reviewed. This valve will be full stroke exercised during cold shutdown. See Item A.2, valve 6-126-D-598, for justification for not exercising this valve during power operation.

Valve 6-547-D-598 will be included in the IST program as a Category C valve. This valve will be full stroke exercised during cold shutdown. See Item A.2, valve 6-121-D-598, for justification for not exercising this valve during power operation.

L. HV&AC (Emergency) System

1. The safety related position of all the listed valves is shut. These valves will remain in the IST program as passive Category A valves, and will not require exercise testing.

2. The valves (HV-7800-7806 and 7810-7811) in the HV&AC (Normal) system will be fail-safe tested along with the full stroke exercising. The utility will supply a relief request stating that valves HV-7800-7803 will be full stroke exercised quarterly unless there is a purge in progress and then the exercising will be performed after the purge is secured. This relief request will only be applicable until the first refueling.

M. Auxiliary Building Emergency Chilled Water System

1. Valve 1 1/2-675-D-145 is a passive valve and will be deleted from the IST program.

N. Miscellaneous Systems

1. P&ID provided for our review at the working meeting. All containment isolation valves which are Appendix J leak rate tested will be included in the IST program. Active Category A and A/C containment isolation valves will be exercised as required or relief requested.

P. Additional Questions

1. Full stroke exercising valve HV-5388 during power operation would isolate instrument air to containment. This could result in a plant shutdown. This valve will be full stroke exercised during cold shutdown.

   Valve HV-5437 will be changed to a Category A valve. This valve will be full stroke exercised quarterly during power operation as per ASME code.

Pump Testing Program

A. General Questions

1. The spent fuel pool pumps do receive power from an emergency power source, but they are not taken credit for in the accident analyses. These pumps will not be included in the IST program.

2. Proper lubricant level or pressure for all applicable pumps is observed.

3. Inlet (IP) and differential pressure (dP) is measured as follows:

   Spray Chemical Addition Pumps

   IP local indication
   dP difference between discharge and inlet pressure gage

Diesel Fuel Transfer Pumps

IP calculated from fuel tank level
dP difference between IP and discharge pressure gage

Salt Water Cooling Pumps

IP calculated from intake structure level
dP difference between IP and discharge pressure gage

Charging Pumps

IP calculated from VCT level and pressure
dP difference between IP and discharge pressure gage

4. Flow rate is measured as follows:

Diesel Fuel Transfer Pumps

This is a fixed resistance system. Utility will measure dP instead of flow rate. Utility will supply a relief request for not measuring flow rate.

Salt Water Cooling Pumps

Using sonic flow measuring device

Auxiliary Feedwater Pumps and Boric Acid Make-up Pumps

Same as for Diesel Fuel Transfer Pumps flow

5. Pump rotational speed is measured for the turbine driven AFP.

6. Auxiliary feed pump P504 installation is completed.

7. Pump relief request no. 1 is applicable and will remain in the IST program. It will reference IWP 3230(b) instead of (c).

8. Vibration is being measured on the diesel fuel transfer pumps as per the code.

INSERVICE TESTING PROGRAM
WORKING MEETING

DOCKET NO.: 50-361

PLANT NAME: SAN ONOFRE UNIT 2

The following signatures indicate that the undersigned have reviewed the attached minutes of the IST working meeting and agree that they reflect the contents of the meeting.

SOUTHERN CALIFORNIA EDISON agrees to provide a revised IST submitted by 6/17/82.

Herbert C Rorsbold DATE: 3/17/82
(NRC/CONSULTANT IST REVIEWER)

James O Reilly DATE: 3/17/82
(LICENSEE/APPLICANT)
REPRESENTATIVE

EG&G Idaho

NOTEGRAM

FORM EG&G-460 A
(Rev. 04-79)

Date December 14, 1981

To A. J. Cappucci From R. E. Lyon/H. C. Rockhold

Org. Engineering Branch Org. Reliability & Statistics Branch

Address NRC-DE Address EG&G Idaho, Inc.

INSERVICE TEST PROGRAM

We have reviewed the inservice test report, drawings, and other submittals by Southern California Edison Company for San Onofre Nuclear Generating Station, Units 2 and 3. Please find attached a list of questions generated by this review.

