



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

Docket No. 50-362

FEB 15 1985

MEMORANDUM FOR: Dennis F. Kirsch, Acting Director  
Division of Reactor Safety and Projects, Region V

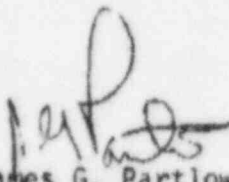
FROM: James G. Partlow, Director  
Division of Inspection Programs  
Office of Inspection and Enforcement

SUBJECT: PLANT OPERATIONS AND SURVEILLANCE PROGRAM INSPECTIONS BY  
IE PERSONNEL - SAN ONOFRE UNIT 3

This memorandum is sent with the intent of providing supplemental information to the J. G. Partlow memorandum to D. F. Kirsch of February 13, 1985. The complete information as to inspection team makeup is as follows:

<u>Name</u>	<u>Badge No.</u>	<u>Social Security Number</u>
* Leonard J. Callan	A-3052	458-72-8770
Dennis J. Sullivan, Jr.	A-3304	550-42-0201
Scott A. McNeil	A-3476	216-72-2715
James T. Conway	A-3075	517-44-8204

\* Team Leader

  
James G. Partlow, Director  
Division of Inspection Programs  
Office of Inspection and Enforcement

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XA



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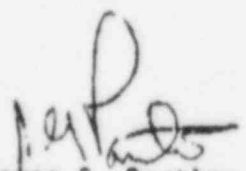
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James G. Partlow, Director  
Division of Inspection Programs  
Office of Inspection and Enforcement

PROCEDURE MODIFICATION PERMIT

TCN 2-1

Permit No. 1

Unit ☒ 2 ☐ 3 ☐ Common

Page 1 of 2

NOTE:

This document will be used to authorize procedure modifications and document the appropriate review and approval.

1. Affected procedure number 5023-5-1.3 Rev. or TCN 11
2. On page 2 Provide details of the modification. Line through all spaces in Section 2.1 that were left blank.
3. Re-evaluation and approval of this permit is required if plant conditions affecting the indicated Step(s) change.
4. Does this permit pose an unreviewed safety question per 10 CFR 50.59; i.e., does it increase the probability of occurrence or the consequences of an accident; create the possibility of a different accident; or reduce the Tech. Spec. margin of safety? YES ☐ NO ☒  
If yes, then a procedure modification is not authorized.

PREPARED BY: Theodore J. Vogt 2-15-85 1330  
Date Time

INITIAL APPROVAL

Reviewed and Approved By:

[Signature]  
Plant Management Staff - Operations

2-15-85  
Date

13:46  
Time

[Signature]  
Senior Reactor Operator

2-15-85  
Date

14:00  
Time

Initial Approval required prior to use

FINAL APPROVAL

Reviewed and Approved By:

[Signature]  
Manager, Operations

2/29/85  
Date

1200  
Time

Final Approval shall be within fourteen days of Initial Approval

Dupe  
8508/50103

PROCEDURE MODIFICATION PERMIT

TCN 2-1

Permit No. 1

Unit ☒ 2 ☐ 3 ☐ Common

Page 2 of 2

Affected procedure number 5023-5-1.3 Rev. or TCN 11

1.0 PREREQUISITES

INITIALS/DATE

- 1.1 Prior to use of an uncontrolled (pink) copy of this Station Document to perform work, verify that it is current by checking a controlled copy and any TCNs or by use of the method described in 50123-VI-0.9

TRG, 2-15-85

- 1.1.1 List any applicable TCNs or write N/A.

N/A

TRG, 2-15-85

2.0 PROCEDURE

- 2.1 List the step(s) to be modified, describe the modification, and reason for making it:

Step Number (s)	Modification Description	Reason For Modification	SRO Ops. Supv. Init.
6.17.2.1	Delete "(MARK NA IF previously completed in 5023-3-1.4)"	SIGNOFF IN 5023-3-1.4 does not ensure the ITC Procedure is completed.	<u>TRG</u>

File Disposition: After Initial Approval, attach original to affected procedure or attachment and send a copy of the permit to the Ops. Procedures Supervisor.

Sent to Ops. Proc. Supv. \_\_\_\_\_ (C.O. Initials)



PROCEDURE MODIFICATION PERMIT

TCN 2-1

Permit No. 1

Unit ☒ 2 ☐ 3 ☐ Common

Page 1 of 2

NOTE: This document will be used to authorize procedure modifications and document the appropriate review and approval.

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3. Re-evaluation and approval of this permit is required if plant conditions affecting the indicated Step(s) change.
4. Does this permit pose an unreviewed safety question per 10 CFR 50.59; i.e., does it increase the probability of occurrence or the consequences of an accident; create the possibility of a different accident; or reduce the Tech. Spec. margin of safety? YES ☐ NO ☒  
If yes, then a procedure modification is not authorized.

PREPARED BY: Theodore J. Vogt 2-15-85 1330  
Date Time

INITIAL APPROVAL

Reviewed and Approved By:

[Signature]  
Plant Management Staff - Operations

2-15-85  
Date

13:46  
Time

[Signature]  
Senior Reactor Operator

2-15-85  
Date

14:00  
Time

Initial Approval required prior to use

FINAL APPROVAL

Reviewed and Approved By:

[Signature]  
Manager, Operations

2/29/85  
Date

1800  
Time

Final Approval shall be within fourteen days of Initial Approval

PROCEDURE MODIFICATION PERMIT

TCN 2-1

Permit No. 1

Unit ☒ 2 ☐ 3 ☐ Common

Page 2 of 2

Affected procedure number SO23-5-1.3 Rev. or TCN 11

1.0 PREREQUISITES

INITIALS/DATE

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TRG / 2-15-85

- 1.1.1 List any applicable TCNs or write N/A.

N/A

TRG / 2-15-85

2.0 PROCEDURE

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Step Number (s)	Modification Description	Reason For Modification	SRO Ops. Supv. Init.
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File Disposition: After Initial Approval, attach original to affected procedure or attachment and send a copy of the permit to the Ops. Procedures Supervisor.

Sent to Ops. Proc. Supv. \_\_\_\_\_ (C.O. Initials)

Permit No. 1

PROCEDURE MODIFICATION PERMIT

TCN 2-1

Unit ☒ 2 ☐ 3 ☐ Common

Page 1 of 2

NOTE: This document will be used to authorize procedure modifications and document the appropriate review and approval.

1. Affected procedure number 5023-3-2.7 <sup>Att. 8.9</sup> Rev. or TCN 7-8
2. On page 2 Provide details of the modification. Line through all spaces in Section 2.1 that were left blank.
3. Re-evaluation and approval of this permit is required if plant conditions affecting the indicated Step(s) change.
4. Does this permit pose an unreviewed safety question per 10 CFR 50.59; i.e., does it increase the probability of occurrence or the consequences of an accident; create the possibility of a different accident; or reduce the Tech. Spec. margin of safety? YES ☐ NO ☒  
If yes, then a procedure modification is not authorized.

PREPARED BY: Theodore J. Vogt 2-12-85 1030  
Date Time

INITIAL APPROVAL

Reviewed and Approved By:

Theodore J. Vogt  
Plant Management Staff - Operations

2/12/85  
Date

1035  
Time

W. J. Bennett  
Senior Reactor Operator

2/12/85  
Date

1100  
Time

Initial Approval required prior to use

FINAL APPROVAL

Reviewed and Approved By:

W. J. Bennett for H. E. Morgan  
Manager, Operations

2/19/85  
Date

1100  
Time

Final Approval shall be within fourteen days of Initial Approval

PROCEDURE MODIFICATION PERMIT

TCN 2-1

Permit No. 1

Unit ☒ 2 ☐ 3 ☐ Common

Page 2 of 2

Affected procedure number SO23-3-2.7 At. 8.9 Rev. or TCN 7-8

1.0 PREREQUISITES

INITIALS/DATE

- 1.1 Prior to use of an uncontrolled (pink) copy of this Station Document to perform work, verify that it is current by checking a controlled copy and any TCNs or by use of the method described in SO123-VI-0.9

- 1.1.1 List any applicable TCNs or write N/A.

2-1

JP 1/2/2/85

JP 1/2/2/85

2.0 PROCEDURE

- 2.1 List the step(s) to be modified, describe the modification, and reason for making it:

Step Number (s)	Modification Description	Reason For Modification	SRO Ops. Supv. Init.
2.1.1 THRU 2.1.6	PLACE NA IN INITIALS BLOCK	HPSE 2P-018 currently aligned to Train A, except discharging valve needs to be opened	<u>JPB</u>
2.1.13 THRU 2.1.24	PLACE NA IN INITIALS BLOCK	ONLY PURPOSE OF PMP IS TO OPEN DISCHARGE VALVE	<u>JPB</u>
Step 2.2 THRU Step 2.3	PLACE N/A IN INITIALS BLOCK	HPSE 018 Being aligned to Train A	<u>JPB</u>

File Disposition: After Initial Approval, attach original to affected procedure or attachment and send a copy of the permit to the Ops. Procedures Supervisor.

Sent to Ops. Proc. Supv. \_\_\_\_\_ (C.O. Initials)

RECEIVED

FEB 15 1985

PAUL A. CROY, P.E.

AC30  
S02/3

February 15, 1985

RECEIVED

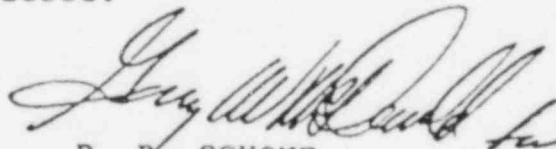
FEB 18 1985

R. W. KRIEGER

R. W. KRIEGER

SUBJECT: SCE Corrective Action Request (CAR) S023-P-739  
Incomplete CPC Addressable Constants Change Log Sheets  
San Onofre Nuclear Generating Station, Units 2 and 3

Attached is a copy of the subject Corrective Action  
Request. This item is considered closed.



D. B. SCHONE

GCLulias:fa  
Attachment

cc: H. E. Morgan  
P. A. Croy  
L. L. Seyler  
G. W. McDonald  
F. B. Schmoldt  
S. D. Endsley  
B. Turpeau  
G. C. Lulias  
V. B. Fisher  
J. A. Harmon  
D. B. Schone/Site QA File  
R. M. Williams, CAR Coordinator  
QA Specialist/GO File  
G. J. Legner/SOCR  
QAIS  
CDMC

2690Q

## CORRECTIVE ACTION REQUEST

Subject San Onofre Nuclear Gen. Station Unit 2 & 31. NUMBER  
S023-P-739

REV.

