JOB PERFORMANCE MEASURES

CRO-126B

TITLE: Perform Intermediate Range Functional Check

PROGRAM APPLICABLE: SOT ___ SORP ___ OLT _X_ LRP ___

ACCEPTABLE EVALUATION METHOD: _X_ PERFORM _X_ SIMULATE ___ DISCUSS

EVALUATION LOCATION: _X_ SIMULATOR _X_ CONTROL ROOM ___ PLANT

PROJECTED TIME: 30 MIN SIMULATOR IC NUMBER: Any Mode 3
(IF APPLICABLE)

ALTERNATE PATH ___ TIME CRITICAL ___ PRA ___

DIRECTIONS TO TRAINEE:

1. Access to tools, equipment, and references normally used to perform this task are allowed.

2. During initial training, it is encouraged that questions be asked as part of this OJT process to assess the extent of trainee knowledge related to this task.

3. If, in the judgement of the evaluator, the trainee is significantly deficient in knowledge, (based on the questions being asked), a JPM/QR Comment Sheet should be submitted to the program administrator summarizing the weaknesses.

STANDARDS

To successfully complete this JPM, you must satisfy each of the following criteria:

a. The task must be performed using the appropriate plant procedures, Technical Specifications, or other references.

b. All critical elements must be performed, simulated, or discussed without error, prompting or unnecessary queuing.

JPM Approved: ***W. D. OLDFIELD 6/22/98***
Supervisor - Operations Training

CONDITIONS

When I tell you to begin, you are to PERFORM INTERMEDIATE RANGE FUNCTIONAL CHECK. The conditions under which this task is to be performed are:

a. Plant is in Mode 3 with the 120 VAC distribution system aligned.
b. Directed by the Shift Supervisor to perform STP-41.2 “Intermediate Range Functional Check on Channel N35”.

NOTE TO EXAMINER: THIS JPM MAY BE PERFORMED ON UNIT 1 OR 2.

EVALUATION CHECKLIST

	ELEMENTS:	STANDARDS:	RESULTS: (CIRCLE)
	_____ START TIME		
1.	Verifies NI-35 energized	Checks instrument control power lights. (CUE: Both lights are on, drawer has been energized for > 30 minutes.)	S / U
2.	Records required data	Obtains data from surveillance test data book and records it in appropriate step	S / U
3.	Check GENERAL WARNING not on in SSPS	Check GENERAL WARNING off, depresses lit and checks bulb lights on both A and B SSPS cabinets. (CUE: Light is out, light bulb test satisfactory.)	
*4.	Align SSPS for test	In train A or B SSPS, depresses and holds MULTIPLEXER INHIBIT DEFEAT, places MULTIPLEXER TEST in A+B, then releases push button, and records train in A+B. (CUE: Momentary GENERAL WARNING in A+B.)	

EVALUATION CHECKLIST

ELEMENTS:		STANDARDS:	RESULTS: (CIRCLE)
*5.	Place LEVEL TRIP switch in BYPASS	Switch in BYPASS. (CUE: Switch is in BYPASS position, annunciator FA4 in alarm; NC-35F permissive light on, LEVEL TRIP BYPASS drawer light on.)	S / U
*6.	Place test mode selector switch in FIXED position and operation selector switch in 10^{-11} amps position	Switches in FIXED and 10^{-11} amps position. (CUE: In FIXED and 10^{-11} amps position, annunciator FA5 in alarm, CHANNEL ON TEST drawer light on.)	S / U

NOTE TO EXAMINER: IF THIS JPM IS BEING SIMULATED, REFER TO THE APPROPRIATE DATA SHEETS TO DETERMINE VALUES TO PLACE PEN ON METER IN ORDER TO SIMULATE NEEDLE POSITION FOR THE EXAMINEE TO READ.

