Startup Control Rod Drive Hydraulics

Job Position(s): ☒ RO ☒ SRO

Source: ☐ New ☒ Bank JP-OP-315-0110-003
☐ Modified (Facility ID No. for Bank or Modified)

K/A Reference: 201001.A4, Ability to manually operate and/or monitor in the Control Room.

Method of testing: ☐ Simulated/Walk-thru Performance [Classroom/Plant]

☒ Actual Performance [Simulator/Lab]

Type: (Check all that apply)

☐ Administrative Topics ☒ Control Room Systems ☐ In-Plant Systems
☐ Alternate Path ☐ Emergency/Abnormal ☐ ESF
☐ Low-Power/Shutdown ☐ Time Critical

Task Standard: Control Rod Drive Hydraulics is in normal operation.

Validation Time: 30 Minutes

Simulator Setup:

Initiate the simulator in an IC with the reactor in a cold shutdown condition.

Shut down or verify shut down Control Rod Drive Hydraulics.

Required Materials:

23.106, Control Rod Drive Hydraulic System

General References:

23.106, Control Rod Drive Hydraulic System

Initial Conditions:

The reactor is shutdown.

Control Rod Drive Hydraulics is shutdown.

All the prerequisites are met for Control Rod Drive Hydraulics startup.

Initiating Cue:

Startup the Control Rod Drive Hydraulics system.

Performance Information

Critical Steps are annotated by "**c"** and italicized text.

		ELEMENTS	STANDARDS
	NOTE:		
	NOTE TO EVALUATOR The examinee may direct each step required to align FCV and associated controller. If so, the evaluator will have to provide the step by step cues as required. EVALUATOR PROMPT As NPPO, report that the selected Flow Control Valve is aligned in AUTO		
	4.2.1/2	Verify CRD flow control valve is properly lined up and associated controller in AUTO	NPPO contacted.
	4.2.3	Open or verify open P44-F604, RBCCW to CRD Pumps Isolation Valve	The OPEN light is lit and the CLOSED Light is off for P44-F604, RBCCW to CRD Pumps Isolation Valve.
c	*4.2.4*	*Place Control Rod Drive Hydraulics System Flow controller in MANUAL and set at minimum flow.*	*M push button is lit and the needle is at minimum.*
	4.2.5	Place Stabilizing Valve Selector switch in Position A or B.	Stabilizing Valves A or B is Selected.
	NOTE TO EVALUATOR The examinee may direct each step required to align stabilizing valves. If so, the evaluator will have to provide the step by step cues as required. EVALUATOR PROMPT As NPPO, report that the selected Stabilizing Valve is aligned for service.		
	4.2.6/7	Direct NPPO to valve in the selected Stabilizing Valve.	NPPO contacted
	EVALUATOR PROMPT As NPPO, report that the selected CRD Pump is ready for a start.		
	4.2.8	Direct NPPO to prepare the selected CRD Pump for starting.	NPPO contacted

		ELEMENTS	STANDARDS
		EVALUATOR PROMPT If asked, as NPPO, report that CRD pump suction filter inlet valves are open, and that C1100F017, CRD Pumps Seal Water Crosstie Vlv is open.	
	4.2.9	If standby CRD pump suction filter inlet valves are closed, then close C1100F017, CRD Pumps Seal Water Crosstie Vlv.	NPPO contacted
		EVALUATOR PROMPT As NPPO, report standing by in the CRD Pump Room	
	4.2.10	Establish communication between the Control Room and CRD Pump Room.	NPPO contacted
c	*4.2.11*	*Start Control Rod Drive Pump A (B).*	*The red RUN light is lit and the green OFF light is off for the selected CRD Pump CMC switch.*
		NOTE TO EVALUATOR The examinee may direct each step required for the fill and vent. If so, the evaluator will have to provide the step by step cues as required. EVALUATOR PROMPT As NPPO, report that fill and vent of the system is complete in accordance with steps 4.2.12 through 4.2.18.	
	4.2.12-18	Direct the NPPO to fill and vent the system in accordance with steps 4.2.12 through 4.2.18 and report when complete.	NPPO contacted and directed to
c	*4.2.19*	*Verify setpoint tracking on C11-K612, CRD Flow Controller, then place in AUTO (H11-P603).*	*The deviation meter is nulled. The A light is lit and the M light is off.*
c	*4.2.20*	*Slowly increase the auto setpoint and establish a system flow of 37 to 63 gpm, as indicated on Control Rod Drive Hydraulic System Flow indicator.*	*System flow indicates 63 gpm.*

		ELEMENTS	STANDARDS
c	*4.2.21*	*Throttle C11-F003, Drive/Cooling Water Pressure Control Valve, and establish:* *a. 255 to 265 psi on Drive Water to Reactor Differential Pressure Indicator, C11-R602.* *b. 10 to 13 psi on Cooling Water Header to Reactor Differential Pressure Indicator.*	*The OPEN red light and CLOSE green light are lit for C11-F003.* *Drive Water to Reactor Differential Pressure Indicates 255 to 265 psi.* *Cooling Water Header to Reactor Differential Pressure Indicates 10 to 13 psi.*

EVALUATOR PROMPT

As NPPO, report that CRD Pump B is aligned for standby.

4.2.22	Direct NPPO to place CRD Pump B in standby.	NPPO contacted

Terminating cue: Terminate JPM when the applicant reports that the Control Rod Drive Hydraulic System is in operation.

EXAMINEE CUE SHEET

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Initiating Cue:

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