0

2. DATE

12/11/84

## 3. ITEM/SYSTEM DESCRIPTION

Incomplete CPC Addressable Constants Change Log Sheets

## 4. SUPPLIER/ORGANIZATION NAME, ADDRESS

Southern California Edison  
San Onofre Nuclear Generating Station  
San Clemente, California 92672

## 5. P.O./SPECIFICATION NO.

N/A

## 6. DESCRIPTION OF CONDITION

Operating Instructions S02-3-2.13/S03-3-2.13, Rev. 0, Attachment 8.3, states in part, "Addressable Constants Change Log shall contain all changes past and current, SPO Operations Supervisor's approval, channel designation, Point ID, and the latest authorized entered value."

(Continued on Page Two)

## 7. CONDITION NOTED IN:

QA Audit Report SCES-084-84

## 8. INITIATOR

G. C. Lulias *gcl*

## DATE

12/19/84

## 9. THE ABOVE CONDITION REQUIRES YOUR PROMPT ATTENTION FOR CORRECTION OR RESOLUTION

## REPLY DUE DATE

REPLY REQUESTED FROM: R. W. Krieger/H. E. Morgan

01/31/85

## 10. ACTION TAKEN TO RESOLVE PROBLEM

Page 3 of 3

## 13. CAUSE OF CONDITION

Page 3 of 3

## 14. SIGNATURE

## TITLE

## DATE

H. E. Morgan, Mgr. Operations

## 11. EFFECTIVITY DATE

Page 3 of 3

## 12. SIGNATURE

## TITLE

## DATE

H. E. Morgan, Mgr. Operations

## 15. CORRECTIVE ACTION TO PREVENT RECURRENCE

Page 3 of 3

## 16. CORRECTIVE ACTION

ACCEPTABLE *gcl*☒ YES ☐ NO (SEE NO.)

SCS SA

DATE

## 17. CORRECTIVE ACTION IMPLEMENTATION VERIFIED

G. C. Lulias

QA ENGINEER

DATE 1/17/85

## 18. REMARKS/REFERENCES

Verified Addressable Constants Change Logs are completed in accordance with Operating Instructions S02-3-2.13/S03-3-2.13, requirements to adhere to the procedures noted were initiated and documented on time, U.C. logs to all On-Shift Operations Personnel by 2 and 3, dated February 4, 1985

## 21. QA FINAL REVIEW (CAP CLOSED)

## 22. DISTRIBUTION

*Ray W. Krieger*  
SCS SA

DATE 2/14/85

## 23. FOR DOCUMENTATION CONTROL CENTER USE

## 24. QA TREND CODE

See Page Two

5



BLOCK 6

Contrary to the above requirements, the following deficiencies were noted:

1. Log is not always completed as outlined by governing procedures S02-3-2.13/S03-3-2.13.
2. Items carried forward are not always identified.
3. Item not carried forward (CPC Channel C, Unit 2, Point 1D 062)
4. SRO Operations Supervisor's initials are missing in several instances, i.e. Unit 3 - CPC Channel D, Point 1D 62  
CPC Channel D, Point 1D 64  
CPC Channel A, Point 1D 65  
CPC Channel B, Point 1D 65  
CPC Channel C, Point 1D 65  
CPC Channel D, Point 1D 65, etc.
5. Pages "carried forward" do not have the corresponding full page in the superceded section of the log.

BLOCK 22

J. M. Curran  
P. A. Croy  
L. L. Seyler-C  
P. R. King  
G. W. McDonald  
F. B. Schmoldt  
C. A. Berg  
S. D. Endsley  
C. A. Olson  
G. C. Lulias  
V. B. Fisher  
J. A. Harmon  
D. B. Schone/Site QA File  
R. M. Williams/CAR Coordinator  
QA Specialist/GO File  
G. J. Legner/SOCR  
QAIS  
CDMC

BLOCK 10

The deficiencies noted in Block 6 of the subject CAR have been reviewed. Item #4 denotes the absence of SRO Operations Supervisor's initials on several Core Protection Calculator (CPC) Addressable Constants Change Logs. Operations has determined that the missing signatures did not affect plant integrity.

BLOCK 11

January 31, 1985

BLOCK 13

Oversight and the lack of procedural adherence by Operations personnel resulted in the deficiencies noted in Block 6.

BLOCK 15

Training will be conducted during pre-shift briefings reiterating the requirements of Operating Instruction S02-3-2.13/S03-3-2.13, "Core Protection/Control Element Assembly Calculator Operation." The subject CAR will be used to provide examples of the deficiencies.

BLOCK 16

March 5, 1985



- Filling and venting of the Unit 3 reactor coolant system (Operating Instruction S023-3-1.4).
- Integrated test of the Unit 2 engineered safety features system following refueling (Operator Surveillance Test S023-3-3.12).

Specific inspector findings are discussed below:

a. Administrative Control of Core Protection Calculator (CPC) Addressable Constants (Unit 3)

The inspector reviewed Operating Procedure S03-3-2.13, "Core Protection/Control Element Assembly Calculator Operation," and reviewed the CPC Addressable Constant Logs (one each of the four CPC channels) for Unit 3 to determine if adequate administrative controls were present for the CPC addressable constants. The inspector determined that the procedural guidance provided for the administration of the CPC Addressable Constant Logs appeared to be weak, as evidenced by the significant number of entries that had been lined out and corrected without any indication as to when the corrections were made or if the corrected values had received the same level of approval as the original entry. These CPC Addressable Constant Logs are used by operations personnel to record the values of the various constants (addressable constants) that are inputs for the CPC determination of the Departure from Nucleate Boiling Ratio (DNBR) and Local Power Density (LPD) setpoints for use in the Plant Protection System (PPS). This item will remain open pending the upgrading of the administrative controls over the CPC Addressable Constant Logs (361/85-09-01, 362/85-08-01).

b. Reporting of Plant Chemistry Analysis Results

The inspector identified a concern regarding the licensee's method of reporting plant chemistry analysis results to on-shift operations personnel. Specifically, observations of control room practices and review of Procedure S0123-III-0.4.4, "Communicating of Chemistry Conditions as Chemistry Memo", demonstrated that the Operations Shift Superintendent is provided only the results of a chemistry analysis without the inclusion of acceptance criteria (limits) or without any trending information, such as, previous analysis results. As a result, the Shift Superintendent is not provided the ability to make an independent judgement regarding the operational significance of plant chemistry results, but instead must rely solely on the recommendations from plant chemistry personnel to initiate corrective measures for abnormal chemistry conditions. This matter was discussed with licensee management representatives who indicated that their chemistry reporting practices would be reviewed to determine if the transmission of additional data to the on-shift operations personnel would be appropriate.

Open Item

## 3.0 PREREQUISITES

UNIT 2

INITIALS / DATE

- 3.1 Prior to use of an uncontrolled (pink) copy of this Station Document to perform work, verify that it is current by checking a controlled copy and any TCNs; or by use of the method described in SO123-VI-0.9.

WJR 12/12/85

- 3.1.1 List any applicable TCNs or write none.

NoneWJR 12/12/85

- 3.2 On-Shift SRO Ops. Supv. approval obtained.  
(SRO Ops. Supv. Initials)

WJR 12/12/85

- 3.3 In order to safely and efficiently start up a unit, equipment deficiencies shall be reviewed to identify impact on the startup and corrective action initiated to minimize the impact. Particular attention must be paid to equipment protective circuits, control schemes and Control Room indications. A careful inspection of control board tags and control system status shall be made. Equipment deficiencies affecting the startup sequence shall be listed and the Plant Superintendent, or his designee, shall review the list indicating which items must be corrected prior to performing the impacted evolution. For example, if the automatic Gland Steam Pressure Regulating System was unavailable, the Superintendent, or his designee, would decide whether the startup should be held pending repair and testing of the Gland Steam System Controls or approve proceeding with the startup using manual control of gland steam pressure. This evaluation of degraded equipment availability should initially be performed in parallel with the verification or performance of system alignments to support startup and re-evaluated prior to commencing major evolutions such as heatup, vacuum pull, criticality and turbine roll.

- 3.4 The Auxiliary electrical buses are energized.

WJR 12/13/85

- 3.5 The Plant Protection System is energized and the RPS/ESFAS PZR pressure bypass key locks are in BYPASS.

WJR 12/14/85

- 3.6 If the RWST level is below 80%, then the RAS has been suppressed to prevent loss of shutdown cooling while filling the RCS. (N/A if RWST  $\geq$  80%)

N/A

- 3.7 Ensure the Condensate Storage and Transfer System has been aligned per SO23-9-5, Attachment 3 (4), Condensate Storage and Transfer System Alignment.

WJR 12/14/85

3.0 PREREQUISITES (Continued)

INITIALS / DATE

- 3.8 Ensure the Demin. Water Storage Facility has been aligned per S023-11-6, Attachment 1, Demin. Water Storage Facility Initial Alignment.
- 3.9 Level in the Condensate Storage Tanks is above T.S. Limits of 97% for T-121 and above 56% for T-120 or makeup operations are in progress per S023-9-5. (Level requirements must be attained for Mode 3 entry.)
- 3.10 At least 30,000 gallons of capacity exists in the radwaste primary tanks to receive radwaste due to unit heatup, or Radwaste Processing is in progress to provide the required capacity.
- 3.11 The Charging Pump pulsation dampeners are charged to the pressures stated in S023-3-2.1, Attachment 7, CVCS Pulsation Dampener Operation.

