NUCLEAR POWER GENERATION
DIABLO CANYON POWER PLANT
JOB PERFORMANCE MEASURE

Number: ADMNRC-12SRO

Title: VERIFY AFD IS WITHIN TECH SPEC LIMITS

Examinee:

Evaluator:

	Print	Signature	Date

Results: Sat Unsat Total Time: minutes

Comments:

References: STP I-1C, Routine Weekly Checks, Attachment 11.1, Rev. 65

Volume 9B, Curves and Miscellaneous Data, Figure R23-1F-1, 1/14/2000, Rev. 131

Technical Specifications, DCPP Units 1 & 2

COLR for DCPP Unit 1, Cycle 10, Rev. 0

Alternate Path: Yes No X

Time Critical: Yes No X

Time Allotment: 10 Minutes

Critical Steps: 2, 4, 5, 6, 7, 8, 9

Job Designation: SRO

Task Number: G2.1.33

Rating: 4.0

AUTHOR:	DAVE BURNS	DATE:	2/6/2000
REVIEWED BY:	N/A	DATE:	N/A
	JPM COORDINATOR		
APPROVED BY:	N/A	DATE:	N/A
	TRAINING LEADER		REV. 0

Directions: **No plant controls or equipment are to be operated during the performance of this Job Performance Measure**. All actions taken by the examinee should be clearly demonstrated and verbalized to the evaluator. The student will be given the initial conditions, initiating cue, and task standard. The examiner will then ask if any clarifications are needed. The examinee may be given the procedure and told the step with which to begin.

Required Materials: None

Initial Conditions: Unit 1 rapidly ramped down to due to a leak on the No. 2 Heater Drain Tank pump. Reactor power is currently stabilized at approximately 75%.

Current Axial Flux Difference(AFD) readings are as follows:

NI-41C -21.0%

NI-42C -23.0%

NI-43C -23.0%

NI-44C -21.0%

PK03-25 P250 RX ALM AXIAL FLUX/ROD POS input 1251 activated

Indicated Reactor Power based on U1169A05 75.2%

U4300A05 is not available.

PPC MAX is 100.2%

Initiating Cue: Unit 1 BOPCO has just completed STP I-1C, Routine Weekly Checks, Attachment 11.1, Step 1.

BOPCO has determined that the AFD for two (2) excore channels are not within the AFD limits.

Review the completed STP Data sheet and determine if his assessment is correct and implement any actions needed based on your review.

Task Standard: STP I-1C, Routine Weekly Checks, Attachment 11.1, Step 1. reviewed for completeness and any actions implemented based on your review.

Start Time:

Step	Expected Operator Actions
	1. Operator obtains correct procedure.
1.1	

*Denotes an entry required on the JPM cover sheet.
**Denotes a Critical Step.

Operator obtains STP I-1C, Attachment 11.1.

****

Cue: Provide candidate with exam copy of STP-I-1C, Attachment 11.1.

****

Step was: Sat: _____ Unsat _____*

1.2 2. **Verifies present Reactor Power.

2.1 References Note 1 for determination of reactor power.

2.2 Uses U1169A05 value (75.2)/ PPC Max (100.2) x 100.

2.3 Verifies RTP% to be 75%

Step was: Sat: _____ Unsat _____*

2.4 3. Operator obtains correct procedure.

3.1

*Denotes an entry required on the JPM cover sheet.
**Denotes a Critical Step.

Operator obtains Figure R23-1F-1 for Unit 1 from Volume 9.

****

Cue: Provide candidate with exam copy of Figure R23-1F-1.

****

Step was: Sat: _____ Unsat _____*

3.2

3.3

*Denotes an entry required on the JPM cover sheet.
**Denotes a Critical Step.

4. **Verifies Upper AFD Limit.	References R23-1F-1
4.1	4.2 Determines Upper AFD Limit to be +17.5%.
	4.3 Verifies +17.5% recorded for Upper AFD Limit.
	Step was: Sat: _____ Unsat _____*
	4.4 5. **Verifies Lower AFD Limit.
	5.1

*Denotes an entry required on the JPM cover sheet.
**Denotes a Critical Step.

