REGION II JOB PERFORMANCE MEASURE OCONEE

RO-306a

Perform Rule 5 for EHT

Administrative: No

Classroom/Simulator/Plant: Simulator

Alternate Path: Yes

Alt Path Description: <u>ES-2 fails to go to Manual, which will require placing the EVEN Voters</u> in Override

Time Critical: <u>No</u>

Time Critical Criteria:

Prepared By:	Date:
EP Review By:	Date:
Reviewed By:	Date:
Approved By:	Date:

REGION II – ONS JOB PERFORMANCE MEASURE

Task Title : Perform Rule 5 for EHT

Task Number :

Alternate Path: Yes

Time Critical: No

Validation Time: 10 minutes

K/A Rating(s):

System: BW/E05 K/A: EA1.06 Rating: 3.8

Task Standard:

Mitigate the Excessive Heat Transfer event on the 1A SG and throttle HPI to prevent reaching an SPDS 'RED' value on RCS Integrity, in accordance with Rule 5, by performing the following alignments:

- Select OFF for 1A MD EFDWP
- Trip both Main FDWPTs
- Close 1FDW-315
- Place 1FDW-33 switch to CLOSE
- Place 1FDW-31 switch to CLOSE
- Place Diverse HPI in BYPASS
- Place ES Ch 1 in MANUAL
- Place EVEN Voter in OVERRIDE
- Throttle HPI (Secure HPI injection flow in 1B header by either stopping 1C HPI pump or closing 1HP-27. Secure HPI injection flow in the 1A HPI header by closing 1HP-26).

References:

EP/1/A/1800/001 Rule 5 (Main Steam Line Break) Rev 05

Tools/Equipment/Procedures Needed:

EP/1/A/1800/001 Rule 5 (Main Steam Line Break) Rev 05

(Note: Below this line is used only for Initial NRC Exams)

Candidate:		Time Start:	Time Start:	
	NAME	Time Finish:		
Performance Rating:	SAT UNSAT	Performance Time:		
Examiner:	NAME	///////	DATE	
<u>Comments</u>				

SIMULATOR OPERATOR JPM SETUP INSTRUCTIONS

Directions with IC:

- 1. **RECALL IC:** 382 (ILT22 NRC Exam JPM b)
- 2. When SwitchCheck complete with the exception of H_P1_B92SW_2 1 then select 'TERMINATE'
- 3. Place one of the STA screens on RCS Integrity for SPDS
- 4. **ENSURE** clean copy of Rule 5 available for the candidate
- 5. Go to **RUN** when directed by the Lead Examiner

Directions without an IC:

- 1. Recall IC-1
- 2. Override ES-2: P2_802SW_2 (ES CHANNEL 2 AUTO RPS/ES) 1
- 3. Insert Malfunction: MALF_SG11 (MAIN STEAM LINE A LEAK I/S CONT.) 15.00
- 4. Insert P1_B92SW_2 1 (this bypasses a single channel of AFIS / Actuation requires both channels)
- 5. Freeze the simulator following the Reactor Trip

READ TO OPERATOR

DIRECTIONS TO STUDENT

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS

Unit 1 was operating at 100% power

The reactor has just tripped following a Main Steam Line Break on the 1A SG

Immediate Manual Actions (IMAs) and Symptoms Check are complete

INITIATING CUE

The Control Room SRO directs you to perform Rule 5 for excessive heat transfer on the 1A SG

START TIME: _____

SEQ STEP	PROC STEP	DESCRIPTION		
1	Rule 5 Step 1	 Perform on the <u>affected</u> headers: ✓ A Header On AFIS HEADER A, depress CH. 1 INIT. On AFIS HEADER A, depress CH. 2 INIT. *Select OFF for 1A MD EFDWP. *Trip both Main FDWPTs. *Close 1FDW-315. *Place 1FDW-33 switch to CLOSE. *Place 1FDW-31 switch to CLOSE. Close 1PSW-22. Close 1PSW-23. STANDARD: Candidate should p 1A SG <u>ONLY</u> . The on 1UB1 Examiner NOTE: The * denotes A Header COMMENTS:	 ✓ B Header On AFIS HEADER B, depress CH. 1 INIT. On AFIS HEADER B, depress CH. 2 INIT. Select OFF for 1B MD EFDWP. Trip both Main FDWPTs. Close 1FDW-316. Place 1FDW-42 switch to CLOSE. Place 1FDW-40 switch to CLOSE. Close 1PSW-24. Close 1PSW-25. Orform the isolation steps for the table of table of the table of table of	*CRITICAL STEP SAT UNSAT
2	2	Verify 1 TD EFDW PUMP operating. STANDARD: Candidate verifies that the 1TD EFDW Pump is running by looking at status lights and discharge pressure on 1UB1. Candidate continues to Step 3. COMMENTS:		SAT UNSAT

