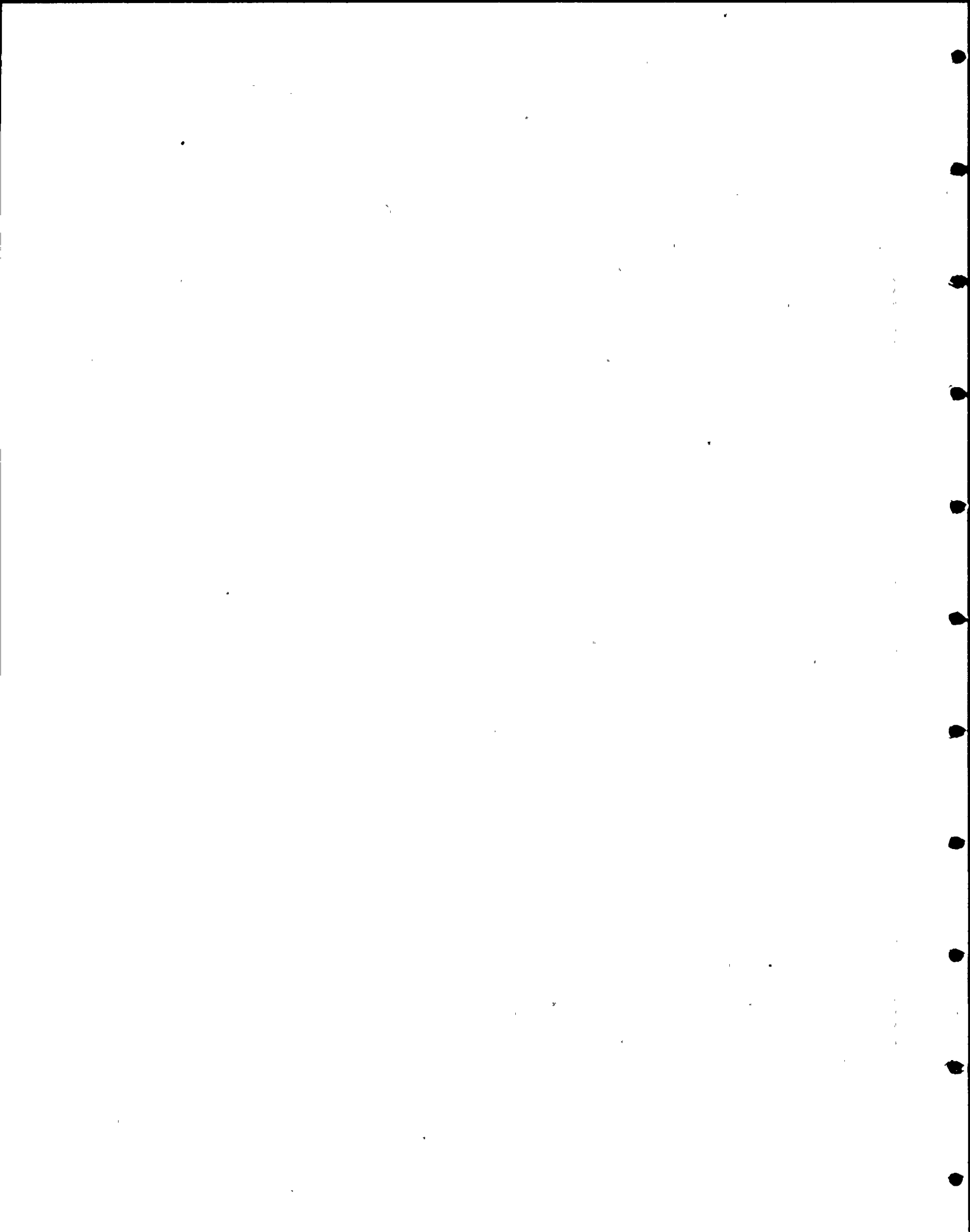


ATTACHMENT III

NPAP A-101 Relieving the Watch (Shift Turnover)

NPAP A-101 Supplement - Relieving the Watch



PG&E

Pacific Gas and Electric Company

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DEPARTMENT OF NUCLEAR PLANT OPERATIONS
NUCLEAR PLANT ADMINISTRATIVE PROCEDURE

TITLE RELIEVING THE WATCH (SHIFT TURNOVER).