References R23-1F-1

5.2 Determines Lower AFD Limit to be -22%.

5.3 Verifies -22% recorded for Lower AFD Limit.

Step was: Sat: _____ Unsat _____*

5.4 6. **Verifies indicated AFD values

6.1 Verifies indicated AFD values recorded for each NI.

Step was: Sat: _____ Unsat _____*

6.2 7. **Verifies AFD is Within limits.

7.1

*Denotes an entry required on the JPM cover sheet.
**Denotes a Critical Step.

Verifies that AFD is within limits for NIs 41C and 44C and boxes marked.

7.2 Verifies that AFD is outside the limits for NIs 42C and 43C and boxes marked.

Step was: Sat: _____ Unsat _____*

7.3 8. **Verifies that 2 excore channels exceed AFD Limit.

8.1

Verifies BOPCO notes that AFD limit is currently being exceeded.

Step was: Sat: _____ Unsat _____*

8.2

*Denotes an entry required on the JPM cover sheet.
**Denotes a Critical Step.

9. **Determines AFD exceeds Tech Spec Limits.	Refers to Tech Spec 3.2.1.
9.1	9.2 Refers to Unit 1 COLR 1-10
	Note: Figure R23-1F-1 provides same information as COLR 1-10 and may be used.
	9.3 Determines AFD is outside limits specified in the COLR.
	9.4 Determines actions to be either to return AFD within limits within 15 minutes, or reduce thermal power to less than 50% within 30 minutes.
	Step was: Sat: _____ Unsat _____*
	9.5

Stop Time:

Total Time: (Enter total time on the cover page)

*Denotes an entry required on the JPM cover sheet.
**Denotes a Critical Step.

Initial Conditions: Unit 1 rapidly ramped down to due to a leak on the No. 2 Heater Drain Tank pump. Reactor power is currently stabilized at approximately 75%.

Current Axial Flux Difference(AFD) readings are as follows:

NI-41C -21.0%

NI-42C -23.0%

NI-43C -23.0%

NI-44C -21.0%

PK03-25 P250 RX ALM AXIAL FLUX/ROD POS input 1251 activated

Indicated Reactor Power based on U1169A05 75.2%

U4300A05 is not available.

PPC MAX is 100.2%

Initiating Cue: Unit 1 BOPCO has just completed STP I-1C, Routine Weekly Checks, Attachment 11.1, Step 1.

BOPCO has determined that the AFD for two (2) excore channels are not within the AFD limits.

Review the completed STP Data sheet and determine if his assessment is correct and implement any actions needed based on your review.

Task Standard: STP I-1C, Routine Weekly Checks, Attachment 11.1, Step 1. reviewed for completeness and any actions implemented based on your review.

NUCLEAR POWER GENERATION
DIABLO CANYON POWER PLANT
JOB PERFORMANCE MEASURE

Number: ADMNRC-13

Title: PERFORM SEALED VALVE CHECKLIST

Examinee:

Evaluator:

	Print	Signature	Date

Results: Sat Unsat Total Time: minutes

Comments: **Perform while in RCA**

References: OP K-10A1, CVCS Sealed Valve Checklist (Boric Acid Supply from Boric Acid Storage Tank to Blender Room), Attachment 9.2, Rev. 9

Alternate Path: Yes x No

Time Critical: Yes No x

Time Allotment: 15 Minutes

Critical Steps: 3, 4, 5, 6, 7, 8, 9

Job Designation: RO/SRO

Task Number: G2.1.29

Rating: 3.4/3.3

AUTHOR:	DAVE BURNS	DATE:	2/16/2000
REVIEWED BY:	N/A	DATE:	N/A
	JPM COORDINATOR		
APPROVED BY:	N/A	DATE:	N/A
	TRAINING LEADER		REV. 0