WJK 12/14/85

WJK 12/14/85

WJK 12/14/85

WJK 12/14/85

4.0 PRECAUTIONS

- 4.1 (UNIT 3 ONLY) A RCS heatup of 8°F in any one hour shall not be exceeded when cold leg temperature is < 110°F. (This is 2°F more restrictive than Ref. 2.1.1, 3.4.8.1.)
- 4.2 A RCS heatup rate of 25°F in any one hour shall not be exceeded when cold leg temperature is < 300°F (< 330°F for Unit 3). (This is 5°F more restrictive than Ref. 2.1.1, 3.4.8.1.)
- 4.3 A RCS heatup of 50°F in any one hour shall not be exceeded when cold leg temperature is above 300°F (330°F for Unit 3). (This is 10°F more restrictive than Ref. 2.1.1, 3.4.8.1.)
- 4.4 The Pressurizer heatup rate shall not exceed 190°F in any one hour. (This is 10°F more restrictive than Ref. 2.1.1, 3.4.8.2.)
- 4.5 In Mode 5 with RCS Loops filled, at least one RCP or SDC Pump shall be in operation and one of the following additional requirements must be met: (References 2.1.1, 3.4.1.4.1)
- 4.5.1 One additional RCS Loop or SDC Train is operable or
- 4.5.2 The water level is  $\geq$  50% WR in each S.G.

4.0 PRECAUTIONS (Continued)

- 4.6 In Mode 4, a RCP or SDC Pump shall be operating and a second RCP/Loop or SDC Pump shall be operable at all times except all RCPs and SDC Pumps may be de-energized for up to one hour provided: (1) no operations are permitted that would cause dilution of the RCS boron concentration; and (2) core outlet temperature is maintained at least 10°F below saturation temperature (Ref. 2.1.1, 3.4.1.3).
- 4.7 Shutdown Cooling System LTOP relief shall not be isolated from the RCS until RCS cold leg temperatures are greater than 240°F (290°F for Unit 3). (This is 5°F more restrictive than Ref. 2.1.1, 3.4.8.3.1.)
- 4.8 The RCS chemistry shall be maintained within the following limits: (Ref. 2.1.1, 3.4.6)
- |                  |                                |
|------------------|--------------------------------|
| Chloride         | < 0.15 ppm                     |
| Fluoride         | < 0.15 ppm                     |
| Dissolved Oxygen | < 0.10 ppm (with Tave > 250°F) |
- 4.9 The following restrictions shall be observed when starting a Reactor Coolant Pump:
- 4.9.1 With the Steam Generators between zero and 10°F above the Primary System Temperature, then Pressurizer Level shall be less than 60%.
- 4.9.2 With the Steam Generators between 10 and 20°F above the Primary System Temperature, then Pressurizer Level shall be less than 33%. (This is 80°F to 90°F more restrictive than Ref. 2.1.1, 3.4.1.3.)
- 4.10 Starting a RCP is prohibited when the Steam Generators are greater than 20°F above the Primary System Temperature. (Analysis has shown that the resultant pressure rise may challenge the LTOP setpoint regardless of the size of the Pressurizer Bubble)
- 4.11 Due to core uplift considerations, four RCPs shall not be operated simultaneously until RCS temperature exceeds 500°F.
- 4.12 RCS temperature shall not exceed 350°F, or a pressure of 375 psia when Shutdown Cooling is in-service.
- 4.13 RCS Temperature shall not exceed 340°F until Steam Generator secondary chemistry is within limits.
- 4.14 At least 2 Reactor Coolant Pumps must be in operation for normal operation of Pressurizer Spray (Reference 2.4.1.2).

4.0 PRECAUTIONS (Continued)

- 4.15 With the RCS in a solid condition, starting or stopping a Charging or LPSI pump can lead to pressure transients and lifting of SDCS pressure relief valve PSV-9349. RCS pressure transients of this type may be avoided by manually operating PIC-0201 prior to changing the status of a Charging or LPSI pump and closely monitoring RCS pressure immediately after the pump status is changed.
- 4.16 If venting the VCT, RCDT or Quench Tank becomes difficult, it may be necessary to drain the Waste Gas Collection Header in accordance with SO23-8-14, Section 6.1, Initial System Lineup.
- 4.17 Caution must be exercised to ensure all prerequisites for a mode change are met prior to changing modes.
- 4.18 Pressurizer Spray Valves PV-0100A and PV-0100B should be closed prior to RCP start.
- 4.19 Prior to establishing a Hydrogen blanket on the VCT, the potentially connected systems must be purged with Nitrogen and sampled to ensure Oxygen is less than 1%. Included are the Gas Strippers, Waste Gas Surge Tank and In-service Waste Gas Storage Tank.
- 4.20 When withdrawing CEAs to the Lower Electrical Limit during heatup, do not exceed 4.5 inches.

5.0 CHECKLIST(S)

5.1 None

6.0 PROCEDURE

6.1 Prepare the Condensate, Feedwater, and Main Steam System for operation as follows:

- 6.1.1 Determine if the Condensate and Feedwater Systems are available for operation. (Check one)

☐ Yes, perform step 6.1.1.1.☒ No, mark N/A for step 6.1.1.1.

- .1 Initiate prestart recirculation/ cleanup of the Condensate and Feedwater Systems per SO23-9-7.

6.1.2 Initiate Main Steam lead alignment per SO23-2-9.

INITIALS / DATE

SRO/Op. Supv.

N/A

WPK 12/14/85



## 6.0 PROCEDURE (Continued)

INITIALS / DATE

- 6.2 Indicate which Steam Generator(s) the Chemistry Dept. has directed to be drained and refilled.  
(Check one)

SRO Ops. Supv.

☐ S.G. E-088 and E-089, perform step 6.2.1

☐ S.G. E-088 only, perform step 6.2.1

☐ S.G. E-089 only, perform step 6.2.1

☒ Neither Steam Generator, mark N/A for step 6.2.1

- 6.2.1 Initiate draining and refilling the indicated Steam Generator(s) per S023-2-18<sup>1</sup>.

N/A

- 6.3 Initiate Attachment 1 (2) to prepare systems for Mode 4 entry.

- 6.4 Determine the initial conditions for entering this procedure: (Check one)

WJK 2/14/85

SRO Ops. Supv.

☐ The RCS is at 350 psia, the Pressurizer has a steam bubble, and two RCP's are running. Mark N/A for all steps in Sections 6.5 through 6.9, except steps 6.6.6, 6.6.8 and Section 6.8.

☒ The RCS is not at 350 psia, or the Pressurizer does not have a steam bubble, or two RCP's are not running. Perform steps in the normal sequence.

- 6.5 Initiate S023-3-1.4 to fill and vent the RCS. (Mark N/A if the Pressurizer is solid or a Pressurizer steam bubble has been maintained.)

WJK 2/14/85

<sup>1</sup> If the S/G's are meeting the requirements of Tech. Spec. 3.4.1.4.1, then limit draining to not less than 50% WR otherwise limit to 10% WR (Reference 2.4.1.5)

6.0 PROCEDURE (Continued)INITIALS / DATE

NOTE: It is desirable to draw the bubble after completing three pump sweeps and prior to completing the fill and vent procedure in order to:

- 1) Minimize the time the RCS is in a solid condition. If transients did occur, the plant would be less sensitive and easier to control with a bubble.
- 2) Commence recirculating the Pressurizer to the RCS early in the startup to equalize chemistry.
- 3) Use time efficiently to prepare for subsequent heatup.

6.6 Indicate the Presurizer status  
(Check one):

SRO Ops. Supv.

☐ Pressurizer is solid at \_\_\_\_\_ psia; when directed by S023-3-1.4 to form a steam bubble, perform steps 6.6.1 through 6.6.8.

☐ Pressurizer has a steam bubble; mark N/A for steps 6.6.1, 6.6.3, 6.6.4 and 6.6.5

NOTE: Expected Pressurizer heatup rate is 50°F/hr which corresponds to 4.5 hours of preheat time prior to forming the steam bubble if the RCS is at 150 psia, or 6 hours if the RCS is at 350 psia.

CAUTION  
===== The Pressurizer heatup rate shall not exceed 190°F in any one hour. (This is 10°F more restrictive than Ref. 2.1.1, 3.4.8.2).

## 3.0 PREREQUISITES

UNIT 2

INITIALS / DATE

- 3.1 Prior to use of an uncontrolled (pink) copy of this Station Document to perform work, verify that it is current by checking a controlled copy and any TCNs; or by use of the method described in SO123-VI-0.9. WJR 12/12/85
- 3.1.1 List any applicable TCNs or write none. None WJR 12/12/85
- 3.2 On-Shift SRO Ops. Supv. approval obtained.  
(SRO Ops. Supv. Initials) WJR 12/12/85
- 3.3 In order to safely and efficiently start up a unit, equipment deficiencies shall be reviewed to identify impact on the startup and corrective action initiated to minimize the impact. Particular attention must be paid to equipment protective circuits, control schemes and Control Room indications. A careful inspection of control board tags and control system status shall be made. Equipment deficiencies affecting the startup sequence shall be listed and the Plant Superintendent, or his designee, shall review the list indicating which items must be corrected prior to performing the impacted evolution. For example, if the automatic Gland Steam Pressure Regulating System was unavailable, the Superintendent, or his designee, would decide whether the startup should be held pending repair and testing of the Gland Steam System Controls or approve proceeding with the startup using manual control of gland steam pressure. This evaluation of degraded equipment availability should initially be performed in parallel with the verification or performance of system alignments to support startup and re-evaluated prior to commencing major evolutions such as heatup, vacuum pull, criticality and turbine roll. 1
- 3.4 The Auxiliary electrical buses are energized. WJR 12/13/85
- 3.5 The Plant Protection System is energized and the RPS/ESFAS PZR pressure bypass key locks are in BYPASS. WJR 12/14/85
- 3.6 If the RWST level is below 80%, then the RAS has been suppressed to prevent loss of shutdown cooling while filling the RCS. (N/A if RWST  $\geq$  80%) N/A 1
- 3.7 Ensure the Condensate Storage and Transfer System has been aligned per SO23-9-5, Attachment 3 (4), Condensate Storage and Transfer System Alignment. WJR 12/14/85



3.0 PREREQUISITES (Continued)

INITIALS / DATE

- 3.8 Ensure the Demin. Water Storage Facility has been aligned per S023-11-6, Attachment 1, Demin. Water Storage Facility Initial Alignment.
- 3.9 Level in the Condensate Storage Tanks is above T.S. Limits of 97% for T-121 and above 56% for T-120 or makeup operations are in progress per S023-9-5. (Level requirements must be attained for Mode 3 entry.)
- 3.10 At least 30,000 gallons of capacity exists in the radwaste primary tanks to receive radwaste due to unit heatup, or Radwaste Processing is in progress to provide the required capacity.
- 3.11 The Charging Pump pulsation dampeners are charged to the pressures stated in S023-3-2.1, Attachment 7, CVCS Pulsation Dampener Operation.