In order for us to proceed with the San Onofre safety evaluation, it would be helpful for you to arrange a meeting with Southern California Edison Company representatives at an early date.

ss

cc: F. J. Balkovetz
S. J. Bruske
W. H. Hubble
R. E. Ireland, NRC-ID
R. E. Lyon
C. F. Obenchain
H. C. Rockhold
B. F. Saffell

The following are EG&G Idaho, Inc., comments and questions on the in-service testing submittals by Southern California Edison Company. These comments and questions are directed at San Onofre Nuclear Generating Station, Unit Nos. 2 and 3, and are preparatory to a future meeting to be arranged by the NRC with the licensee.

NOTE: Section XI and Appendix J refer to the ASME code and 10 CFR 50, respectively.

QUESTIONS AND COMMENTS CONCERNING THE

SOUTHERN CALIFORNIA EDISON COMPANY IN-SERVICE TESTING

PROGRAM FOR SAN ONOFRE NUCLEAR GENERATING STATIONS

UNITS 2 AND 3

(Ref: Docket Numbers 50-361 and 50-362)

3. Provide maximum stroke times for all category A and B power-operated valves.

4. Are all valves in the IST program, that have the PIT test indicated, inaccessible during power operation?

5. The NRC has taken the position that the licensee is to commence testing as soon as the cold-shutdown condition is achieved but not later than 48 hours after shutdown rather than 72 hours as indicated in Section 2.2(K) of your IST program.

B. Reactor Coolant System

P&ID 40111

1. Indicate the information needed for the IST program listing for valves contained in the Reactor Coolant Gas Vent System.

C. Safety Injection System

P&ID 40112

1. Does valve FV-0306 ever have to close to perform a safety function?

2. Do valves HV-9300 & 9301 have to close during long-term recirculation following a LOCA?

3. Do valves HV-9302, 9303, 9304, and 9305 perform a safety-related function in both the open and closed positions?

4. Should HV-9316 and 14-079-C-173 be identified as category B passive valves with no testing required?

5. Should valve 3-155-C-329 actually be valve 3-155-C-551?

I. VALVE TESTING PROGRAM

A. General Questions

1. Are valves which are referenced with note 7 recorded in a plant record as required by IWV-3414?

2. Provide the technical justification for not full stroke exercising the following valves quarterly.

VALVE	PAGE	VALVE	PAGE
10-024-C-406	(5 of 72)	TV-9267	(25 of 72)
10-025-C-406	(6 of 72)	HV-9217	(26 of 72)
HV-9337	(9 of 72)	HV-9218	(26 of 72)
HV-9339	(9 of 72)	LV-0227B	(26 of 72)
HV-9340	(10 of 72)	LV-0227C	(26 of 72)
HV-9350	(10 of 72)	HV-9235	(29 of 72)
HV-9360	(10 of 72)	HV-9240	(29 of 72)
HV-9370	(11 of 72)	HV-9247	(29 of 72)
HV-9377	(11 of 72)	3-033-D-675	(31 of 72)
HV-9378	(11 of 72)	3-035-D-675	(31 of 72)
8-072-A-552	(12 of 72)	HV-6211	(33 of 72)
8-073-A-552	(12 of 72)	HV-6216	(39 of 72)
8-074-A-552	(12 of 72)	HV-8204	(50 of 72)
8-075-A-552	(12 of 72)	HV-8205	(50 of 72)
HV-9420	(15 of 72)	HV-8419	(50 of 72)
HV-9434	(15 of 72)	HV-8421	(50 of 72)
HV-8150	(17 of 72)	6-124-C-599	(52 of 72)
HV-8151	(18 of 72)	6-448-C-599	(52 of 72)
HV-9200	(24 of 72)	HV-4048	(55 of 72)
HV-9204	(24 of 72)	HV-4052	(55 of 72)
HV-9205	(24 of 72)	6-121-D-598	(56 of 72)
TV-0221	(24 of 72)	6-126-D-598	(57 of 72)

6. How are the following check valves partial stroke exercised during normal operation?

4-012-C-358
4-015-C-358
4-016-C-358
4-017-C-553

7. Will valves HV-8152 & 8153 be full stroke exercised during cold shutdowns?

8. Provide the specific technical justification for never full stroke exercising the following check valves.

16-077-C-645
16-084-C-645
24-001-C-724
24-002-C-724
24-003-C-724
24-004-C-724

P&ID 40113

9. Are valves HV-9334 and 2-099-C-334 ever opened during power operation?

10. Do any of the following valves perform a pressure boundary isolation function?

HV-9337
HV-9339
HV-9377
HV-9378
3-018-A-551
3-019-A-551
3-020-A-551
3-021-A-551
3-156-A-551
8-072-A-552
8-073-A-552
8-074-A-552
8-075-A-552
12-027-A-551
12-029-A-551
12-031-A-551
12-033-A-551
12-040-A-551
12-041-A-551
12-042-A-551
12-043-A-551