Directions:	**No plant controls or equipment are to be operated during the performance of this Job Performance Measure**. All actions taken by the examinee should be clearly demonstrated and verbalized to the evaluator. The student will be given the initial conditions, initiating cue, and task standard. The examiner will then ask if any clarifications are needed. The examinee may be given the procedure and told the step with which to begin.
Required Materials:	None
Initial Conditions:	Unit 1 was shutdown 5 days ago to repair an MSIV. Unit 1 currently is in Mode 5. OP L-0, Mode 5 to 4 Transition Checklist is in progress. All Unit 1 systems remained "controlled" during the MSIV repairs. No seals were removed from any systems during the mini-outage.
Initiating Cue:	Unit 1 Shift Foreman directs you to perform the Independent Verification steps for OP K-10A1, CVCS Sealed Valve Checklist, Attachment 9.2 - Sealed Valve Check List for Boric Acid Supply NORMAL.
Task Standard:	Independent Verification of Attachment 9.2 - Sealed Valve Check List for Boric Acid Supply NORMAL is completed and Shift Foreman informed.

Start Time:

Step	Expected Operator Actions
1.	Operator obtains correct procedure.
1.1	

*Denotes an entry required on the JPM cover sheet.
**Denotes a Critical Step.

Operator obtains OP K-10A1 Attachment 9.2

Note: Provide candidate with exam copy of OP K-10A1

Step was: Sat: _____ Unsat _____*

1.2 2. Operator reviews procedure.

2.1

Operator reviews OP K-10A1 Attachment 9.2

****

Cue: Start with step A.6

****

Step was: Sat: _____ Unsat _____*

2.2 3. ** Verifies position of BA Xfer Pp 1-2 suction valve.

3.1

*Denotes an entry required on the JPM cover sheet.
**Denotes a Critical Step.

Operator locates CVCS-1-8463A

3.2 Operator verifies valve is open and seal is installed.

****

Cue: Valve is open and seal is installed.

****

3.3 Operator initials checklist

Step was: Sat: _____ Unsat _____*

3.4

*Denotes an entry required on the JPM cover sheet.
**Denotes a Critical Step.

4. ** Verifies position of BA Xfer Pp 1-1 suction valve.

4.1

Operator locates CVCS-1-8463B

4.2 Operator verifies valve is open and seal is installed.

****

Cue: Valve is open and seal is installed.

****

4.3 Operator initials checklist

Step was: Sat: _______ Unsat _______*

4.4 5. ** Verifies position of BA Xfer Pp 1-2 discharge valve.

5.1

*Denotes an entry required on the JPM cover sheet.
**Denotes a Critical Step.

Operator locates CVCS-1-8460A	Operator locates CVCS-1-8458A
5.2 Operator verifies valve is open and seal is installed.	6.2 Operator verifies valve is open and seal is installed.
**********	**********
Cue: Valve is open and seal is installed.	**Cue: Valve is closed and seal is installed.**
**********	**********
5.3 Operator initials checklist	6.3 Operator initials checklist
Step was: Sat: _____ Unsat _____*	**Step was: Sat: _____ Unsat _____***
5.4 6. ** Verifies position of BA Xfer Pp 1-2 filter bypass valve.	6.4
6.1	

*Denotes an entry required on the JPM cover sheet.
**Denotes a Critical Step.

7. ** Verifies position of BA Xfer Pp 1-1 filter bypass valve.

7.1

Operator locates CVCS-1-8458B

7.2 Operator verifies valve is open and seal is installed.

****

Cue: Valve is closed and seal is installed.

****

7.3 Operator initials checklist

Step was: Sat: _______ Unsat _______*

7.4 8. ** Verifies position of BA Xfer Pp Recirc BA Stg Tk 1-2

8.1

*Denotes an entry required on the JPM cover sheet.
**Denotes a Critical Step.

Operator locates CVCS-1-8459A

8.2 Operator verifies valve is open and seal is installed.

****

Cue: Valve is open and seal is installed.

****

8.3 Operator initials checklist

Step was: Sat: _____ Unsat _____*

8.4

*Denotes an entry required on the JPM cover sheet.
**Denotes a Critical Step.