APPROVED _____
MANAGER

SCOPE

PRELIMINARY

This administrative procedure establishes the rules of practice for transfer of responsibility from one operating shift to the next. This procedure does not cover relief of any one shift member during operations or the transition from the normal operating staff to an emergency operating staff.

DISCUSSION

This procedure has been established to assure a smooth transition from one operating shift to the next and to assure that those items important to plant operation and safety receive adequate attention. In general, this procedure summarizes the NRC and industry standards as well as those in the Company's "General Operating Orders for Steam Electric Power Plants."

PROCEDURE

1. Shift employees shall relieve the watch at the established time.
2. A checklist shall be provided for the oncoming and offgoing control room operators and the oncoming shift supervisor to complete and sign. The following items, as a minimum, shall be included in the checklist.
 - a. Assurance that critical plant parameters are within allowable limits (parameters and allowable limits shall be listed on the checklist).
 - b. Assurance of the availability and proper alignment of all systems essential to the prevention and mitigation of operational transients and accidents by a check of the control console. (What to check and criteria for acceptable status shall be included on the checklist).
 - c. Identification of systems and components that are in a degraded mode of operation permitted by the Technical Specifications. For such systems and components, the length of time in the degraded mode shall be compared with the Technical Specifications action statement (this shall be recorded as a separate entry on the checklist).

Checklists or logs shall be provided for completion by the offgoing and ongoing auxiliary operators and technicians. Such checklists or logs shall include any equipment under maintenance or test that by themselves could degrade a system critical to the prevention and mitigation of operational transients and accidents or initiate an operational transient (what to check and the criteria for acceptable status shall be included on the checklist).

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TITLE RELIEVING THE WATCH (SHIFT TURNOVER)

3. The operator being relieved shall not leave his station until he has completed and signed his log for the shift and given the oncoming operator a full report on station conditions. This shall include, as appropriate: 1) jobs or tests in progress, 2) bypassed or jumpered features, 3) cleared equipment, 4) work planned for upcoming shift, and 5) any other unusual conditions.
4. The relieving operator shall not take over the station until he is fully aware of its condition. No employee shall attempt work for which he is not mentally and physically fit. If the operator being relieved has reasonable grounds to suspect that the oncoming operator is either mentally or physically unfit to take over the shift, he shall report this immediately to the Shift Foreman and shall remain at his station until the matter is resolved.

If the Shift Foreman has reasonable grounds to suspect that the incoming operator is either mentally or physically unfit to take over the shift, he shall prohibit such employee from working until satisfactory medical or other evidence indicating his fitness is secured.

5. Shift employees shall familiarize themselves with all activities within their jurisdiction that have taken place during the preceding two shifts. As soon as practical following the start of the shift, the incoming operator shall read the log back to the time at which he was last on shift. In the event of an extended absence it is only necessary to review the log for the previous five days. He shall then acknowledge that this has been done by initialing the log near the signature of the operator who signed for the previous shift, or by making an appropriate statement in his own log entries that he has read the previous log, or equivalent.
6. A procedure or supplemental procedure shall be written to establish a system to evaluate the effectiveness of the shift and relief turnover procedure (for example, periodic independent verification of system alignments by senior members of the plant operations staff.

REFERENCES

1. ANS 3.2/ANSI N18.7 "Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants."
2. NRC Regulatory Guide 1.33: "Quality Assurance Program Requirements (Operation)."
3. "General Operating Orders," Steam Generation Department, Section 2.
4. NUREG 0578 "TMI-2 Lessons Learned Task Force Status Report and Short-Term Recommendations."

PACIFIC GAS AND ELECTRIC COMPANY
 DEPARTMENT OF NUCLEAR PLANT OPERATIONS
 DIABLO CANYON POWER PLANT UNIT NOS. 1 AND 2
 SUPPLEMENT 1 TO NUCLEAR PLANT ADMINISTRATIVE PROCEDURE NO. A-101

TITLE: RELIEVING THE WATCH

PRELIMINARY

SCOPE

This procedure describes the method used to assure a smooth transition from one shift to the next and to assure that those items that are important to plant operation and safety receive adequate attention.