11. Are valves HV-9341 and 9361 ever open during power operation?

12. What is the safety-related function of the following valves?

HV-9345	HV-9365
HV-9355	HV-9375

13. How are the following check valves partial stroke exercised during power operation?

3-018-A-551
3-019-A-551
3-020-A-551
3-021-A-551

14. How are the following valves full stroke exercised during cold shutdowns?

12-027-A-551	12-031-A-551
12-029-A-551	12-033-A-551

15. What alternative tests have been considered to verify full stroke exercising of the following valves?

12-040-A-551	12-042-A-551
12-041-A-551	12-043-A-551

16. Review the safety-related function of valves HV-9351 and 9371 (F-3 and B-3) to determine if they should be included in the IST program and categorized B.

17. Provide P&ID 40192 for our review at the working meeting.

D. Containment Spray System

P&ID 40114

1. Does locking the following valves defeat their safety-related function?

FV-0318
FV-0328

HV-9306
HV-9307
HV-9347
HV-9348
HV-9367
HV-9368
HV-9398
HV-9399

2. Do the following valves perform a pressure boundary isolation function?

HV-9433	3-157-A-551
HV-9437	3-158-A-551

3. Should valve 2-051-C-376 actually be valve 2-051-C-611?

4. How are valves 2-051-C-611 and 2-053-C-611 full stroke exercised quarterly?

5. What is the frequency of the technical specification required containment spray system test?

6. How are check valves 8-012-C-406, 8-014-C-406, 16-087-C-675, and 16-088-C-675 full stroke exercised quarterly?

7. Review the safety-related function of the following valves to determine if they should be included in the IST program and categorized as follows:

Category B (Passive)	Category C
1-085-C-376 (G-6)	2-159-C-611 (H-7)
1-086-C-376 (F-6)	

E. Fuel Pool Cooling System

P&ID 40122

1. Review the safety-related function of valve 36-110-P-MECH (D-4) to determine if it should be included in the IST program and categorized A.

F. Chemical & Volume Control System

P&ID 40123

1. How can valve HV-9200, which is locked open, perform a containment isolation function? Also, why is this valve fail safe tested during refueling instead of during cold shutdown?

2. What is the safety-related function of valves HV-9201 and 2-019-A-554?

3. Do valves HV-9204 and TV-0221 perform a pressure boundary isolation function?

4. How are check valves 2-020-A-554, 2-021-A-554, and 2-122-C-554 full stroke exercised quarterly? Additionally, valve 2-122-C-554 should be categorized A instead of B.

P&ID 40124

5. How are the following check valves full stroke exercised quarterly?

   2-017-C-554
   2-067-C-554
   2-069-C-554
   4-015-C-675

6. Could exercising the following check valves during cold shutdown, result in a low temperature over pressurization of the RCS?

   3-082-C-675
   3-083-C-675
   6-052-C-675

P&ID 40125

7. Is valve FV-0210Y always closed during power operation?

8. Should valve 3-034-D-675 actually be valve 3-034-D-212?

G. Component Cooling Water System

P&ID 40126

1. Why are the following valves full stroke exercised quarterly, but not fail safe tested quarterly?

   HV-6212
   HV-6213
   HV-6293B
   HV-6522B

2. Are the following valves always open or closed during power operation?

HV-6376 (open)	1½-029-D-691 (closed)
HV-6377 (open)	1½-030-D-691 (closed)
HV-6378 (open)	
HV-6379 (open)	

P&ID 40127

3. Provide the detailed technical basis for not exercising valves HV-6218 and 6219 during power operation.

4. Review the safety-related function of the following valves to determine if they should be category B active valves and exercised quarterly.

HV-6221	HV-6229
HV-6222 A&B	HV-6551
HV-6224 A&B	HV-6552
HV-6227	

   Additionally, review the following valves to determine if they should be included in the IST program as category B active.