WJK 12/14/83

WJK 12/14/83

WJK 12/14/83

WJK 12/14/83

4.0 PRECAUTIONS

- 4.1 (UNIT 3 ONLY) A RCS heatup of 8°F in any one hour shall not be exceeded when cold leg temperature is < 110°F. (This is 2°F more restrictive than Ref. 2.1.1, 3.4.8.1.)
- 4.2 A RCS heatup rate of 25°F in any one hour shall not be exceeded when cold leg temperature is < 300°F (< 330°F for Unit 3). (This is 5°F more restrictive than Ref. 2.1.1, 3.4.8.1.)
- 4.3 A RCS heatup of 50°F in any one hour shall not be exceeded when cold leg temperature is above 300°F (330°F for Unit 3). (This is 10°F more restrictive than Ref. 2.1.1, 3.4.8.1.)
- 4.4 The Pressurizer heatup rate shall not exceed 190°F in any one hour. (This is 10°F more restrictive than Ref. 2.1.1, 3.4.8.2.)
- 4.5 In Mode 5 with RCS Loops filled, at least one RCP or SDC Pump shall be in operation and one of the following additional requirements must be met: (References 2.1.1, 3.4.1.4.1)
- 4.5.1 One additional RCS Loop or SDC Train is operable or
- 4.5.2 The water level is  $\geq$  50% WR in each S.G.

## 4.0 PRECAUTIONS (Continued)

- 4.6 In Mode 4, a RCP or SDC Pump shall be operating and a second RCP/Loop or SDC Pump shall be operable at all times except all RCPs and SDC Pumps may be de-energized for up to one hour provided: (1) no operations are permitted that would cause dilution of the RCS boron concentration; and (2) core outlet temperature is maintained at least 10°F below saturation temperature (Ref. 2.1.1, 3.4.1.3).
- 4.7 Shutdown Cooling System LTOP relief shall not be isolated from the RCS until RCS cold leg temperatures are greater than 240°F (290°F for Unit 3). (This is 5°F more restrictive than Ref. 2.1.1, 3.4.8.3.1.)
- 4.8 The RCS chemistry shall be maintained within the following limits: (Ref. 2.1.1, 3.4.6)
- |                  |                                |
|------------------|--------------------------------|
| Chloride         | < 0.15 ppm                     |
| Fluoride         | < 0.15 ppm                     |
| Dissolved Oxygen | < 0.10 ppm (with Tave > 250°F) |
- 4.9 The following restrictions shall be observed when starting a Reactor Coolant Pump:
- 4.9.1 With the Steam Generators between zero and 10°F above the Primary System Temperature, then Pressurizer Level shall be less than 60%.
- 4.9.2 With the Steam Generators between 10 and 20°F above the Primary System Temperature, then Pressurizer Level shall be less than 33%. (This is 80°F to 90°F more restrictive than Ref. 2.1.1, 3.4.1.3.)
- 4.10 Starting a RCP is prohibited when the Steam Generators are greater than 20°F above the Primary System Temperature. (Analysis has shown that the resultant pressure rise may challenge the LTOP setpoint regardless of the size of the Pressurizer Bubble)
- 4.11 Due to core uplift considerations, four RCPs shall not be operated simultaneously until RCS temperature exceeds 500°F.
- 4.12 RCS temperature shall not exceed 350°F, or a pressure of 375 psia when Shutdown Cooling is in-service.
- 4.13 RCS Temperature shall not exceed 340°F until Steam Generator secondary chemistry is within limits.
- 4.14 At least 2 Reactor Coolant Pumps must be in operation for normal operation of Pressurizer Spray (Reference 2.4.1.2).

4.0 PRECAUTIONS (Continued)

- 4.15 With the RCS in a solid condition, starting or stopping a Charging or LPSI pump can lead to pressure transients and lifting of SDCS pressure relief valve PSV-9349. RCS pressure transients of this type may be avoided by manually operating PIC-0201 prior to changing the status of a Charging or LPSI pump and closely monitoring RCS pressure immediately after the pump status is changed.
- 4.16 If venting the VCT, RCDT or Quench Tank becomes difficult, it may be necessary to drain the Waste Gas Collection Header in accordance with S023-8-14, Section 6.1, Initial System Lineup.
- 4.17 Caution must be exercised to ensure all prerequisites for a mode change are met prior to changing modes.
- 4.18 Pressurizer Spray Valves PV-0100A and PV-0100B should be closed prior to RCP start.
- 4.19 Prior to establishing a Hydrogen blanket on the VCT, the potentially connected systems must be purged with Nitrogen and sampled to ensure Oxygen is less than 1%. Included are the Gas Strippers, Waste Gas Surge Tank and In-service Waste Gas Storage Tank.
- 4.20 When withdrawing CEAs to the Lower Electrical Limit during heatup, do not exceed 4.5 inches.

5.0 CHECKLIST(S)

5.1 None

6.0 PROCEDURE

6.1 Prepare the Condensate, Feedwater, and Main Steam System for operation as follows:

6.1.1 Determine if the Condensate and Feedwater Systems are available for operation. (Check one)

☐ Yes, perform step 6.1.1.1.

☒ No, mark N/A for step 6.1.1.1.

.1 Initiate prestart recirculation/cleanup of the Condensate and Feedwater Systems per S023-9-7.

6.1.2 Initiate Main Steam lead alignment per S023-2-9.

INITIALS / DATE

*[Signature]*  
SRO/Op. Supv.

*N/A*  
*UJK 12/14/85*

## 6.0 PROCEDURE (Continued)

INITIALS / DATE

- 6.2 Indicate which Steam Generator(s) the Chemistry Dept. has directed to be drained and refilled.  
(Check one)

SRO Ops. Supv.

☐ S.G. E-088 and E-089, perform step 6.2.1

☐ S.G. E-088 only, perform step 6.2.1

☐ S.G. E-089 only, perform step 6.2.1

☒ Neither Steam Generator, mark N/A for step 6.2.1

- 6.2.1 Initiate draining and refilling the indicated Steam Generator(s) per 5023-2-18<sup>1</sup>.

- 6.3 Initiate Attachment 1 (2) to prepare systems for Mode 4 entry.

- 6.4 Determine the initial conditions for entering this procedure: (Check one)

☐ The RCS is at 350 psia, the Pressurizer has a steam bubble, and two RCP's are running. Mark N/A for all steps in Sections 6.5 through 6.9, except steps 6.6.6, 6.6.8 and Section 6.8.

☒ The RCS is not at 350 psia, or the Pressurizer does not have a steam bubble, or two RCP's are not running. Perform steps in the normal sequence.

- 6.5 Initiate 5023-3-1.4 to fill and vent the RCS. (Mark N/A if the Pressurizer is solid or a Pressurizer steam bubble has been maintained.)

<sup>1</sup> If the S/G's are meeting the requirements of Tech. Spec. 3.4.1.4.1, then limit draining to not less than 50% WR otherwise limit to 10% WR (Reference 2.4.1.5)

6.0 PROCEDURE (Continued)INITIALS / DATE

## NOTE:

It is desirable to draw the bubble after completing three pump sweeps and prior to completing the fill and vent procedure in order to:

- 1) Minimize the time the RCS is in a solid condition. If transients did occur, the plant would be less sensitive and easier to control with a bubble.
- 2) Commence recirculating the Pressurizer to the RCS early in the startup to equalize chemistry.
- 3) Use time efficiently to prepare for subsequent heatup.

6.6 Indicate the Pressurizer status  
(Check one):SRO Ops. Supv.

☐ Pressurizer is solid at \_\_\_\_\_ psia; when directed by S023-3-1.4 to form a steam bubble, perform steps 6.6.1 through 6.6.8.

☐ Pressurizer has a steam bubble; mark N/A for steps 6.6.1, 6.6.3, 6.6.4 and 6.6.5

## NOTE:

Expected Pressurizer heatup rate is 50°F/hr which corresponds to 4.5 hours of preheat time prior to forming the steam bubble if the RCS is at 150 psia, or 6 hours if the RCS is at 350 psia.

CAUTION  
=====

The Pressurizer heatup rate shall not exceed 190°F in any one hour. (This is 10°F more restrictive than Ref. 2.1.1, 3.4.8.2).

HIGH PRESSURE SAFETY INJECTION SYSTEM FLOWPATH VALVE ALIGNMENT - UNIT 2

DATE 2/15/85

TIME 1430

1.0 PREREQUISITES

INITIALS

1.1 Prior to use of an uncontrolled (pink) copy of this Station Document to perform work, verify that it is current by checking a controlled copy an any TCNs or by use of the method described in S0123-VI-1.0.

CE

1.1.1 List all applicable TCNs or write N.A.

CE

7-8 DR

1.2 On-shift SRO-Operations Supervisor approval obtained.  
(SRO OPS SUPV Initials)

CE

NOTE: ALL LOCKED VALVES ARE LOCKED WITH AN ESF LOCK.

NOTE: (1) Verify by CR-57 indication.

(2) Safety Injection Tank outlet valves are required to be open in Modes 1-3 when RCS pressure is greater than 40 psia.

CAUTION If a valve in this Check-Off List requires repositioning, then contact the C.O. for approval prior to repositioning.

