

RESPOND TO A RCP MALFUNCTION

K/A REFERENCE: 015/17AA1.07 (3.5/3.4)
(NUREG-1122) 015/17 AA1.22 (4.0/4.2)
015/17 AA2.01 (3.0/3.5)
015/17AA2.10 (3.7/3.7)

ALTERNATE PATH JPM YES NO

PERFORMANCE CHECKLIST:

SATISFACTORY - Properly performed critical step(s) and/or in sequence (if applicable)

UNSATISFACTORY - Improperly performed critical step(s) and/or out of sequence (if applicable)

Procedure adequately addresses task elements.
Enter identifier here: AOP-1B, Rev. 11

Other document adequately describes necessary task elements.
Enter identifier here: _____

Task elements described as attached.

DESIRED MODE OF EVALUATION:

APPLICABLE EVALUATION SETTING:

SIMULATE/WALKTHROUGH DISCUSSION PERFORM IN-PLANT CONTROL ROOM

VALIDATED TIME FOR COMPLETION: 15 MINUTES

RESPOND TO A RCP MALFUNCTION

PERFORMANCE INFORMATION

NOTE: CRITICAL STEPS ARE DENOTED WITH A "Y". FAILURE TO MEET THE STANDARDS FOR THIS ITEM CONSTITUTES FAILURE.

	STEP/SEQUENCE/CRITICAL			SAT
	9	9	N	UNSAT

ELEMENT: Adjust seal injection throttle valve, and charging flow control valves as necessary to establish a positive labyrinth seal DP. (1CV-300A and/or 1HC-142).

STANDARD: 1) CO adjusts HC-142 to establish a positive labyrinth seal ΔP and/or
 2) PAB AO adjusts 1CV-300A to establish a positive labyrinth seal ΔP.

CUE: ~~Positive labyrinth seal ΔP is indicated on IPI-131 for 1A RCP (or as indicated on simulator).~~
Test exam applicant to adjust HC-142 to establish 720"

NOTE: ~~This step requires adjustment only if lab seal ΔP is not positive, therefore the operator may not make any adjustments.~~

COMMENTS: *Examiner - cue licensee to put in vibration problem.*

	STEP/SEQUENCE/CRITICAL			SAT
	10	10	N	UNSAT

ELEMENT: Check thermal barrier cooling normal:
 1) Thermal barrier outlet AOV open (1CV-761A & B) on 1C03.
 2) RCP cooling water low flow alarm clear (1C03 1D 1-4 & 1-5).

STANDARD: Thermal barrier checked as above. *check*

CUE: 1) 1CV-761A and 1CV-761B red lights on, green lights off (or as indicated on simulator.)
 2) RCP cooling water Low Flow alarm is not lit (or as indicated on simulator.)

COMMENTS:

	STEP/SEQUENCE/CRITICAL			SAT
	11	11	N	UNSAT

ELEMENT: Check RCP component cooling return temperature alarm clear (1C03 1D 2-4)

STANDARD: RCP component cooling return temperature alarm checked clear on 1C03 1D 2-4.

CUE: Alarm is not lit (or as indicated on simulator).

COMMENTS:

Step 9a

Outward

Element: Vibration alarm

Standard: Recognizes fold out page ^{not} outward

2) Proceeds to step 18 of AOP-1B

Examiner - Go to staple & turn JPM (Pg -)