*7.	Rotate operations selector switch through each position and record data on Table 1	Selector switch rotated through each position per Table 1 and data recorded. (CUE: Place pen on meter for the indicated readings.)	S / U
*8.	Verify readings within tolerances	Readings compared to tolerances of Table 1.	S / U
*9.	Turn variable adjust fully counterclockwise	Pot adjusted full counterclockwise. (CUE: Pot reading is 0.)	S / U
*10.	Turn operation selector switch to 10^{-10} amp position	Switch indicating 10^{-10} amps. (CUE: Switch is in 10^{-10} amp position.)	S / U
*11.	Place TEST MODE switch in VARIABLE position	Switch in VARIABLE position. (CUE: Switch is in the VARIABLE position.)	S / U
*12.	Adjust variable pot to obtain the P-6 set point and record neutron level	Variable pot adjusted. (CUE: Place pen at 9×10^{-11} amps. Drawer permissive light is on, IR P6 NC35D bistable light on.)	S / U
13.	Verify P6 reading within tolerance	Reading compared to tolerances	S / U

EVALUATION CHECKLIST

ELEMENTS:		STANDARDS:	RESULTS: (CIRCLE)
*14.	Adjust variable pot to reset P6 bistable, record neutron level, and adjust pot fully CCW	Variable pot adjusted. (CUE: Place pen at 5 x 10^{-11} amps, IR P6 NC35D bistable reset, drawer permissive light off, then pot taken fully CCW.)	S / U
*15.	Place operation selector switch to 10^{-4} or 10^{-5} position, adjust pot until HI LEVEL ROD STOP drawer light illuminated	Switch in position, pot adjusted. (CUE: HI LEVEL ROD STOP, drawer light is on solid.)	S / U
*16.	Record neutron level in drawer meter and verify within limits	Readings recorded and verified. (CUE: N35 Data Surveillance Test Data Book max _____ amps, min _____ amps.)	S / U
*17.	Adjust pot until HI LEVEL ROD STOP reset	Pot adjusted. (CUE: Bistable light is off, meter reading _____ amps.)	S / U
*18.	Adjust pot until HIGH LEVEL TRIP drawer light on and bistable light on	Pot adjusted. (CUE: HIGH LEVEL TRIP, drawer light is on. IR HI Q NC35F bistable light on solid.)	S / U
*19.	Record neutron level on drawer meter and verify within limits	Readings recorded and verified. (CUE: Trip setpoint _____ amps, Tech Spec limit _____ amps.)	S / U
*20.	Adjust pot until HIGH LEVEL TRIP reset	Pot adjusted. (CUE: Bistable light is off; meter reading _____ amps.)	S / U
21.	Adjust pot fully counterclockwise	Pot adjusted. (CUE: Pot is reading 0.)	S / U

EVALUATION CHECKLIST

ELEMENTS:		STANDARDS:	RESULTS: (CIRCLE)
22.	Realign SSPS	In the previously recorded train depresses and holds MULTIPLEXER INHIBIT DEFEAT, places MULTIPLEXER TEST in NORMAL then releases push button. Checks listed LOGIC CABINET SWITCHES. (CUE: As appropriate for proper alignment.)	S / U
*23.	Place TEST MODE switch to FIXED and OPERATION SELECTOR switch to 10^{-11} positions	Switches properly aligned. (CUE: TEST MODE switch in FIXED, OPERATION SELECTOR switch in 10^{-11} position.)	S / U
*24.	Allows test current to decay then places OPERATIONS SELECTOR switch and LEVEL TRIP switch to NORMAL	Switches in NORMAL. (CUE: Switches are in NORMAL.)	S / U

____ STOP TIME

Terminate JPM when switch realignment is complete.

*** CRITICAL ELEMENTS:** 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 19, 20

GENERAL REFERENCES

1.	STP-41.2	Intermediate Range Functional Check Channel N-35		
2.	KA	015A3.01	RO-3.8	SRO-3.8
		015A3.02	RO-3.7	SRO-3.7
		015A3.03	RO-3.9	SRO-3.9
		015A4.02	RO-3.6	SRO-3.6
		015A4.03	RO-3.8	SRO-3.9

GENERAL TOOLS AND EQUIPMENT

Blank copy of STP-41.2

COMMENTS

CONDITIONS

When I tell you to begin, you are to PERFORM INTERMEDIATE RANGE FUNCTIONAL CHECK. The conditions under which this task is to be performed are:

a. Plant is in Mode 3 with the 120 VAC distribution system aligned.
b. Directed by the Shift Supervisor to perform STP-41.2 “Intermediate Range Functional Check on Channel N35”.