2.0 PROCEDURE

<u>STEP</u>	<u>COMPONENT</u>	<u>DESCRIPTION</u>	<u>REQUIRED STATUS</u>	<u>INITIALS 1ST/2ND</u>
2.1	<u>Borated Water Supply</u>			
2.1.1	2HV-9305	Containment Emergency Sump Outlet Valve	OPEN	<u>DR</u>
2.1.2	2HV-9304	Containment Emergency Sump Outlet Valve	OPEN	<u>DR</u>
2.1.3	2HV-9302	Containment Emergency Sump Outlet Valve (in Tendon Gallery)	CLOSED	<u>DR</u>
2.1.4	2HV-9303	Containment Emergency Sump Outlet Valve (in Tendon Gallery)	CLOSED	<u>DR</u>
2.1.5	S21219MU068	Safety Injection Pump Recirc. to RWST T-005 (Aux. Fd. Bldg. Roof)	LOCKED OPEN	<u>DR</u>

8508150099

2.0 PROCEDURE (Continued)

STEP	COMPONENT	DESCRIPTION	REQUIRED STATUS	INITIALS 1ST/2ND
2.1.6	2HV-9300	RWST 2T-005 Outlet Valve (2T-005 Tank Room)	LOCKED OPEN (KEY REMOVED) CR-57	<u>RL DR</u>
2.1.7	2HCV-7767	RWST 2T-005 X-Conn. to RWST 2T-006 (2T-005 Tank Room)	LOCKED OPEN	<u>RL DR</u>
2.1.8	2HCV-7766	Cross-connect 2T-006 to 2T-005 (2T-006 Tank Room)	LOCKED OPEN	<u>RL DR</u>
2.1.9	2HV-9301	RWST 2T-006 Outlet Valve (2T-006 Tank Room)	LOCKED OPEN (KEY REMOVED) CR-57	<u>RL DR</u>
2.1.10	S21219MU067	Gravity Feed to Charging Pumps (2T-006 Tank Room)	LOCKED OPEN	<u>RL DR</u>
2.1.11	S21219MU070	Spent Fuel Pool Make-up Pump Suction (2T-006 Tank Room)	CLOSED	<u>RL DR</u>

2.2 High Pressure Safety Injection Pump 2P-017 (SEB Rm. 005)

2.2.1	S21204MU184	Miniflow Orifice 2FO-9314 Bypass Valve	LOCKED CLOSED	<u>RL DR</u>
2.2.2	S21204MU034	HPSI Pump 2P-017 Minimum Recirc. Valve	LOCKED OPEN	<u>RL DR</u>
2.2.3	S21204MU007	HPSI Pump 2P-017 Suction Valve	LOCKED OPEN	<u>RL DR</u>
2.2.4	S21204MU190	Suction Relief Isolation Valve	LOCKED OPEN	<u>RL DR</u>
2.2.5	S21204MU012	HPSI Pump 2P-017 Discharge Valve	LOCKED OPEN	<u>RL DR</u>

2.3 High Pressure Safety Injection Pump 2P-018 (Third of a Kind)  
(SEB Rm. 015)

2.3.1	S21204MU013	HPSI Pump 2P-018 Discharge to HPS: #1 Header (Rm. 005); mark NA if not.	LOCKED OPEN	<u>RL DR</u>
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2.0 PROCEDURE (Continued)

<u>STEP</u>	<u>COMPONENT</u>	<u>DESCRIPTION</u>	<u>REQUIRED STATUS</u>	<u>INITIALS 1ST/2ND</u>
2.3.1.1	When 2P-018 is aligned to "B" train or is removed from service; mark NA if not.		LOCKED CLOSED	<u>NA /</u>
2.3.2	S21204MU010	HPSI Pump 2P-018 Train A Suction Valve (RWST 2T-005) (Passage between SEB Rms. 005 and 015); mark NA if not.	LOCKED OPEN	<u>VERL B</u>
.1	When 2P-018 is aligned to "B" train or is removed from service; mark NA if not.		LOCKED CLOSED	<u>NA /</u>
<u>2.3.3</u>	S21204MU191	Suction Line Relief Valve Isolation	LOCKED OPEN	<u>VERL B</u>
2.3.4	S21204MU011	HPSI Pump 2P-018 Train B Suction Valve (RWST 2T-006); mark NA if not.	LOCKED CLOSED	<u>VERL B</u>
.1	When 2P-018 is aligned to "B" train; mark NA if not.		LOCKED OPEN	<u>NA /</u>
2.3.5	S21204MU186	Bypass around mini-flow orifice 2FO-9313	LOCKED CLOSED	<u>VERL B</u>
2.3.6	S21204MU036	HPSI Pump 2P-018 Train A Minimum Recirc. Valve; mark NA if not.	LOCKED OPEN	<u>VERL B</u>
.1	When 2P-018 is aligned for service on Train B or is removed from service; mark NA if not.		LOCKED CLOSED	<u>NA /</u>
2.3.7	S21204MU104	HPSI Pump 2P-018 Train B Minimum Recirc. Valve; mark NA if not.	LOCKED CLOSED	<u>VERL B</u>
.1	When 2P-018 is aligned for service on Train B; mark NA if not.		LOCKED OPEN	<u>NA /</u>
2.3.8	S21204MU016	HPSI Pump 2P-018 Discharge Valve	LOCKED OPEN	<u>VERL B</u>
2.3.9	S21204MU014	HPSI Pump 2P-018 Discharge to HPSI #2 Header; mark NA if not.	LOCKED CLOSED	<u>VERL B</u>
.1	When 2P-018 is aligned to "B" train; mark NA if not.		LOCKED OPEN	<u>NA /</u>



2.0 PROCEDURE (Continued)

<u>STEP</u>	<u>COMPONENT</u>	<u>DESCRIPTION</u>	<u>REQUIRED STATUS</u>	<u>INITIALS</u> <u>1ST/2ND</u>
2.4 <u>High Pressure Safety Injection Pump 2P-019 (Rm. 002)</u>				
2.4.1	S21204MU189	Suction Line Relief Valve Isolation	LOCKED OPEN	<u>BM / JPL 2/24</u>
2.4.2	S21204MU009	HPSI Pump 2P-019 Suction Valve	LOCKED OPEN	<u>VRL, B</u>
2.4.3	S21204MU185	Bypass around Mini-flow orifice 2FO-9315	LOCKED CLOSED	<u>VRL, B</u>
2.4.4	S21204MU035	HPSI Pump 2P-019 Minimum Recirc. Valve	LOCKED OPEN	<u>VRL, B</u>
2.4.5	S21204MU015	HPSI Pump 2P-019 Discharge Valve	LOCKED OPEN	<u>VRL, B</u>
2.5 <u>High Pressure Safety Injection Header #1</u>				
2.5.1	2HV-9330	HPSI #1 Header to Loop 2A (Pen. 39)	CLOSED	<u>WSD/RL</u>
2.5.2	2HV-9420	HPSI #1 Header to Hot Leg Injection (Pen 71)	CLOSED	<u>WSD/RL</u>
2.5.3	S21204MU154	Charging Pump to Hot Leg Injection Block Valve (near Pen 71)	CLOSED	<u>WSD/RL</u>
2.5.4	2HV-9327	HPSI #1 Header to Loop 1B (Pen 5)	CLOSED	<u>WSD/RL</u>
2.5.5	2HV-9324	HPSI #1 Header to Loop 1A (Pen 3)	CLOSED	<u>WSD/RL</u>
2.5.6	2HV-9333	HPSI #1 Header to Loop 2B (Pen 41)	CLOSED	<u>WSD/RL</u>
2.6 <u>High Pressure Safety Injection Header #2</u>				
2.6.1	2HV-9329	HPSI Header #2 to Loop 2A (Pen 39)	CLOSED	<u>WSD/RL</u>
2.6.2	2HV-9326	HPSI Header #2 to Loop 1B (Pen 5)	CLOSED	<u>WSD/RL</u>
2.6.3	2HV-9323	HPSI Header #2 to Loop 1A (Pen 3)	CLOSED	<u>WSD/RL</u>

2.0 PROCEDURE (Continued)

STEP	COMPONENT	DESCRIPTION	REQUIRED STATUS	INITIALS 1ST/2ND
2.6.4	S21208MU005	Charging Pump to Hot Leg Injection Block Valve (near Pen 71)	CLOSED	W3 DR P
2.6.5	2HV-9434	HPSI Header #2 to Hot Leg Injection (Pen 67)	CLOSED	W3 DR P R Q
2.6.6	2HV-9332	HPSI Header #2 to Loop 2B (Pen 41)	CLOSED	W3 DR P R
2.7 <u>HPSI-Hot Leg Injection to Loop #1 (inside Containment)</u>				
2.7.1	2HV-9437	Hot Leg Injection Drain Valve to RCS Drain Tank (17' by Pen 67)	CLOSED	W3 DR P
.1	2HV-9437	Actuator Air Supply Valve	OPEN	W3 DR P
2.7.2	S21204MU066	Hot Leg Injection Block Valve to Loop #1 (17' by Pen 67)	LOCKED OPEN	W3 DR P
2.8 <u>HPSI-Hot Leg Injection to Loop #2 (inside Containment)</u>				
2.8.1	2HV-9433	Hot Leg Injection to Loop #2 Drain to RCS Drain Tank (by Contmt. Emer. Sump)	CLOSED	W3 DR P
.1	2HV-9433 Air Supply	Actuator Air Supply Valve	OPEN	W3 DR P
2.8.2	S21204MU067	Hot Leg Injection to Loop #2 Block Valve (17' in overhead by Contmt. Emer. Sump)	LOCKED OPEN	W3 DR P
2.9 <u>Safety Injection Tanks</u>				
2.9.1 Safety Injection Tank 2T-010				
.1	2HV-9370	SIT 2T-010 Outlet to (2) Reactor Coolant Loop 2B	OPEN/ CLOSED	W3 DR P
.2	2HV-9372	SIT Fill Valve	CLOSED	W3 DR P

NOTE: (2) Safety Injection Tank outlet valves are required to be open in Modes 1-3 when RCS pressure is greater than 400 psia.

2.0 PROCEDURE (Continued)

<u>STEP</u>	<u>COMPONENT</u>	<u>DESCRIPTION</u>	<u>REQUIRED STATUS</u>	<u>INITIALS</u> <u>1ST/2ND</u>
2.9.1.3	S22417MR063	2HV-9372 Air Supply	OPEN	WSI DR1 JHP
.4	2HV-9371	SIT Check Valve Leakage Drn. Valve	CLOSED	WSI DR1 JHP
.5	S22417MR062	2HV-9371 Air Supply	OPEN	WSI DR1 JHP
2.9.2	Safety Injection Tank 2T-009			
.1	2HV-9360	SIT 2T-009 Outlet to (2) Reactor Coolant Loop 2A	OPEN/ CLOSED	WSI DR1 JHP
.2	2HV-9361	SIT Check Valve Leakage Drn Valve	CLOSED	WSI DR1 JHP
.3	S22417MR064	2HV-9361 Air Supply	OPEN	WSI DR1 JHP
.4	2HV-9362	SIT Fill Valve	CLOSED	WSI DR1 JHP
.5	S22417MR065	2HV-9362 Air Supply	OPEN	WSI DR1 JHP
2.9.3	Safety Injection Tank 2T-007			
.1	2HV-9350	SIT 2T-007 Outlet to (2) Reactor Coolant Loop 1B	OPEN/ CLOSED	WSI DR1 JHP
.2	2HV-9352	SIT Fill Valve	CLOSED	WSI DR1 JHP
.3	S22417MR071	2HV-9352 Air Supply	OPEN	WSI DR1 JHP
.4	2HV-9351	SIT Check Valve Leakage Drn Valve	CLOSED	WSI DR1 JHP
.5	S22417MR070	2HV-9351 Air Supply	OPEN	WSI DR1 JHP
2.9.4	Safety Injection Tank 2T-008			
.1	2HV-9340	SIT 2T-008 Outlet to (2) Reactor Coolant Loop 1A	OPEN/ CLOSED	WSI DR1 JHP
.2	2HV-9342	SIT Fill Valve	CLOSED	WSI DR1 JHP
.3	S22417MR069	2HV-9342 Air Supply	OPEN	WSI DR1 JHP

NOTE: (2) Safety Injection Tank outlet valves are required to be open in Modes 1-3 when RCS pressure is greater than 400 psia.