Comment: Applicant may continue with

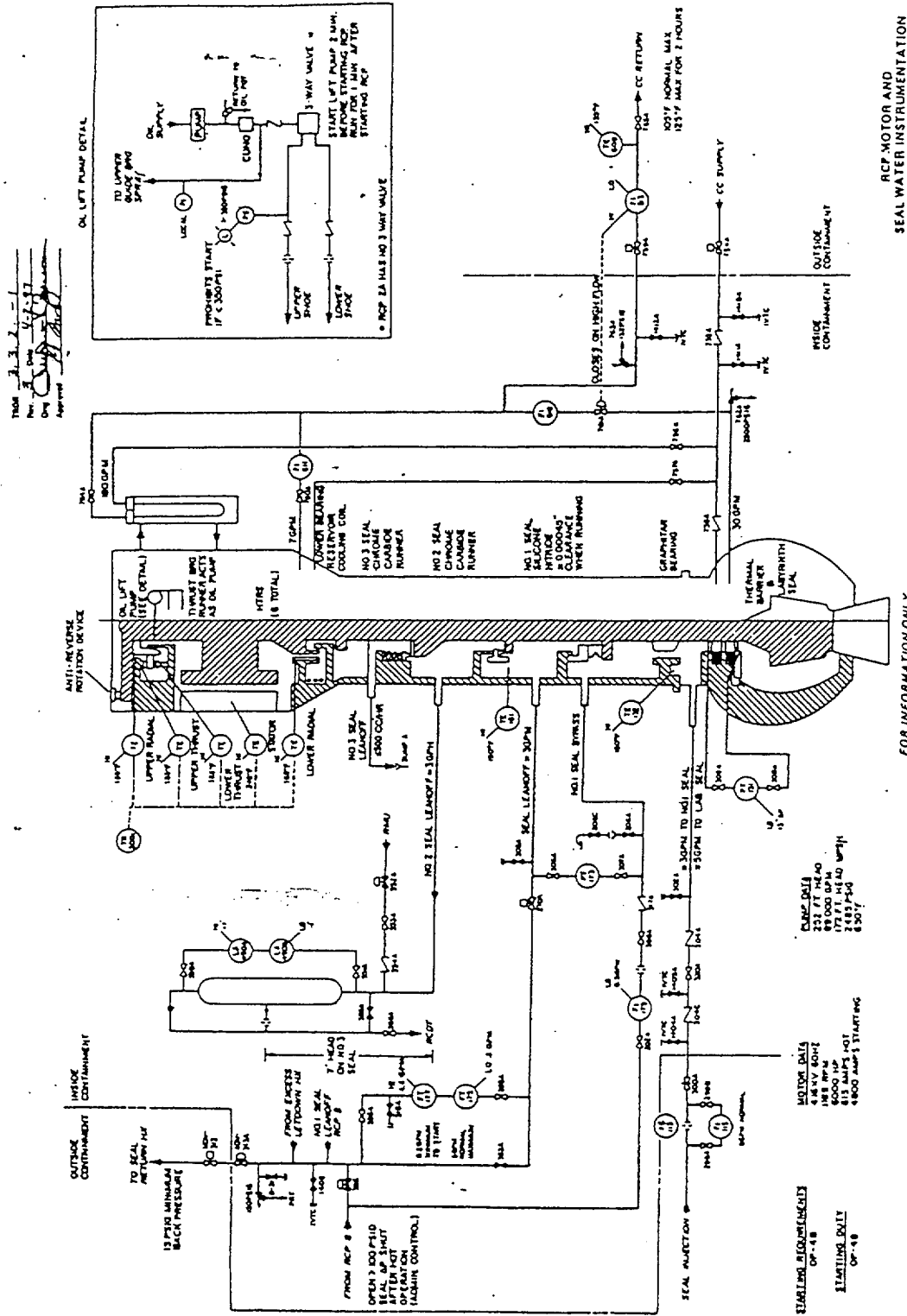
JPM step 10 - Depends on when

Vibration alarm comes on

Removal of
the steps since we will
fine the H.V. level after to
when we want it to occur.

REACTOR COOLANT PUMP MALFUNCTION

Figure 2
 RCP Motor and Seal Water Instrumentation Diagram



RCP MOTOR AND
 SEAL WATER INSTRUMENTATION
 Figure 10.2.31

FOR INFORMATION ONLY

REACTOR COOLANT PUMP MALFUNCTION

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
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18 Secure Affected RCP:

JPM Step 16

a. Trip reactor

b. Stabilize plant using EOPs while continuing with this procedure

Are some one do else will do these

c. Trip affected RCP

d. Check at least one RCP running

d. Place steam dump mode selector in MANUAL.

e. Shut associated PZR normal spray valve

e. IF spray valve can NOT be shut. THEN place manual override switch for affected spray valve to close.

- o 1RC-431A for RCP A
- o 1RC-431B for RCP B

- o 1RC-431A-S for 1RC-431A
- o 1RC-431B-S for 1RC-431B

f. Check affected RCP has been tripped for 3 minutes

f. WHEN affected RCP has been tripped for 3 minutes, THEN do Steps 18.g through 18.h.

Are - if asked 3min gone by

g. Shut affected RCP No. 1 seal water return MOV

- o 1CV-270A for RCP A
- o 1CV-270B for RCP B

h. Check RCP seal water bypass control valve shut

- 1CV-386

h. Perform the following:

- 1) IF open per OP-4B, REACTOR COOLANT PUMP OPERATION, THEN go to Step 19.
- 2) Shut RCP seal water bypass control valve.

- 1CV-386

19 Return To Procedure And Step In Effect

End JPM

-END-

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PERFORMANCE INFORMATION

NOTE: *CRITICAL STEPS ARE DENOTED WITH A "Y". FAILURE TO MEET THE STANDARDS FOR THIS ITEM CONSTITUTES FAILURE.*

	STEP/SEQUENCE/CRITICAL			SAT
	16	16	Y	UNSAT

ELEMENT: Shutdown per OP-3A, "Normal Power Operation to Low Power Operation."
STANDARD: Shutdown requirement identified.
CUE: DSS/DOS acknowledges a shutdown per OP-3A is required and directs the CO to continue with Step 10 RNO.
COMMENTS:

	STEP/SEQUENCE/CRITICAL			SAT
	17	17	Y	UNSAT

ELEMENT: Adjust seal injection throttle valves and/or charging flow control valve as necessary to maintain seal injection flow greater than or equal to 9 gpm to 1A RCP.
STANDARD: Throttle closed on 1HC-142 on IC04 and/or direct PAB AO to throttle open 1CV-300A until >9 gpm seal injection flow is indicated. Charging pump speed may also be adjusted.
CUE: If asked, the PAB AO reports seal injection flow is 7 gpm. After adjustment in made, PAB AO reports 10 gpm seal injection flow is established.
NOTE: *Terminate JPM after seal injection flow has been adjusted. If lab seal adjustment was made in JPM step #9, that step satisfies alternate path criteria and becomes a critical step vs. this step.*
COMMENTS:

TERMINATION CUE: This completes this JPM.

COMPLETION TIME: _____