JOB PERFORMANCE MEASURES

CRO-139

TITLE: Dilute The RCS Using BTRS Without Using the BTRS Chillers

PROGRAM APPLICABLE: SOT ___ SORP ___ OLT _X_ LRP ___

ACCEPTABLE EVALUATION METHOD: _X_ PERFORM _X_ SIMULATE ___ DISCUSS

EVALUATION LOCATION: _X_ SIMULATOR _X_ CONTROL ROOM ___ PLANT

PROJECTED TIME: _20 MIN_ SIMULATOR IC NUMBER: _N/A_
(IF APPLICABLE)

ALTERNATE PATH ___ TIME CRITICAL ___ PRA ___

DIRECTIONS TO TRAINEE:

1. Access to tools, equipment, and references normally used to perform this task are allowed.

2. During initial training, it is encouraged that questions be asked as part of this OJT process to assess the extent of trainee knowledge related to this task.

3. If, in the judgement of the evaluator, the trainee is significantly deficient in knowledge, (based on the questions being asked), a JPM/QR Comment Sheet should be submitted to the program administrator summarizing the weaknesses.

STANDARDS

To successfully complete this JPM, you must satisfy each of the following criteria:

a. The task must be performed using the appropriate plant procedures, Technical Specifications, or other references.

b. All critical elements must be performed, simulated, or discussed without error, prompting or unnecessary queuing.

JPM Approved: ***Joel Deavers*** ***8/24/98***
Supervisor - Operations Training

CONDITIONS

When I ask you to begin, you are to DILUTE THE RCS USING BTRS without using BTRS chillers. The conditions under which this task is to be performed are:

a. Plant is in Mode 1
b. It has been determined that an RCS dilution is needed to maintain reactor power at 100%
c. The Shift Supervisor has directed you to perform the dilution using the BTRS system
d. The duration time of this dilution has been determined to be approximately 10 minutes through the Demineralizers

EVALUATION CHECKLIST

ELEMENTS:		STANDARDS:	RESULTS: (CIRCLE)
____	**START TIME**		
*1.	Adjust BTRS controllers to perform a BTRS dilution	MCB controllers adjusted per MCB labels and SOP-3.0. (CUE: TK-381A and 381B at 2.4.)	S / U
*2.	Adjust BTRS demin flow control valve HCV-387 to zero percent	HCV-387 adjusted. (CUE: HCV-387 indicates zero percent.)	S / U
3.	Verify that the A BTRS chiller and pump handswitches are in stop	Chiller and pump handswitches checked. (CUE; Both switches are in stop.)	S / U
4.	Verify that the 1A, 1B, and 1C demineralizer inlet valves are closed.	Valves 1-BTR-HV07010A, B, and C (Q1G21V027A, B, and C) are closed.	S / U
*5.	Verify the BTRS bypass valve switch in the open position	HV-8547 verified in the open position. (CUE: Switch for HV-8547 in the open position and the red light is lit.)	S / U