2.0 PROCEDURE (Continued)

STEP	COMPONENT	DESCRIPTION	NOTE	REQUIRED STATUS	INITIALS 1ST/2ND
2.9.4.4	2HV-9341	SIT Check Valve Leakage Drain Valve		CLOSED	<i>[Signature]</i>
.5	S22417MR068	2HV-9341 Air Supply		OPEN	<i>[Signature]</i>
2.9.5	Safety Injection Tank 2T-008 (63')				
.1	2HV-9344	SIT 2T-008 Nitrogen Supply Valve	(1)	CLOSED	<i>[Signature]</i>
2.9.6	Safety Injection Tank 2T-007 (63')				
.1	2HV-9354	SIT 2T-007 Nitrogen Supply Valve	(1)	CLOSED	<i>[Signature]</i>
2.9.7	Safety Injection Tank 2T-009 (63')				
.1	2HV-9364	SIT 2T-009 Nitrogen Supply Valve	(1)	CLOSED	<i>[Signature]</i>
2.9.8	Safety Injection Tank 2T-010 (63')				
.1	2HV-9374	SIT 2T-010 Nitrogen Supply Valve	(1)	CLOSED	<i>[Signature]</i>
2.9.9	Safety Injection Tank Drain Header (inside Containment) (30')				
.1	S21204MU068	SIT Drain to RWST (Pen. 6)		LOCKED OPEN	<i>[Signature]</i>
.2	2HV-9335	SIT Drain to RCS Drain Tank (next to Biological Shield Access)		CLOSED	<i>[Signature]</i>
.3	2HV-9334	SIT Drain Header to RWST (inside Pen 6)		CLOSED	<i>[Signature]</i>
2.9.10	Main Control Board Indication				
.1	2HV-9345	2T-008 Vent Valve		CLOSED	<i>[Signature]</i>
.2	2HV-9355	2T-007 Vent Valve		CLOSED	<i>[Signature]</i>

NOTE: (1) Verify by CR-57 indication.

2.0 PROCEDURE (Continued)

<u>STEP</u>	<u>COMPONENT</u>	<u>DESCRIPTION</u>	<u>REQUIRED STATUS</u>	<u>INITIALS</u> <u>1ST/2ND</u>
2.9.10.3	2HV-9365	2T-009 Vent Valve	CLOSED	<i>BM/imp KR</i>
.4	2HV-9375	2T-010 Vent Valve	CLOSED	<i>BM/imp MVB</i>
2.10 <u>Safety Injection Pump Minimum Recirc.</u>				
2.10.1	2HV-9347	Safety Injection 2P-018 Minimum Recirc. to RWST	OPEN	<i>UPL, B</i>
2.10.2	2HV-9348	Safety Injection 2P-018 Minimum Recirc. to RWST	OPEN	<i>UPL, B</i>
2.10.3	2HV-9306	Safety Injection 2P-018 Minimum Recirc. to RWST	OPEN	<i>UPL, B</i>
2.10.4	2HV-9307	Safety Injection 2P-018 Minimum Recirc. to RWST	OPEN	<i>UPL, B</i>
2.11 <u>Safety Injection Tank Drain Header</u>				
2.11.1	S21204MU099	SIT Drain to RWST (at Pen 6)	LOCKED CLOSED	<i>BM/imp, MVB</i>
2.11.2	S21204MU049	SIT Drain to RWST (SW Pen Area)	LOCKED OPEN	<i>BM/imp, MVB</i>
2.11.3	S21219MU038	Spent Fuel Pool Ion Exch. to RWST Block Valve (30' Pen near Pen 67)	CLOSED	<i>UPL, B</i>
2.11.4	S21204MU060	SIT Drain Line to RWST Isolation Valve	LOCKED CLOSED	<i>UPL, B</i>

SAN ONOFRE NUCLEAR GENERATING STATION  
UNITS 2 AND 3

OPERATING INSTRUCTION S023-3-2.7  
REVISION 7 PAGE 9 OF 9  
ATTACHMENT 8.1  
CHECK-OFF LIST 1  
TCN 7-8

PERFORMED BY: [Signature]  
Operator Initials

DATE/TIME 2/15/85 1854

PERFORMED BY: [Signature]  
Operator Initials

DATE/TIME 2-16-85 0001

VERIFIED BY: [Signature]  
Operator Initials

DATE/TIME 2-15-85 / 1854

VERIFIED BY: [Signature]  
Operator Initials

DATE/TIME 2-15-85 / 1900

NOTE: SRO Ops. Supv. shall not sign "Reviewed By" until all comments in relation to this Check-Off List have been resolved i.e.: TCNs written and incorporated, caps and flanges installed, locks and chains in place, etc.

REVIEWED BY: [Signature]  
SRO Ops. Supv.

DATE/TIME 2-10-85 1850

FILE DISPOSITION: File per S023-0-28

COMMENTS: CE  
① This is a key locked valve the position should read  
Locked closed

PROCEDURE SIGNATURE SUPPLEMENT

TCN 2-1

Sheet      of     

AFFECTED PROCEDURE: SO 023-3-2.7  
CHECKLIST NUMBER: 1

REVISION 7 TCN 2-8  
REVISION      TCN     

PERFORMED BY: <u>[Signature]</u> <u>2-16-85</u> OPERATOR/INIT DATE/TIME <u>0135</u>	PERFORMED BY: <u>    </u> OPERATOR/INIT DATE/TIME <u>    </u>
PERFORMED BY: <u>[Signature]</u> <u>3-28</u> OPERATOR/INIT DATE/TIME <u>1250</u>	PERFORMED BY: <u>    </u> OPERATOR/INIT DATE/TIME <u>    </u>
PERFORMED BY: <u>[Signature]</u> <u>3-28</u> OPERATOR/INIT DATE/TIME <u>0900</u>	PERFORMED BY: <u>    </u> OPERATOR/INIT DATE/TIME <u>    </u>
PERFORMED BY: <u>    </u> OPERATOR/INIT DATE/TIME <u>    </u>	PERFORMED BY: <u>    </u> OPERATOR/INIT DATE/TIME <u>    </u>
PERFORMED BY: <u>    </u> OPERATOR/INIT DATE/TIME <u>    </u>	PERFORMED BY: <u>    </u> OPERATOR/INIT DATE/TIME <u>    </u>
VERIFIED BY: <u>[Signature]</u> <u>2-16-85</u> OPERATOR/INIT DATE/TIME <u>0130</u>	VERIFIED BY: <u>[Signature]</u> <u>3-10-85</u> OPERATOR/INIT DATE/TIME <u>0920</u>
VERIFIED BY: <u>[Signature]</u> <u>3-10-85</u> OPERATOR/INIT DATE/TIME <u>1049</u>	VERIFIED BY: <u>    </u> OPERATOR/INIT DATE/TIME <u>    </u>
VERIFIED BY: <u>[Signature]</u> <u>3-10-85</u> OPERATOR/INIT DATE/TIME <u>1200</u>	VERIFIED BY: <u>    </u> OPERATOR/INIT DATE/TIME <u>    </u>
VERIFIED BY: <u>[Signature]</u> <u>3-10-85</u> OPERATOR/INIT DATE/TIME <u>1250</u>	VERIFIED BY: <u>    </u> OPERATOR/INIT DATE/TIME <u>    </u>
VERIFIED BY: <u>    </u> OPERATOR/INIT DATE/TIME <u>    </u>	VERIFIED BY: <u>    </u> OPERATOR/INIT DATE/TIME <u>    </u>
INDEP. VER. BY: <u>[Signature]</u> <u>2-14-85</u> OPERATOR/INIT DATE/TIME <u>1100</u>	INDEP. VER. BY: <u>    </u> OPERATOR/INIT DATE/TIME <u>    </u>
INDEP. VER. BY: <u>[Signature]</u> <u>2-14-85</u> OPERATOR/INIT DATE/TIME <u>1100</u>	INDEP. VER. BY: <u>    </u> OPERATOR/INIT DATE/TIME <u>    </u>
INDEP. VER. BY: <u>[Signature]</u> <u>3-10-85</u> OPERATOR/INIT DATE/TIME <u>0923</u>	INDEP. VER. BY: <u>    </u> OPERATOR/INIT DATE/TIME <u>    </u>
INDEP. VER. BY: <u>    </u> OPERATOR/INIT DATE/TIME <u>    </u>	INDEP. VER. BY: <u>    </u> OPERATOR/INIT DATE/TIME <u>    </u>
INDEP. VER. BY: <u>    </u> OPERATOR/INIT DATE/TIME <u>    </u>	INDEP. VER. BY: <u>    </u> OPERATOR/INIT DATE/TIME <u>    </u>

22179



HIGH PRESSURE SAFETY INJECTION SYSTEM FLOWPATH VALVE ALIGNMENT - UNIT 2

DATE 2/15/85

TIME 1430

1.0 PREREQUISITES

INITIALS

1.1 Prior to use of an uncontrolled (pink) copy of this Station Document to perform work, verify that it is current by checking a controlled copy an any TCNs or by use of the method described in S0123-VI-1.0.

CE

1.1.1 List all applicable TCNs or write N.A.

CE

7-8

1.2 On-shift SRO-Operations Supervisor approval obtained.  
(SRO OPS SUPV Initials)

CE

NOTE: ALL LOCKED VALVES ARE LOCKED WITH AN ESF LOCK.

NOTE: (1) Verify by CR-57 indication.