9. ** Verifies position of BA Xfer Pp Recirc BA Stg Tk 1-1

9.1 Operator locates CVCS-1-8459B

9.2 Operator verifies valve is open and seal is installed.

****

Cue: Valve is open and seal is MISSING

****

9.3 Operator contacts Unit 1 SFM.

****

Cue: Inform candidate that the SFM directs him to obtain a new seal and reseal the valve.

****

9.4 Operator locates sealing device at Auxiliary Control Board.

Note: Once seal is located at the auxiliary control board, leave seal at auxiliary control board.

9.5 Operator returns to CVCS-1-8459B and installs seal

Step was: Sat: _______ Unsat _______*

9.6 10. Operator completes Sealed Valve checklist.

10.1

*Denotes an entry required on the JPM cover sheet.
**Denotes a Critical Step.

Operator prints name in appropriate location.

10.2 Operator signs attach. on sig. line.

10.3 Operator initials attach. on init line.

10.4 Operator inputs date and time.

Step was: Sat: _____ Unsat _____*

10.5

Stop Time: **Total Time:** (Enter total time on the cover page)

*Denotes an entry required on the JPM cover sheet.
**Denotes a Critical Step.

Initial Conditions:	Unit 1 was shutdown 5 days ago to repair an MSIV. Unit 1 currently is in Mode 5. OP L-0, Mode 5 to 4 Transition Checklist is in progress. All Unit 1 systems remained "controlled" during the MSIV repairs. No seals were removed from any systems during the mini-outage.
Initiating Cue:	Unit 1 Shift Foreman directs you to perform the Independent Verification steps for OP K-10A1, CVCS Sealed Valve Checklist, Attachment 9.2 - Sealed Valve Check List for Boric Acid Supply NORMAL.
Task Standard:	Independent Verification of Attachment 9.2 - Sealed Valve Check List for Boric Acid Supply NORMAL is completed and Shift Foreman informed.

Number: ADMNRC-14SRO

Title: REVIEW AP-5 BISTABLE TRIP AUTHORIZATION FORM

Examinee:

Evaluator:

	Print	Signature	Date

Results: Sat Unsat Total Time: minutes

Comments:

References: OP AP-5, Malfunction of Protection or Control Channel, Attachments 4.1 & 4.2, Rev. 15

Technical Specifications, DCPP Units 1 & 2

Alternate Path: Yes X No

Time Critical: Yes No X

Time Allotment: 15 Minutes

Critical Steps: 2

Job Designation: SRO

Task Number: G2.2.20

Rating: 3.3

Directions:	**No plant controls or equipment are to be operated during the performance of this Job Performance Measure**. All actions taken by the examinee should be clearly demonstrated and verbalized to the evaluator. The student will be given the initial conditions, initiating cue, and task standard. The examiner will then ask if any clarifications are needed. The examinee may be given the procedure and told the step with which to begin.
Required Materials:	None
Initial Conditions:	Unit 1 is at 100% power. Pressurizer Pressure Transmitter PT-456 has failed low. All AP-5 operator actions have been completed. Shift Foreman has completed AP -5, Attachment 4.2, Bistable Trip Authorization form for the failed transmitter.
Initiating Cue:	As the Shift Supervisor, perform a review of the information on the completed Bistable Trip Authorization form.
Task Standard:	Review completed and three (3) technical errors identified.

Start Time:

Step	Expected Operator Actions
	1. Obtain the correct reference material.

*Denotes an entry required on the JPM cover sheet.
**Denotes a Critical Step.

****

Cue: Provide Operator with completed AP-5 Attachment 4.2

****

1.1 Operator obtains OP AP-5

Step was: Sat: _____ Unsat _____*

1.2 2. **Operator identifies AP-5, Attachment 4.2 errors.

2.1 Identifies PC-456A required status should be tripped.

2.2 Identifies PC-456B is not needed.

2.3 Identifies PC-455D is missing and adds to form.

Step was: Sat: _____ Unsat _____*

2.4

Stop Time:

Total Time: (Enter total time on the cover page)

*Denotes an entry required on the JPM cover sheet.
**Denotes a Critical Step.