The method used to evaluate the effectiveness of the shift and relief turnover will also be described.

DISCUSSION

The shift turnover checklists are provided to aid the Shift Foreman, RPM and operators in performing an efficient shift turnover and to remind the on-coming shift of the various routine review assignments. The off-going shift is required to complete the applicable portion of the appropriate checklist and turn it over to their relief. The on-coming shift personnel are required to discuss any outstanding items on the checklist with the off-going shift and review the items listed on the checklist for the on-coming shift.

PROCEDURE

A. OFF-GOING Shift Personnel

1. The off-going shift personnel will obtain a copy of the appropriate shift turnover procedure towards the end of the present shift. Normally this will be about one-half hour prior to shift relief.
2. The off-going personnel will do the required research and equipment checks required to fill out the off-going section of the shift turnover checklist and will complete the off-going shift section of checklist.
3. During the shift turnover, the off-going personnel will explain any problems, unusual conditions or work in progress to the on-coming shift personnel and will sign the shift turnover checklist.

B. ON-COMING Shift Personnel

1. After item A.3 above, the on-coming shift personnel should satisfy themselves that they understand the plant conditions prior to the off-going shift personnel leaving the immediate area.
2. The on-coming shift personnel will review the items listed on the

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DATE 5/23/80

APPROVAL _____

PLANT SUPERINTENDENT

DATE _____

TITLE: RELIEVING THE WATCH

checklist and will sign the on-coming shift turnover section of the checklist.

3. Shift turnover checklists will then be routed to the shift foreman for review.
4. The on-coming shift foreman will route the shift turnover checklists to the shift engineer for review.

C. Shift Engineer

1. The shift engineer should review the shift turnover procedures at the beginning of each shift.
2. The shift engineer will retain all shift turnover checklists for not less than two weeks.
3. Periodically the shift engineer will determine the effectiveness of the shift turnover. This determination should be made by using the following methods.
 - a. Personal observation of the shift turnover.
 - b. Verifying the comment section of the shift turnover checklist is being used when appropriate.
 - c. Obtain suggestions from the shift personnel on refinements to the checklists.
4. When appropriate the shift engineer will propose changes to the shift turnover checklists to the supervisor of Operations.

ATTACHMENTS

1. Shift Foreman Shift Turnover Checklist, Form 18-9195.
2. Control Operators Shift Turnover Checklist, Form 18-9196.
3. RPM Shift Turnover Checklist, Form 18-9377.

DEPARTMENT OF NUCLEAR PLANT OPERATIONS
DIABLO CANYON POWER PLANT UNIT NOS. 1 AND 2

SHIFT FOREMAN'S SHIFT TURNOVER CHECKLIST

OFFGOING SHIFT

Date _____ Present Shift _____

Unit 1 Operating Mode , Unit 2 Operating Mode

1. Review the status of the following items at the end of present shift:

	<u>Unit 1</u>		<u>Unit 2</u>	
	Yes	See Comments	Yes	See Comments
a. Shift Foreman log	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Jumper log	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Key log	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Yes See Comments		Yes See Comments
2. STP's in progress	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		No See Comments		No See Comments
3. Overdue STP listing clear	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Yes See Comments		Yes See Comments
4. STP I-1B, routine daily checks complete (Prior to 8 AM)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		No See Comments		No See Comments
5. Radioactive gaseous or liquid release in progress	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Yes See Comments		Yes See Comments

COMMENTS: _____

DEPARTMENT OF NUCLEAR PLANT OPERATIONS
DIABLO CANYON POWER PLANT UNIT NOS. 1 AND 2

SHIFT FOREMAN'S SHIFT TURNOVER CHECKLIST

	<u>Unit 1</u>		<u>Unit 2</u>	
6. List any safety systems equipment that is inoperable and required for this mode of operation. If any equipment is listed, give time remaining to complete Tech Spec Action requirement if any.	_____/____	hrs	_____/____	hrs
	_____/____	hrs	_____/____	hrs
	_____/____	hrs	_____/____	hrs
	_____/____	hrs	_____/____	hrs