(2) Safety Injection Tank outlet valves are required to be open in Modes 1-3 when RCS pressure is greater than 40 psia.

CAUTION If a valve in this Check-Off List requires repositioning, then contact the C.O. for approval prior to repositioning.

=====

2.0 PROCEDURE

<u>STEP</u>	<u>COMPONENT</u>	<u>DESCRIPTION</u>	<u>REQUIRED STATUS</u>	<u>INITIALS</u> <u>1ST/2ND</u>
2.1	<u>Borated Water Supply</u>			
2.1.1	2HV-9305	Containment Emergency Sump Outlet Valve	OPEN	<u>CE</u>
2.1.2	2HV-9304	Containment Emergency Sump Outlet Valve	OPEN	<u>CE</u>
2.1.3	2HV-9302	Containment Emergency Sump Outlet Valve (in Tendon Gallery)	CLOSED	<u>CE</u>
2.1.4	2HV-9303	Containment Emergency Sump Outlet Valve (in Tendon Gallery)	CLOSED	<u>CE</u>
2.1.5	S21219MU068	Safety Injection Pump Recirc. to RWST T-005 (Aux. Fd. Bldg. Roof)	LOCKED OPEN	<u>CE</u>



2.0 PROCEDURE (Continued)

<u>STEP</u>	<u>COMPONENT</u>	<u>DESCRIPTION</u>	<u>REQUIRED STATUS</u>	<u>INITIALS</u> 1ST/2ND
2.1.6	2HV-9300	RWST 2T-005 Outlet Valve (2T-005 Tank Room)	LOCKED OPEN (KEY REMOVED) CR-57	<u>BW</u>
2.1.7	2HCV-7767	RWST 2T-005 X-Conn. to RWST 2T-006 (2T-005 Tank Room)	LOCKED OPEN	<u>WR</u>
2.1.8	2HCV-7766	Cross-connect 2T-006 to 2T-005 (2T-006 Tank Room)	LOCKED OPEN	<u>WR</u>
2.1.9	2HV-9301	RWST 2T-006 Outlet Valve (2T-006 Tank Room)	LOCKED OPEN (KEY REMOVED) CR-57	<u>BW</u>
2.1.10	S21219MU067	Gravity Feed to Charging Pumps (2T-006 Tank Room)	LOCKED OPEN	<u>WR</u>
2.1.11	S21219MU070	Spent Fuel Pool Make-up Pump Suction (2T-006 Tank Room)	CLOSED	<u>WR</u>

2.2 High Pressure Safety Injection Pump 2P-017 (SEB Rm. 005)

2.2.1	S21204MU184	Miniflow Orifice 2FO-9314 Bypass Valve	LOCKED CLOSED	<u>WR</u>
2.2.2	S21204MU034	HPSI Pump 2P-017 Minimum Recirc. Valve	LOCKED OPEN	<u>WR</u>
2.2.3	S21204MU007	HPSI Pump 2P-017 Suction Valve	LOCKED OPEN	<u>WR</u>
2.2.4	S21204MU190	Suction Relief Isolation Valve	LOCKED OPEN	<u>WR</u>
2.2.5	S21204MU012	HPSI Pump 2P-017 Discharge Valve	LOCKED OPEN	<u>WR</u>

2.3 High Pressure Safety Injection Pump 2P-018 (Third of a Kind)  
(SEB Rm. 015)

2.3.1	S21204MU013	HPSI Pump 2P-018 Discharge to HPSI #1 Header (Rm. 005); mark NA if not.	LOCKED OPEN	<u>WR</u>
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2.0 PROCEDURE (Continued)

STEP	COMPONENT	DESCRIPTION	REQUIRED STATUS	INITIALS 1ST/2ND
2.3.1.1	When 2P-018 is aligned to "B" train or is removed from service; mark NA if not.		LOCKED CLOSED	NA /
2.3.2	S21204MU010	HPSI Pump 2P-018 Train A Suction Valve (RWST 2T-005) (Passage between SEB Rms. 005 and 015); mark NA if not.	LOCKED OPEN	<u>WRL</u> <u>PS</u>
.1	When 2P-018 is aligned to "B" train or is removed from service; mark NA if not.		LOCKED CLOSED	NA /
<u>2.3.3</u>	S21204MU191	Suction Line Relief Valve Isolation	LOCKED OPEN	<u>WRL</u> <u>PS</u>
2.3.4	S21204MU011	HPSI Pump 2P-018 Train B Suction Valve (RWST 2T-006); mark NA if not.	LOCKED CLOSED	<u>WRL</u> <u>PS</u>
.1	When 2P-018 is aligned to "B" train; mark NA if not.		LOCKED OPEN	NA /
2.3.5	S21204MU186	Bypass around mini-flow orifice 2FO-9313	LOCKED CLOSED	<u>WRL</u> <u>PS</u>
2.3.6	S21204MU036	HPSI Pump 2P-018 Train A Minimum Recirc. Valve; mark NA if not.	LOCKED OPEN	<u>WRL</u> <u>PS</u>
.1	When 2P-018 is aligned for service on Train B or is removed from service; mark NA if not.		LOCKED CLOSED	NA /
2.3.7	S21204MU104	HPSI Pump 2P-018 Train B Minimum Recirc. Valve; mark NA if not.	LOCKED CLOSED	<u>WRL</u> <u>PS</u>
.1	When 2P-018 is aligned for service on Train B; mark NA if not.		LOCKED OPEN	NA /
2.3.8	S21204MU116	HPSI Pump 2P-018 Discharge Valve	LOCKED OPEN	<u>WRL</u> <u>PS</u>
2.3.9	S21204MU014	HPSI Pump 2P-018 Discharge to HPSI #2 Header; mark NA if not.	LOCKED CLOSED	<u>WRL</u> <u>PS</u>
.1	When 2P-018 is aligned to "B" train; mark NA if not.		LOCKED OPEN	NA /

2.0 PROCEDURE (Continued)

<u>STEP</u>	<u>COMPONENT</u>	<u>DESCRIPTION</u>	<u>REQUIRED STATUS</u>	<u>INITIALS</u> <u>1ST/2ND</u>
2.4 <u>High Pressure Safety Injection Pump 2P-019 (Rm. 002)</u>				
2.4.1	S21204MU189	Suction Line Relief Valve Isolation	LOCKED OPEN	<u>BM / JH / 1 / 2 / 3 / 4</u>
2.4.2	S21204MU009	HPSI Pump 2P-019 Suction Valve	LOCKED OPEN	<u>VR / RL / QS</u>
2.4.3	S21204MU185	Bypass around Mini-flow orifice 2FO-9315	LOCKED CLOSED	<u>VR / RL / QS</u>
2.4.4	S21204MU035	HPSI Pump 2P-019 Minimum Recirc. Valve	LOCKED OPEN	<u>VR / RL / QS</u>
2.4.5	S21204MU015	HPSI Pump 2P-019 Discharge Valve	LOCKED OPEN	<u>VR / RL / QS</u>
2.5 <u>High Pressure Safety Injection Header #1</u>				
2.5.1	2HV-9330	HPSI #1 Header to Loop 2A (Pen. 39)	CLOSED	<u>VR / RL / QS</u>
2.5.2	2HV-9420	HPSI #1 Header to Hot Leg Injection (Pen 71)	CLOSED	<u>VR / RL / QS</u>
2.5.3	S21204MU154	Charging Pump to Hot Leg Injection Block Valve (near Pen 71)	CLOSED	<u>VR / RL / QS</u>
2.5.4	2HV-9327	HPSI #1 Header to Loop 1B (Pen 5)	CLOSED	<u>VR / RL / QS</u>
2.5.5	2HV-9324	HPSI #1 Header to Loop 1A (Pen 3)	CLOSED	<u>VR / RL / QS</u>
2.5.6	2HV-9333	HPSI #1 Header to Loop 2B (Pen 41)	CLOSED	<u>VR / RL / QS</u>
2.6 <u>High Pressure Safety Injection Header #2</u>				
2.6.1	2HV-9329	HPSI Header #2 to Loop 2A (Pen 39)	CLOSED	<u>VR / RL / QS</u>
2.6.2	2HV-9326	HPSI Header #2 to Loop 1B (Pen 5)	CLOSED	<u>VR / RL / QS</u>
2.6.3	2HV-9323	HPSI Header #2 to Loop 1A (Pen 3)	CLOSED	<u>VR / RL / QS</u>

2.0 PROCEDURE (Continued)

STEP	COMPONENT	DESCRIPTION	REQUIRED STATUS	INITIALS 1ST/2ND
2.6.4	S21208MU005	Charging Pump to Hot Leg Injection Block Valve (near Pen 71)	CLOSED	W3 DR JRP
2.6.5	2HV-9434	HPSI Header #2 to Hot Leg Injection (Pen 67)	CLOSED	W3 DR JRP Q
2.6.6	2HV-9332	HPSI Header #2 to Loop 2B (Pen 41)	CLOSED	W3 DR JRP
2.7 <u>HPSI-Hot Leg Injection to Loop #1 (inside Containment)</u>				
2.7.1	2HV-9437	Hot Leg Injection Drain Valve to RCS Drain Tank (17' by Pen 67)	CLOSED	W3 DR JRP
.1	2HV-9437	Actuator Air Supply Valve	OPEN	W3 DR JRP
2.7.2	S21204MU066	Hot Leg Injection Block Valve to Loop #1 (17' by Pen 67)	LOCKED OPEN	W3 DR JRP
2.8 <u>HPSI-Hot Leg Injection to Loop #2 (inside Containment)</u>				
2.8.1	2HV-9433	Hot Leg Injection to Loop #2 Drain to RCS Drain Tank (by Cntmt. Emer. Sump)	CLOSED	W3 DR JRP
.1	2HV-9433 Air Supply	Actuator Air Supply Valve	OPEN	W3 DR JRP
2.8.2	S21204MU067	Hot Leg Injection to Loop #2 Block Valve (17' in overhead by Cntmt. Emer. Sump)	LOCKED OPEN	W3 DR JRP
2.9 <u>Safety Injection Tanks</u>				
2.9.1 <u>Safety Injection Tank 2T-010</u>				
.1	2HV-9370	SIT 2T-010 Outlet to (2) Reactor Coolant Loop 2B	OPEN/ CLOSED	W3 DR JRP
.2	2HV-9372	SIT Fill Valve	CLOSED	W3 DR JRP

NOTE: (2) Safety Injection Tank outlet valves are required to be open in Modes 1-3 when RCS pressure is greater than 400 psia.