Initial Conditions:	Unit 1 is at 100% power. Pressurizer Pressure Transmitter PT-456 has failed low. All AP-5 operator actions have been completed. Shift Foreman has completed AP -5, Attachment 4.2, Bistable Trip Authorization form for the failed transmitter.
Initiating Cue:	As the Shift Supervisor, perform a review of the information on the completed Bistable Trip Authorization form.
Task Standard:	Review completed and three (3) technical errors identified.

Nuclear Power Generation
Diablo Canyon Power Plant
Job Performance Measure

Number: ADMNRC-17SRO

Title: PERFORM AN OFF-SITE DOSE ASSESSMENT - GDT RUPTURE

Examinee:

Evaluator:

	Print	Signature	Date

Results: Sat Unsat Total Time: minutes

Comments:

References: EP G-1, Emergency Classification and Emergency Plan Activation, Rev. 28

EP R-2, Release of Airborne Radioactive Materials Initial Assessment, Attachments 10.1 & 10.2, Rev. 19C

Alternate Path: Yes X No

Time Critical: Yes No X

Time Allotment: 15 minutes

Critical Steps: 2, 3, 5

Job Designation: SRO

Task Number: G2.4.41

Rating: 4.1

AUTHOR:	DAVE BURNS	DATE:	2/6/2000
REVIEWED BY:	N/A	DATE:	N/A
	JPM COORDINATOR		
APPROVED BY:	N/A	DATE:	N/A
	TRAINING LEADER		REV. 0

Directions:	**No plant controls or equipment are to be operated during the performance of this Job Performance Measure**. All actions taken by the examinee should be clearly demonstrated and verbalized to the evaluator. The student will be given the initial conditions, initiating cue, and task standard. The examiner will then ask if any clarifications are needed. After identifying the appropriate procedure for the task, the examinee may be given the procedure and told the step with which to begin.
Required Materials:	Calculator
Initial Conditions:	Both units are at 100% power, MOL, equilibrium conditions. Gas decay tank 11 rupture disk failed and the relief valve will not reseat. The following plant conditions exist: Plant Vent Flow Rate on FR-12 is 23 X 10^4 CFM RE14/14R and 87 are overranged RE-29 is reading 4.0 mR/hr No MET Tower data is available
Initiating Cue:	The Shift Supervisor directs you to perform a dose assessment and recommend an emergency classification based on your dose assessment. The PPC program for R-2 calculations is unavailable.
Task Standard:	Dose assessed and a recommendation made for the emergency classification.

Start Time:

Step	Expected Operator Actions
	1. Obtain the correct procedure.
	1.1

*Denotes an entry required on the JPM cover sheet.
**Denotes a Critical Step.

References EP R-2

Note: Provide candidate exam copy of Attachment 10.1 and 10.2 from EP-R2.

Step was: Sat: _____ Unsat: _____*

1.2 2. Calculate the plant vent release.

2.1

References Attachment 10.1, page 1, of EP R-2.

2.2 Fills out section 1.

2.3 Determines plant vent flow rate from FR-12 chart recorder is 230000 CFM

2.4 Determines RE-14/14R/87 reading from the radiation monitors.

****

Cue: RE-14/14R/87 are reading overranged.

****

2.5 Determines RE-29 reading is 4.0 mR/hr

2.6 Determines Noble Gas Release Rate to be 4.3 Ci/sec.

2.7 Determines Total Effluent Conversion Factor is RCS from Page 3 of Attach.10.1.

2.8 Determines Total Effluent Release Rate is 4.3 Ci/Sec.

Step was: Sat: _____ Unsat: _____*

2.9

*Denotes an entry required on the JPM cover sheet.
**Denotes a Critical Step.

3. ** Perform dose calculations.

3.1

References Attach. 10.2 of EP R-2.