	No	Yes See Comments	No	Yes See Comments
7. Tech Spec Action requirements imposed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	No	Yes See Comments	No	Yes See Comments
8. Outstanding safety related clearances	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	No	Yes See Comments	No	Yes See Comments
9. Outstanding safety related curtailments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Normal	See Comments	Normal	See Comments
10. Security system status	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	No	See Comments	No	See Comments
11. Welding permits in effect	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Normal	See Comments	Normal	See Comments
12. Fire system status	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS: _____

DEPARTMENT OF NUCLEAR PLANT OPERATIONS
DIABLO CANYON POWER PLANT UNIT NOS. 1 AND 2

SHIFT FOREMAN'S SHIFT TURNOVER CHECKLIST

- | | <u>Unit 1</u> | | <u>Unit 2</u> | |
|---|--------------------------------|---------------------------------|--------------------------------|---------------------------------|
| | Normal | See
Comments | Normal | See
Comments |
| 13. Containment integrity
(when required) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 14. Significant jobs in progress | No
<input type="checkbox"/> | Yes
<input type="checkbox"/> | No
<input type="checkbox"/> | Yes
<input type="checkbox"/> |
| 15. Shift turnover reviewed with
oncoming shift foreman. | | Yes
<input type="checkbox"/> | | |

COMMENTS: _____

OFFGOING SHIFT FOREMAN _____

DEPARTMENT OF NUCLEAR PLANT OPERATIONS
DIABLO CANYON POWER PLANT UNIT NOS. 1 AND 2

SHIFT FOREMAN'S SHIFT TURNOVER CHECKLIST

ONCOMING SHIFT

1. Review the items below:	<u>Unit 1</u>		<u>Unit 2</u>	
	Yes	See Comments	Yes	See Comments
a. SFM log	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. SFM Shift Turnover Checklist	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. CO log and Shift Turnover Checklist	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS: _____

ONCOMING SHIFT FOREMAN _____

PACIFIC GAS AND ELECTRIC COMPANY
 DEPARTMENT OF NUCLEAR PLANT OPERATIONS
 DIABLO CANYON POWER PLANT UNIT NOS. 1 AND 2

TITLE: REACTOR CONTROL OPERATORS SHIFT TURNOVER CHECKLIST

Date _____ Unit _____ Present Shift _____

OFFGOING SHIFT

Unit Operating Mode _____ Reactor Power _____ %

Existing Boron Conc. _____ PPM

Control Rod Bank _____ at Step _____

	<u>NO</u>	<u>SEE COMMENTS</u>
Load change in progress.	<input type="checkbox"/>	<input type="checkbox"/>
XE transients in progress.	<input type="checkbox"/>	<input type="checkbox"/>
Any unusual conditions existing.	<input type="checkbox"/>	<input type="checkbox"/>

1. Review the status of the following items at the end of Present Shift.

	<u>YES</u>	<u>SEE COMMENTS</u>
a. Control Operators log complete.	<input type="checkbox"/>	<input type="checkbox"/>
b. Seal Valve Change forms complete.	<input type="checkbox"/>	<input type="checkbox"/>
c. STP I-1A complete.	<input type="checkbox"/>	<input type="checkbox"/>
d. Annunciator Alarm c/o switch c/o.	<input type="checkbox"/>	<input type="checkbox"/>
e. Alarm Summary reviewed.	<input type="checkbox"/>	<input type="checkbox"/>
f. P250 Alarm review.	<input type="checkbox"/>	<input type="checkbox"/>

2. Critical Plant Parameters:
 Determine if the following critical plant parameters are within the control band given.

	<u>YES</u>	<u>SEE COMMENTS</u>
a. T_{AVG} ($T_{ref} \pm 2^{\circ}F$).	<input type="checkbox"/>	<input type="checkbox"/>
b. PZR Pressure (2235 ± 15 psig).	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