2.0 PROCEDURE (Continued)

STEP	COMPONENT	DESCRIPTION	REQUIRED STATUS	INITIALS 1ST/2ND
2.9.1.3	S22417MR063	2HV-9372 Air Supply	OPEN	<u>W3/DR1</u>
.4	2HV-9371	SIT Check Valve Leakage Drn. Valve	CLOSED	<u>W3/DR1</u>
.5	S22417MR062	2HV-9371 Air Supply	OPEN	<u>W3/DR1</u>
2.9.2	Safety Injection Tank 2T-009			
.1	2HV-9360	SIT 2T-009 Outlet to (2) Reactor Coolant Loop 2A	OPEN/ CLOSED	<u>W3/DR1</u>
.2	2HV-9361	SIT Check Valve Leakage Drn Valve	CLOSED	<u>W3/DR1</u>
.3	S22417MR064	2HV-9361 Air Supply	OPEN	<u>W3/DR1</u>
.4	2HV-9362	SIT Fill Valve	CLOSED	<u>W3/DR1</u>
.5	S22417MR065	2HV-9362 Air Supply	OPEN	<u>W3/DR1</u>
2.9.3	Safety Injection Tank 2T-007			
.1	2HV-9350	SIT 2T-007 Outlet to (2) Reactor Coolant Loop 1B	OPEN/ CLOSED	<u>W3/DR1</u>
.2	2HV-9352	SIT Fill Valve	CLOSED	<u>W3/DR1</u>
.3	S22417MR071	2HV-9352 Air Supply	OPEN	<u>W3/DR1</u>
.4	2HV-9351	SIT Check Valve Leakage Drn Valve	CLOSED	<u>W3/DR1</u>
.5	S22417MR070	2HV-9351 Air Supply	OPEN	<u>W3/DR1</u>
2.9.4	Safety Injection Tank 2T-008			
.1	2HV-9340	SIT 2T-008 Outlet to (2) Reactor Coolant Loop 1A	OPEN/ CLOSED	<u>W3/DR1</u>
.2	2HV-9342	SIT Fill Valve	CLOSED	<u>W3/DR1</u>
.3	S22417MR069	2HV-9342 Air Supply	OPEN	<u>W3/DR1</u>

NOTE: (2) Safety Injection Tank outlet valves are required to be open in Modes 1-3 when RCS pressure is greater than 400 psia.

2.0 PROCEDURE (Continued)

STEP	COMPONENT	DESCRIPTION	NOTE	REQUIRED STATUS	INITIALS 1ST/2ND
2.9.4.4	2HV-9341	SIT Check Valve Leakage Drain Valve		CLOSED	<u>W3/DR</u> <u>RL</u>
.5	522417MR068	2HV-9341 Air Supply		OPEN	<u>W3/DR</u> <u>RL</u>
2.9.5	Safety Injection Tank 2T-008 (63')				
.1	2HV-9344	SIT 2T-008 Nitrogen Supply Valve	(1)	CLOSED	<u>W3/DR</u> <u>RL</u>
2.9.6	Safety Injection Tank 2T-007 (63')				
.1	2HV-9354	SIT 2T-007 Nitrogen Supply Valve	(1)	CLOSED	<u>W3/DR</u> <u>RL</u>
2.9.7	Safety Injection Tank 2T-009 (63')				
.1	2HV-9364	SIT 2T-009 Nitrogen Supply Valve	(1)	CLOSED	<u>W3/DR</u> <u>RL</u>
2.9.8	Safety Injection Tank 2T-010 (63')				
.1	2HV-9374	SIT 2T-010 Nitrogen Supply Valve	(1)	CLOSED	<u>W3/DR</u> <u>RL</u>
2.9.9	Safety Injection Tank Drain Header (inside Containment) (30')				
.1	521204MU068	SIT Drain to RWST (Pen. 6)		LOCKED OPEN	<u>W3/DR</u> <u>RL</u>
.2	2HV-9335	SIT Drain to RCS Drain Tank (next to Biological Shield Access)		CLOSED	<u>W3/DR</u> <u>RL</u>
.3	2HV-9334	SIT Drain Header to RWST (inside Pen 6)		CLOSED	<u>W3/DR</u> <u>RL</u>
2.9.10	Main Control Board Indication				
.1	2HV-9345	2T-008 Vent Valve		CLOSED	<u>W3/DR</u> <u>RL</u>
.2	2HV-9355	2T-007 Vent Valve		CLOSED	<u>W3/DR</u> <u>RL</u>

NOTE: (1) Verify by CR-57 indication.



2.0 PROCEDURE (Continued)

<u>STEP</u>	<u>COMPONENT</u>	<u>DESCRIPTION</u>	<u>REQUIRED STATUS</u>	<u>INITIALS</u> <u>1ST/2ND</u>
2.9.10.3	2HV-9365	2T-009 Vent Valve	CLOSED	<u>BM/imp</u> <u>KR</u>
.4	2HV-9375	2T-010 Vent Valve	CLOSED	<u>BM/imp</u> <u>MYB</u>
2.10 <u>Safety Injection Pump Minimum Recirc.</u>				
2.10.1	2HV-9347	Safety Injection 2P-018 Minimum Recirc. to RWST	OPEN	<u>U/RL</u> <u>Q</u>
2.10.2	2HV-9348	Safety Injection 2P-018 Minimum Recirc. to RWST	OPEN	<u>U/RL</u> <u>Q</u>
2.10.3	2HV-9306	Safety Injection 2P-018 Minimum Recirc. to RWST	OPEN	<u>U/RL</u> <u>Q</u>
2.10.4	2HV-9307	Safety Injection 2P-018 Minimum Recirc. to RWST	OPEN	<u>U/RL</u> <u>Q</u>
2.11 <u>Safety Injection Tank Drain Header</u>				
2.11.1	S21204MU099	SIT Drain to RWST (at Pen 6)	LOCKED CLOSED	<u>BM/imp</u> <u>MYB</u>
2.11.2	S21204MU049	SIT Drain to RWST (SW Pen Area)	LOCKED OPEN	<u>BM/imp</u> <u>MYB</u>
2.11.3	S21219MU038	Spent Fuel Pool Ion Exch. to RWST Block Valve (30' Pen near Pen 67)	CLOSED	<u>U/RL</u> <u>Q</u>
2.11.4	S21204MU060	SIT Drain Line to RWST Isolation Valve	LOCKED CLOSED	<u>U/RL</u> <u>Q</u>

SAN ONOFRE NUCLEAR GENERATING STATION  
UNITS 2 AND 3

OPERATING INSTRUCTION S023-3-2.7  
REVISION 7 PAGE 9 OF 9  
ATTACHMENT 8.1  
CHECK-OFF LIST 1  
TCN 7-8

PERFORMED BY: [Signature]  
Operator Initials

DATE/TIME 2/15/85 1854

PERFORMED BY: [Signature]  
Operator Initials

DATE/TIME 2-16-85 0001

VERIFIED BY: [Signature]  
Operator Initials

DATE/TIME 2-15-85 / 1854

VERIFIED BY: [Signature]  
Operator Initials

DATE/TIME 2-15-85 / 1900

NOTE: SRO Ops. Supv. shall not sign "Reviewed By" until all comments in relation to this Check-Off List have been resolved i.e.: TCNs written and incorporated, caps and flanges installed, locks and chains in place, etc.

REVIEWED BY: [Signature]  
SRO Ops. Supv.

DATE/TIME 2-10-85 1850

FILE DISPOSITION: File per S023-0-28

COMMENTS: ① This is a key locked valve the position should read  
Locked Closed

PROCEDURE SIGNATURE SUPPLEMENT

TCN 2-1

Sheet \_\_\_\_\_ of \_\_\_\_\_

AFFECTED PROCEDURE: SO 023-3-2.7  
CHECKLIST NUMBER: 1

REVISION 7 TCN 7-8  
REVISION \_\_\_\_\_ TCN \_\_\_\_\_

PERFORMED BY: <u>[Signature]</u> <u>12-16-85</u> OPERATOR/INIT DATE/TIME	PERFORMED BY: _____ OPERATOR/INIT DATE/TIME
PERFORMED BY: <u>[Signature]</u> <u>3-2-85</u> OPERATOR/INIT DATE/TIME	PERFORMED BY: _____ OPERATOR/INIT DATE/TIME
PERFORMED BY: <u>[Signature]</u> <u>3-10-85</u> OPERATOR/INIT DATE/TIME	PERFORMED BY: _____ OPERATOR/INIT DATE/TIME
PERFORMED BY: _____ OPERATOR/INIT DATE/TIME	PERFORMED BY: _____ OPERATOR/INIT DATE/TIME
PERFORMED BY: _____ OPERATOR/INIT DATE/TIME	PERFORMED BY: _____ OPERATOR/INIT DATE/TIME
VERIFIED BY: <u>[Signature]</u> <u>2-16-85</u> OPERATOR/INIT DATE/TIME	VERIFIED BY: <u>[Signature]</u> <u>3-10-85</u> OPERATOR/INIT DATE/TIME
VERIFIED BY: <u>[Signature]</u> <u>6-6-85</u> OPERATOR/INIT DATE/TIME	VERIFIED BY: _____ OPERATOR/INIT DATE/TIME
VERIFIED BY: <u>[Signature]</u> <u>8/18/85</u> OPERATOR/INIT DATE/TIME	VERIFIED BY: _____ OPERATOR/INIT DATE/TIME
VERIFIED BY: <u>[Signature]</u> <u>5/14/85</u> OPERATOR/INIT DATE/TIME	VERIFIED BY: _____ OPERATOR/INIT DATE/TIME
VERIFIED BY: _____ OPERATOR/INIT DATE/TIME	VERIFIED BY: _____ OPERATOR/INIT DATE/TIME
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INDEP. VER. BY: <u>[Signature]</u> <u>2-14-85</u> OPERATOR/INIT DATE/TIME	INDEP. VER. BY: _____ OPERATOR/INIT DATE/TIME
INDEP. VER. BY: <u>[Signature]</u> <u>3-10-85</u> OPERATOR/INIT DATE/TIME	INDEP. VER. BY: _____ OPERATOR/INIT DATE/TIME
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