3.2 Fills out section 1

3.3 Obtains met data from PPC.

****

Cue: Inputs to the PPC from the primary and backup met towers are bad quality.

****

3.4 Determines X/Q from default value to be 5.29 E-4 sec/m^3.

3.5 Determines DCF to be RCS.

3.6 Calculates TEDE rate of 250 mR/hr (±20 mR/hr) and a total dose of 750 mR (±50mR).

3.7 Determines thyroid CDE calculation to be N/A.

Step was: Sat: _____ Unsat: _____*

3.8 4. Obtain correct procedure.

4.1

*Denotes an entry required on the JPM cover sheet.
**Denotes a Critical Step.

References EP G-1.

Step was: Sat: _____ Unsat: _____*

4.2 5. ** Recommend event classification.

5.1
Stop Time: Total Time:

Recommends event classification as a SITE AREA EMERGENCY (G-1, SAE #3)

Step was: Sat: _____ Unsat: _____*

5.2

(Enter total time on the cover page)

*Denotes an entry required on the JPM cover sheet.
**Denotes a Critical Step.

Initial Conditions: Both units are at 100% power, MOL, equilibrium conditions. Gas decay tank 11 rupture disk failed and the relief valve will not reseat.

The following plant conditions exist:

Plant Vent Flow Rate on FR-12 is 23 X 10^4 CFM

RE14/14R and 87 are overranged

RE-29 is reading 4.0 mR/hr

No MET Tower data is available

Initiating Cue: The Shift Supervisor directs you to perform a dose assessment and recommend an emergency classification based on your dose assessment. The PPC program for R-2 calculations is unavailable.

Task Standard: Dose assessed and a recommendation made for the emergency classification.

CATEGORY: A.3
TOPIC: Exposure Limits
KA: G2.3.4 (3.1)
Job Designation: SRO

Reference Allowed: YES

Reference: RP10T, Obj. 2.1, Pg.5; RP1.ID6, Personnel Dose Limits and Monitoring Requirements, Step 7.3.5, Rev 5.

QUESTION # 1:

An Auxiliary Operator has a Total Effective Dose Equivalent exposure of 1.5 R for the current year.

How long can this operator stay in a radiation area which has just exceeded the limit to be posted as a **High High Radiation Area**, without exceeding the DCPP Administrative Guideline?

ANSWER:

30 Minutes (2000mr - 1500mr = 500mr 1000mr/hr / 500mr = 30 min)

Candidate's Response: **SAT _____ UNSAT _____**

CATEGORY: A.3
TOPIC: Emergency Exposure Limits
KA: G2.3.1 (3.0)
Job Designation: SRO

Reference Allowed: YES

Reference: LEP 3, Rev. 1, Page 5; EP RB-2, Emergency Exposure Guides, Rev. 4B, Page 4

QUESTION # 2:

A Senior Control Operator was in Unit 1 Containment investigating a leak when a small break LOCA occurred.

Unit 1 SFM declared an Alert and the Technical Support Center has just been activated.

The Emergency Operations Facility has not been activated at this time.

The SCO is now trapped in Containment with radiation levels of 10 R/hr.

Who can authorize an emergency exposure to rescue the Senior Control Operator?

ANSWER:

Site Emergency Coordinator

Candidate's Response: **SAT _____ UNSAT _____**

CATEGORY: A.3

QUESTION # 1:

References Allowed: YES

An Auxiliary Operator has a Total Effective Dose Equivalent exposure of 1.5 R for the current year.

How long can this operator stay in a radiation area which has just exceeded the limit to be posted as a **High High Radiation Area**, without exceeding the DCPP Administrative Guideline?

CATEGORY: A.3

QUESTION # 2:

References Allowed: YES

A Senior Control Operator was in Unit 1 Containment investigating a leak when a small break LOCA occurred.

Unit 1 SFM declared an Alert and the Technical Support Center has just been activated.

The Emergency Operations Facility has not been activated at this time.

The SCO is now trapped in Containment with radiation levels of 10 R/hr.

Who can authorize an emergency exposure to rescue the Senior Control Operator?