REACTOR CONTROL OPERATORS SHIFT TURNOVER CHECKLIST

	<u>YES</u>	<u>SEE COMMENTS</u>
c. PZR Level (Lref ± 2%).	<input type="checkbox"/>	<input type="checkbox"/>
d. STM Gen Levels (4) (SG Level Setpoint ± 2%).	<input type="checkbox"/>	<input type="checkbox"/>
e. ΔI (within Target Band).	<input type="checkbox"/>	<input type="checkbox"/>
f. Cond. Tank Level (>40%).	<input type="checkbox"/>	<input type="checkbox"/>
g. Fire Water Tank (>90%).	<input type="checkbox"/>	<input type="checkbox"/>
h. RWST Level (>83%).	<input type="checkbox"/>	<input type="checkbox"/>

3. Safety Systems Availability

Determine pumps have power available by observing breaker position lights, determine valve conditions using position indication.

Diesel Generator selector switches in AUTO.

	<u>YES</u>	<u>SEE COMMENTS</u>
a. D/G No. 1	<input type="checkbox"/>	<input type="checkbox"/>
b. D/G No. 2	<input type="checkbox"/>	<input type="checkbox"/>
c. D/G No. 3	<input type="checkbox"/>	<input type="checkbox"/>

NORMAL SEE
COMMENTS

Auxiliary Feedwater System

- | | | |
|--|--------------------------|--------------------------|
| a. M.D. AFW Pumps 2 and 3 Power Available. | <input type="checkbox"/> | <input type="checkbox"/> |
| b. LCV's 110, 111, 115, 113 in AUTO. | | |
| c. S.D. AFW pump 1 FCV 152 open. | | |
| d. Steam supply lead 3 FCV 38 open. | | |
| e. Steam supply lead 2 FCV 37 open. | | |
| f. SG level control valves (LCV 106, 107, 108 and 109) open. | | |
| g. Main Feedwater pump feature c/o switch for AFW pump Auto store c/1. | | |

COMMENTS _____

REACTOR CONTROL OPERATORS SHIFT TURNOVER CHECKLIST

	<u>NORMAL</u>	<u>SEE COMMENTS</u>
<u>CVCS</u>		
a. Cent. Charging Pumps 1 and 2 Power Available.	<input type="checkbox"/>	<input type="checkbox"/>
b. Charging PP suct from RWST valves 8805A and B Power Available.		
c. BIT inlet and outlet valves 8803A and B, 8801A and B Power Available.		

<u>Valve Power Series Contactors</u>	<u>OPEN/NORMAL POSITION</u>	<u>SEE COMMENTS</u>
Valves 8974A 8809A 8982A 8982B 8974B 8809B	<input type="checkbox"/>	<input type="checkbox"/>

<u>Safety Injection System</u>	<u>NORMAL</u>	<u>SEE COMMENTS</u>
a. SI Pp suction from RWST Valve 8976 open.	<input type="checkbox"/>	<input type="checkbox"/>
b. SI Pp suction valves from RWST valves 8923A and B open.		
c. SI Pps 1 and 2 Power Available.		
d. SI Pp discharge Xtie valves 8821A and B open.		
e. SI to Cold legs valve 8835 open.		

<u>RHR System</u>	<u>NORMAL</u>	<u>SEE COMMENTS</u>
a. RHR Pp suction from RWST valve 8980 open.	<input type="checkbox"/>	<input type="checkbox"/>
b. RHR Pp suction valves 8700A and B open.		
c. RHR Pps 1 and 2 Power Available.		
d. RHR to Cold legs 8809A and B open.		

COMMENTS _____

REACTOR CONTROL OPERATORS SHIFT TURNOVER CHECKLIST

DISCHARGE ISOL. VALVES <u>VLVS. OPEN/PWR. OFF</u>	SEE COMMENTS _____
---	--------------------------

Accumulators

ACCUM Valve 8808A
 ACCUM Valve 8808B
 ACCUM Valve 8808C
 ACCUM Valve 8808D
 Valves open and Power removed

<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------

<u>NORMAL</u>	<u>SEE COMMENTS</u>
---------------	-------------------------

Containment Spray System

<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------

- a. CS Pps 1 and 2 Power Available.
- b. CS Pp discharge valves 9001A and B closed.
- c. Spray additive tank outlet valves 8994A and B closed.