   HV-6226 A&B (F-4)
   HV-6228 A&B (E-4)
   HV-6220 (E-6)

5. What is the safety-related function of check valves 1-265-D-627 and 1-267-D-627?

6. What is the safety-related function of check valves 3-268-D-681 and 3-269-D-681?

H. Nuclear Sampling System

P&ID 40128

1. Are the following valves closed at all times during power operations?

HV-0508	HV-0512
HV-0509	HV-0513
HV-0510	HV-0515
HV-0511	HV-0517

2. What is the safety-related function of valves ½-003-C-335 and ½-010-C-335?

I. Coolant Radwaste System

P&ID 40131

1. Are valves HV-7512 and 7513 closed at all times during power operation?

J. Main Steam System

P&ID 40141

1. Do valves HV-8200 and 8201 receive any engineered safety features signals requiring them to shut?

2. Are valves HV-8202 and 8203 always shut during power operation?

3. Do check valves 4-003-D-620 and 4-005-D-620 perform any safety-related function in the closed position.

4. What is the safety-related function of check valves 20-036-C-609 and 20-129-C-609?

K. Auxiliary Feedwater System

P&ID 40160

1. Provide the technical justification for not fail safe testing valves HV-4714 and 4731 during power operation.

2. What is the safety-related function of the following valves?

½-496-D-617	½-498-D-617
½-497-D-617	½-499-D-617

L. HV & AC (Emergency) System

P&ID 40172

1. Do the following valves perform safety-related functions in both the open and closed positions?

HV-0500	HV-9917
HV-0501	HV-9918
HV-0502	HV-9945
HV-0503	HV-9946

M. Auxiliary Building Emergency Chilled Water System

P&ID 40179

1. Should valve 1½-675-D-195 actually be valve 1½-675-D-145?

N. Miscellaneous Systems

1. Provide P&IDs at the working meeting that show containment penetrations (if any) for the following systems:

   a. Service Air
   b. Instrument Air
   c. Nitrogen Gas

II. PUMP TESTING PROGRAM

A. General Questions

1. Do the spent fuel pool pumps receive power from an emergency power source?

2. Is proper lubricant level or pressure for all applicable pumps observed per Table IWP-3100-1?

3. How is inlet and differential pressure measured for the following pumps?

   Spray Chemical Addition Pumps
   Diesel Fuel Transfer Pumps
   Salt Water Cooling Pumps
   Charging Pumps

4. How is flow rate measured for the following pumps?

   Diesel Fuel Transfer Pumps
   Salt Water Cooling Pumps
   Auxiliary Feedwater Pumps
   Boric Acid Make-up Pumps

5. Is pump rotational speed measured for the turbine driven auxiliary feedwater pump?

6. When is installation expected to be completed for auxiliary feedwater pump, P504?

7. Pump relief request no. 1 is not required since the alternate testing appears to satisfy the requirements of IWP-3230 (C).

SAN ONOFRE UNIT 2 ADDITIONAL QUESTIONS

The following list of questions was generated by comparing the San Onofre Unit 2 IST program, dated March 3, 1982, to the program, dated September 11, 1980. These questions are for additional clarification of the changes made to the original program we reviewed.

VALVE TESTING PROGRAM

A-6 Introduction paragraph 8.2 - Appendix C Valves, does not address Category C check valves.

C-18 Provide the specific technical justification for not full stroke exercising check valves 10-006-C-675 and 10-008-C-675 during power operation or cold shutdown.

C-19 Why was valve HV-9334 changed from Category A to B?

C-20 Why were notes 9, 10 and 11 added for valves 3-018-A-551, 3-019-A-551, 3-020-A-551 and 3-021-A-551?

D-8 Why was the exercising frequency for valve HV-9399 changed from "OP" to "CS"? Is this valve an 8" or 2" valve?

D-9 Should valves 16-087-C-675 and 16-088-C-675 be categorized C?

F-9 Do valves 2-130-C-334 and 2-129-A-554 perform a safety function in the closed position? Why is a PIT performed on 2-130-C-334? Are these valves leak rate tested per Appendix J or ASME Section XI?

G-7 Is valve HV-6211 full stroke exercised during power operation?

K-3 Why was valve HV-4716 deleted from the IST program?

K-4 Provide P&ID showing valve 6-532-D-598 for our review.

L-2 Why was the FST deleted from valves HV-7800, 7801, 7803, etc?

P-1 Provide P&IDs 40191 and 40192 for our review.

PUMP TESTING PROGRAM

A-8 How is vibration measured on the diesel fuel transfer pumps?