EVALUATION CHECKLIST

	ELEMENTS:	STANDARDS:	RESULTS: (CIRCLE)
*6.	Place the BTRS mode selector switch in DIL	BTRS mode selector switch placed in DIL. (CUE: Mode selector switch in DIL.)	S / U
*7.	Verify the BTRS inlet isolation valve is open (HV-7054)	BTRS inlet isolation valve HV-7054 verified open. (CUE: HV-7054 red light is lit.)	S / U
*8.	Place BTRS bypass valve HV-8547 switch in AUTO to establish flow through the BTRS system	HV-8547 placed in AUTO and valve verified closed. (CUE: HV-8547 red light lit.)	S / U
9.	Verify the BTRS demineralizers are fully bypassed by verifying flow on FI-385 and zero flow on FI-2977	FI-385 and FI-2977 checked. (CUE: FI-385 indicates 130 gpm and FI-2977 indicates zero.)	S / U
10.	Verify letdown temperature is approximately equal to BTRS to CVCS return header temperature	Letdown temperature, TI's 143 or 144 and BTRS to CVCS return header TI 386 temperature both checked. (CUE: TI-143 indicates 95 deg and TI-386 indicates 94 deg.)	S / U
11.	Energize the pressurizer heaters	Pressurizer backup heaters energized. (CUE: All backup heater switches red lights lit.)	S / U
*12.	Establish flow through the BTRS demineralizers by adjusting HCV-387 to the DILUTE position	HCV-387 adjusted. (CUE: Scale on pot indicates fully in the DILUTE position.)	S / U
13.	Verify operator monitors parameters associated with reactivity control	Demineralizer flow on FI-2977, RCS Tave, Control rod position monitored throughout evolution.	S / U

EVALUATION CHECKLIST

ELEMENTS:		STANDARDS:	RESULTS: (CIRCLE)
CUE: THE TEN MINUTE TIME PERIOD HAS ELAPSED, BTRS CAN NOW BE SECURED.			
*14.	Open the BTRS bypass valve HV-8547	BTRS bypass valve HV-8547 opened.	S / U
*15.	Place the BTRS mode selector switch to OFF	BTRS mode selector switch placed in the OFF position.	S / U
16.	Verify the BTRS is shutdown by indication of no flow on FI-385 and 1-BTR-HV-7054 is closed.	FI-385 and HV 7054 checked. (CUE: FI-385 indicates zero flow and HV 7054 closed.)	S / U

____ STOP TIME

Terminate after HV-7054 is verified closed.

*** CRITICAL ELEMENTS:** 1, 2, 5, 6, 7, 12, 14, 15

GENERAL REFERENCES:

1. FNP-1-SOP-3.0
2. KA 004A1.12 RO-2.8 SRO-3.2
   004A4.07 RO-3.9 SRO-3.7
   004A4.17 RO-2.7 SRO-2.7

GENERAL TOOLS AND EQUIPMENT:

None

COMMENTS:

CONDITIONS

When I ask you to begin, you are to DILUTE THE RCS USING BTRS without using BTRS chillers. The conditions under which this task is to be performed are:

a. Plant is in Mode 1
b. It has been determined that an RCS dilution is needed to maintain reactor power at 100%
c. The Shift Supervisor has directed you to perform the dilution using the BTRS system
d. The duration time of this dilution has been determined to be approximately 10 minutes through the Demineralizers

JOB PERFORMANCE MEASURES

CRO-343C

TITLE: Establish Letdown As Required In Response To A Spurious Safety Injection

PROGRAM APPLICABLE: SOT ___ SORP ___ OLT _X_ LRP _X_

ACCEPTABLE EVALUATION METHOD: _X_ PERFORM _X_ SIMULATE ___ DISCUSS

EVALUATION LOCATION: _X_ SIMULATOR _X_ CONTROL ROOM ___ PLANT

PROJECTED TIME: _8 MIN_ SIMULATOR IC NUMBER: _JPM IC-47_
(IF APPLICABLE)

ALTERNATE PATH _X_ TIME CRITICAL ___ PRA ___

DIRECTIONS TO TRAINEE:

1. Access to tools, equipment, and references normally used to perform this task are allowed.

2. During initial training, it is encouraged that questions be asked as part of this OJT process to assess the extent of trainee knowledge related to this task.

3. If, in the judgement of the evaluator, the trainee is significantly deficient in knowledge, (based on the questions being asked), a JPM/QR Comment Sheet should be submitted to the program administrator summarizing the weaknesses.