Containment Fan Coolers/ASW/CCW

<u>POWER AVAILABLE</u>	<u>SEE COMMENTS</u>
----------------------------	-------------------------

Cont. Fan Coolers (5) Power Available.
 ASW Pumps (2) Power Available.
 CCW Pumps (3) Power Available.

<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

4. Safety Related Equipment Inoperable

(List any system, component or alarm that is inoperable.)

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

COMMENTS _____

REACTOR CONTROL OPERATORS SHIFT TURNOVER CHECKLIST

OFFGOING Reactor Control Operator _____

COMMENTS _____

REACTOR CONTROL OPERATORS SHIFT TURNOVER CHECKLIST

ONCOMING SHIFT

1. Review the items below.
 - a. C.O. log book.
 - b. C.O. Shift Turnover Checklist.

COMMENTS _____

Oncoming Control Operator _____

DEPARTMENT OF NUCLEAR PLANT OPERATIONS
DIABLO CANYON POWER PLANT UNIT. NOS. 1 AND 2

SHIFT RADIATION PROTECTION MONITOR TURNOVER CHECKLIST

OFFGOING SHIFT

DATE _____

PRESENT SHIFT _____

1. Review the status of the following items.

REVIEWED

SEE COMMENTS

a. Shift RPM logbook complete

b. STP's review complete.

c. SWP's prepared for oncoming shift.

2. List below any radiation, hi radiation or airborne radiation area established in the last 16 hours. _____

3. List any duties the Shift Foreman has requested and are ongoing.

COMMENTS _____

SHIFT RADIATION PROTECTION MONITOR TURNOVER CHECKLIST

4. List any samples requested by the Shift Foreman during the shift. Indicate those that have not been completed.

5. Review the following requirements and indicate the action requirements. Use the comment section below for additional information or actions not covered in the table.

REQUIREMENT	REFERENCE	ACTION REQUIRED	
		NO	YES
Accumulators (Boron analysis after $\geq 1\%$ Accumulator Volume Increase)	TS 3.5.1		
RCS I-131, 133 and 135 Analysis (Sample to be taken between 2 and 6 hours after 15% RTP change in one hour)	TS 3.4.8		
Containment atmosphere, steam generator blowdown tank vent (sample after startup, shutdown or power change greater than 15% RTP in one hour)	TS 3.11.2.1	CONTAINMENT	
		STM GEN	BLDN
Plant Vent Charcoal and Particulate (Samples taken once per 24 hours for 7 days following startup, shutdown or RTP change greater than 15% in one hour)	TS 3.11.2.1		
RMS Channel 18 liquid radwaste monitoring (Channel inoperable increases sampling and valve lineup requirements)	TS 3.3.3.10		
RMS Channel 3 Oily Water discharge monitoring (Channel inoperable increases sampling requirements)	TS 3.3.3.10		
RMS Channel 23 Steam Gen. Blowdown Tank effluent monitoring (Channel inoperable increases sampling requirements)	TS 3.3.3.10		
RMS Channel 14A & B inoperability requires noble gas sample from plant vent each shift	TS 3.3.3.11		
Tritium grab samples once/24hrs when refueling canal is flooded	TS 3.11.2.1		

COMMENTS _____

SHIFT RADIATION PROTECTION MONITOR TURNOVER CHECKLIST

6. List any unusual radiological or chemical related conditions or work being performed.

- a. _____
- b. _____
- c. _____
- d. _____

7. Any gaseous or liquid radioactive releases in progress?

NO YES-SEE COMMENTS

OFFGOING RPM _____

ONCOMING SHIFT

1. Review the items below:

REVIEWED

SEE COMMENTS

- a. Shift RPM logbook.
- b. SWP's held over or initiated.
- c. RPM Shift Turnover Checklist

ONCOMING RPM _____

COMMENTS _____