SEQ STEP	PROC STEP	DESCRIPTION	
3	3	Verify 1 TD EFDW PUMP is feeding <u>affected</u> SGs. STANDARD: Candidate verifies that 1FDW-315 is closed (performed in Step 1) and that the 1 TD EFDW Pump is NOT feeding the 1A SG and proceeds to the RNO. COMMENTS:	SAT UNSAT
4	3 RNO	GO TO Step 5. <u>STANDARD</u> : Candidate proceeds to Step 5. <u>COMMENTS</u> :	SAT UNSAT
5	5	Verify 1B SG is an <u>affected</u> SG. <u>STANDARD</u> : Candidate verifies that 1A SG is the affected SG by looking at Steam Pressure and proceeds to the RNO. <u>COMMENTS</u> :	SAT UNSAT
6	5 RNO	GO TO Step 7 <u>STANDARD</u> : Candidate goes to Step 7 <u>COMMENTS</u> :	SAT UNSAT

SEQ STEP	PROC STEP	DESCRIPTION	
7	7	 WHEN overcooling is stopped, THEN adjust steaming of unaffected SG to maintain CETCs constant using either: TBVs Dispatch two operators to perform Encl 5.24 (Operation of the ADVs). (PS) STANDARD: Candidate determines that overcooling has stopped by either observing stable RCS temperature or by verifying that the 1A SG is dry (<12 inches) and not being fed (1UB1). Candidate should then adjust steaming of 1B SG by rotating the setpoint knob on the ICS Turbine Master in the counter-clockwise direction to cause 1B TBVs to throttle open. COMMENTS: 	SAT UNSAT
8	8	CAUTION Thermal shock conditions may develop if HPI is NOT throttled and RCS pressure NOT controlled WHEN all exist: Core SCM > 0°F Rx Power ≤ 1% Pzr level rising THEN continue. STANDARD: Candidate verifies Core SCM on or above the ICCM Monitors, verifies Rx Power on WR or PR meters, and verifies PZR level on the dixons. All indications are on 1UB1. COMMENTS:	SAT UNSAT

SEQ STEP	PROC STEP	DESCRIPTION	
9	9	Verify ES HPI actuated. STANDARD: Candidate verifies that ES HPI has actuated by looking at Statalarms (1SA-1), ES channel indications under the plexiglass cover, or by looking at the AUTO/MANUAL lights. COMMENTS:	SAT UNSAT
10	10	Place Diverse HPI in BYPASS STANDARD : Candidate pushes Diverse HPI BYPASS pushbutton on 1UB1 and verifies status light changes and Statalarm (1SA-1) comes in. COMMENTS :	CRITICAL STEP SAT UNSAT
11	11	Perform <u>both</u> : Place ES CH 1 in MANUAL.* Place ES CH 2 in MANUAL. <u>STANDARD</u> : Candidate pushes 'MANUAL' pushbutton for ES CH 1 and 2 on 1UB2 and verifies AUTO light (blue) goes out on CH 1 only. ES CH 2 fails to go to MANUAL. Candidate proceeds to step 11 RNO. <u>COMMENTS</u> :	*CRITICAL STEP SAT UNSAT

SEQ STEP	PROC STEP	DESCRIPTION	
12	11 RNO	[ALTERNATE PATH] IF ES CH 2 fails to go to MANUAL, THEN place EVEN voter in OVERRIDE. STANDARD: Candidate determines that ES CH 2 failed to go to MANUAL (blue AUTO light still lit) and presses the EVEN Voter OVERRIDE pushbutton on 1UB2. This will clear the statalarm for ES CH 2 actuation on 1SA-1. COMMENTS:	CRITICAL STEP SAT UNSAT
13	12	Perform the following to stabilize RCS P/T: Throttle HPI.* Reduce 1HP-120 setpoint to control at >100" [180" acc]. Adjust steaming of <u>unaffected</u> SG as necessary to maintain CETCs constant. STANDARD: Candidate stabilizes RCS P/T and throttles HPI to prevent an SPDS 'RED' value on RCS Integrity by performing the following on 1UB1: *Securing HPI flow in the 1B HPI Header by either: . Securing 1C HPIP and verifying either Red lights OFF or amps have gone to zero. . Closing 1HP-27 and verifying Green light ON and Red light OFF. *Limiting HPI flow in the 1A HPI Header to flow through 1HP-120 by closing 1HP-26 and verifying Green light ON and Red light OFF. Candidate adjusts the thumbwheel (setpoint) on 1HP-120 to >180 inches (>45% on the dial). Candidate will adjust TURBINE MASTER thumbwheel (setpoint) OR use TBVs in Manual to stabilize CETCs. END TASK	*CRITICAL STEP

TIME STOP: _____

CRITICAL STEP EXPLANATIONS

SEQ STEP

Explanation

- 1 This step is required to isolate the correct SG. Isolating the wrong SG will lead to a LOHT
- 10 This step is required to gain manual control of HPI to allow throttling
- 11 This step is required to gain manual control of HPI to allow throttling
- 12 This step is required to gain manual control of HPI to allow throttling
- 13 This step is required to prevent reaching an SPDS 'RED' condition on RCS INTEGRITY

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

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