STANDARDS

To successfully complete this JPM, you must satisfy each of the following criteria:

a. The task must be performed using the appropriate plant procedures, Technical Specifications, or other references.

b. All critical elements must be performed, simulated, or discussed without error, prompting or unnecessary queuing.

JPM Approved: *Joel L. Deavers* *5/21/98*
Supervisor - Operations Training

CONDITIONS

When I tell you to begin, you are to ESTABLISH LETDOWN AS REQUIRED IN RESPONSE TO A SPURIOUS SAFETY INJECTION. The conditions under which this task is to be performed are:

a. Plant has experienced a spurious safety injection.
b. ESP-1.1 is in progress and has been completed through Step 11.2.
c. Directed by Shift Supervisor to perform Step 12 of ESP-1.1 and establish letdown flow.

EVALUATION CHECKLIST

	ELEMENTS:	STANDARDS:	RESULTS: (CIRCLE)
	_____ START TIME		
1.	Open LTDN LINE PENE RM ISO Q1E21HV8175A and B	SO directed to PRIP to open HV-8175A, B. (CUE: SO reports valves are open.)	S / U
2.	Open LTDN LINE CTMT ISO Q1E21HV8152	Handswitch for HV-8152 taken to open. (CUE: Valve position indicator red light is lit/green light is out.)	S / U
*3.	Open LTDN LINE ISO Q1E21LCV459/460	Handswitch for LCV-459 and LCV-460 taken to open. (CUE: LCV-459 green light is lit/red light remained out, LCV-460 red light is lit/green light is out.) **Note**: examanee may not try to open LCV-460 when 459 fails to open	S / U
	Align CCW to excess letdown heat exchangers		
*4.	Open CCW TO EXC LTDN/RCDT HXS Q1P17HV3095	Valve HV-3095 handswitch taken to open. (CUE: Valve position indicator red light lit/green light is out.)	S / U
*5.	Open CCW FROM EXC LTDN / RCDT	Handswitches for valves HV-3067	S / U

EVALUATION CHECKLIST

ELEMENTS:		STANDARDS:	RESULTS: (CIRCLE)
	HXS Q1P17HV3067/3443	and HV-3443 taken to open. (CUE: Valve position indicators' red light lit/green light out.)	
6.	Adjust EXC LTDN HX DISCH HIK 137 closed	HIK-137 adjusted closed. (CUE: HIK-137 controller indicates zero (0).)	S / U
*7.	Open EXC LTDN ISO Q1E21HV8153/8154	Handswitches for valves HV-8153 and HV-8154 taken to open. (CUE: Valve position indicators' red light lit/green light out.)	S / U
8.	Align EXC LTDN DIVERT VLV Q1E21HV8143 to VCT	Valve HV-8143 checked in VCT position. (CUE: Valve position indicator light lit for VCT position.	S / U

CUE: SHIFT SUPERVISOR DIRECTS MAXIMUM ALLOWED EXCESS LETDOWN FLOW.

*9.	Adjust EXC LTDN HX DISCH HIK 137 as required	HIK-137 adjusted; excess letdown heat exchanger outlet temperature remains less than 165°F. (CUE: TI-139 indicates 160°F.)	S / U

____ STOP TIME

Terminate when HIK-137 has been adjusted.

*** CRITICAL ELEMENTS:** 3, 4, 5, 7, 9

GENERAL REFERENCES:

1. ESP-1.1

2. K/As 004A2.12 RO-4.1 SRO-4.3

GENERAL TOOLS AND EQUIPMENT:

None

COMMENTS:

CONDITIONS

When I tell you to begin, you are to ESTABLISH LETDOWN AS REQUIRED IN RESPONSE TO A SPURIOUS SAFETY INJECTION. The conditions under which this task is to be performed are:

a. Plant has experienced a spurious safety injection.
b. ESP-1.1 is in progress and has been completed through Step 11.2.
c. Directed by Shift Supervisor to perform Step 12 of ESP-1.1 and establish letdown flow.

JOB PERFORMANCE MEASURES

CRO-343J

TITLE: Place Normal Charging In Service And Control Pressurizer Level As Required In Response To A Spurious Safety Injection

PROGRAM APPLICABLE: SOT ___ SORP ___ OLT _X_ LRP _X_

ACCEPTABLE EVALUATION METHOD: _X_ PERFORM _X_ SIMULATE ___ DISCUSS

EVALUATION LOCATION: _X_ SIMULATOR _X_ CONTROL ROOM ___ PLANT

PROJECTED TIME: _10 MIN_ SIMULATOR IC NUMBER: _JPM IC-54_ (IF APPLICABLE)

ALTERNATE PATH _X_ TIME CRITICAL ___ PRA ___

DIRECTIONS TO TRAINEE:

1. Access to tools, equipment, and references normally used to perform this task are allowed.

2. During initial training, it is encouraged that questions be asked as part of this OJT process to assess the extent of trainee knowledge related to this task.

3. If, in the judgement of the evaluator, the trainee is significantly deficient in knowledge, (based on the questions being asked), a JPM/QR Comment Sheet should be submitted to the program administrator summarizing the weaknesses.

STANDARDS

To successfully complete this JPM, you must satisfy each of the following criteria:

a. The task must be performed using the appropriate plant procedures, Technical Specifications, or other references.

b. All critical elements must be performed, simulated, or discussed without error, prompting or unnecessary queuing.

JPM Approved: *Joel L. Deavers* *5/22/98*
Supervisor - Operations Training

CONDITIONS

When I tell you to begin, you are to PLACE NORMAL CHARGING IN SERVICE AND CONTROL PRESSURIZER LEVEL AS REQUIRED IN RESPONSE TO A SPURIOUS SAFETY INJECTION. The conditions under which this task is to be performed are:

a. Plant has experienced a safety injection and met SI termination criteria.
b. ESP-1.1 is in progress and has been completed through Step 6.
c. Only the A charging pump is running.
d. Directed by Shift Supervisor to perform Step 7 of ESP-1.1.

EVALUATION CHECKLIST

ELEMENTS:		STANDARDS:	RESULTS: (CIRCLE)
_____	**START TIME**		
NOTE TO EXAMINER: IF DONE ON ACTIVE SIMULATOR, INFORM EXAMINEE R-2 AND R-7 IN ALARM AND RISING WHEN ALARMS ANNUNCIATE. IF SIMULATED, INFORM EXAMINEE R-2 AND R-7 IN ALARM WHEN HHSI VALVES CLOSED.			
1.	Verify charging pump miniflow valves open	Valves 8109A, B, C and 8106 position indication checked. (CUE: Valve position indicators' red light lit.)	S / U
*2.	Close charging flow control valve	Charging flow controller FK-122 placed in manual and adjusted closed. (CUE: FK-122 controller output indicates zero (0).)	S / U
3.	Discharge header cross-connects checked open	MOVs 8132A, B; 8133A, B position indication checked. (CUE: Valve position red indicator lights lit for each valve checked.)	S / U
*4.	Charging header isolation valves opened	Handswitch for MOV-8107 and MOV-8108 taken to open. (CUE: Red indicator light lit for each	S / U

EVALUATION CHECKLIST

ELEMENTS:		STANDARDS:	RESULTS: (CIRCLE)
		valve opened.)	
5.	Verify only one charging line open	Indications check for HV-8146 and HV-8147. (CUE: HV-8146 red indicator light lit HV-8147 green indicator light lit.)	S / U

NOTE TO EXAMINER: IF R-2 OR R-7 ALARM BEFORE THE HHSI VALVES ARE CLOSED, IT IS ACCEPTABLE FOR THE EXAMINEE TO LEAVE THE VALVES OPEN AND STATE HE WOULD TRANSITION TO ESP-1.2.

*6.	Isolate HHSI flow.	Handswitches for valves 8803A, B closed. (CUE: Valve position indicators' green light lit/red light out.)	S / U
7.	Maintain pressurizer level 15 - 50%		