NRC REGION III

INITIAL LICENSE EXAM

JOB PERFORMANCE MEASURE

JPM: RO/SRO ADMIN 1a

TITLE: DETERMINE FEEDWATER RESERVE INVENTORY

CANDIDATE: _____

EXAMINER: _____

JOB PERFORMANCE MEASURE
DATA PAGE

Task: Determine Feedwater Reserve Inventory

Alternate Path: N/A

Facility JPM #: Modified RO-A.1a 2008 AUDIT

K/A: 2.1.25 Importance: RO: 3.9 SRO: 4.2

K/A Statement: Ability to interpret reference materials such as graphs, curves, tables, etc.

Task Standard: Feedwater reserve inventory calculated to last 3.7 to 4.7 hours.

Preferred Evaluation Location: ANY __X__

Preferred Evaluation Method: Perform __X__ Simulate _____

References:EOP Supplement 2, “PCS Cooldown Strategy”

Validation Time:10 minutes Time Critical: NO

Candidate: _____

Time Start: _____ Time Finish: _____

Performance Time: _____ minutes

Performance Rating: SAT_____ UNSAT _____

Comments:

Examiner: _____ Date: _____
Signature

EXAMINER COPY ONLY

Tools/Equipment/Procedures Needed:

EOP Supplement 2, “PCS Cooldown Strategy”

Also see **Simulator Operator Instructions** (last page of this document).

READ TO CANDIDATE

DIRECTION TO CANDIDATE:

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:

With the plant at 100% power, a loss of offsite power occurs. The reactor was manually tripped and the operators transitioned to EOP-8.0. The following plant conditions exist:

- Offsite power is not expected to be restored for at least 12 hours.
- Bus 13 is out of service and not expected to be restored for at least 10 hours
- It is 15 minutes after shutdown
- T-81 gravity feed to T-2 is not aligned
- T-2 is at 86%, T-81 is at 85%, and T-939 is at 58%
- Cold leg temperatures are stable at 535°F

INITIATING CUES:

The CRS has directed you to complete EOP Supplement 2, PCS Cooldown Strategy. Calculation of minimum cooldown rate (section 5.0 step 6) is NOT required at this time.

Proc. Step	TASK ELEMENT 1	STANDARD	Grade
n/a	Locate EOP Supplement 2, PCS Cooldown Strategy	EOP Supplement 2 LOCATED	**S U**
Comment: ***Evaluator: Provides a working copy of EOP Supplement 2.***			

Proc. Step	TASK ELEMENT 2	STANDARD	Grade
1.1	**CONDENSATE STORAGE TANK T-2** **DETERMINE** AND **RECORD** Condensate Storage Tank T-2 level using the "T-2 inventory" curve	T-2 inventory = **94,000 gallons** RECORDED (92,000 to 96,000 allowed)	**S U**
Comment: **CRITICAL STEP**			

Proc. Step	TASK ELEMENT 3	STANDARD	Grade
2.1	**DEMINERALIZED WATER TANK T-939** IF any of the following conditions exist: … THEN Demineralized Water Tank T-939 is available	DETERMINES T-939 water is **NOT** available	**S U**
Comment: **NOTE: Loss of Bus 13 combined with loss of Bus 1E (due to loss of offsite power) results in inability to power P-936 to transfer T-936 water to T-2.** **CRITICAL STEP**			

Proc. Step	TASK ELEMENT 4	STANDARD	Grade
3.1	If any of the following conditions exist…..THEN Primary System Makeup Tank T-81 is available.	Determines T-81 is NOT available	**S U**
Comment: **CRITICAL STEP**			

Proc. Step	TASK ELEMENT 5	STANDARD	Grade
4.1	**ADD** the available tank inventories: (Step 1.1 T-2) + (Step 2.2 T-939) = (Total inventory)	Total Inventory **= <u>94,000 gallons</u>** RECORDED (92,000 to 96,000 allowed)	**S U**
Comment: **CRITICAL STEP**			

Proc. Step	TASK ELEMENT 6	STANDARD	Grade
5.1	**DETERMINE** <u>AND</u> **RECORD** present highest PCS Loop T_C (T_C Initial)	T_C Initial = **<u>535</u>** °F RECORDED (given in initial conditions)	**S U**
Comment:			

Proc. Step	TASK ELEMENT 7	STANDARD	Grade
5.2	**DETERMINE** <u>AND</u> **RECORD** inventory required to remove sensible heat using "T_C Initial" temperature and the "Sensible Heat Removal" curve.	Required Sensible Heat Removal Inventory = **<u>42,000</u>** gallons RECORDED (41,000 to 43,000 allowed)	**S U**
Comment: **CRITICAL STEP**			

Proc. Step	TASK ELEMENT 8	STANDARD	Grade
5.3	SUBTRACT Step 5.2 results from Step 4.1 results: (Step 4.1 Total FW) – (Step 5.2 Sensible Heat) = (Inventory for decay heat removal)	Inventory Available to remove decay heat = **52,000** gallons RECORDED (94,000 – 42,000 = 52,000) (49,000 to 55,000 allowed)	**S U**
Comment: **CRITICAL STEP**			

Proc. Step	TASK ELEMENT 9	STANDARD	Grade
5.4	**DETERMINE** AND **RECORD** the time interval available for heat removal using the following: ▪ Applicable "Decay Heat Removal" curve for the number of PCPs operating ▪ Graph line for elapsed time after shutdown ▪ Amount of inventory available to remove decay heat (graph)	Time interval available for heat removal = **4.2** hours RECORDED (Interpolation may be used) (3.7 to 4.7 hours allowed)	**S U**
Comment: **CRITICAL STEP**			

Proc. Step	TASK ELEMENT 10	STANDARD	Grade
5.5.a	If the time interval available for heat removal is less than eight hours, THEN PERFORM the following: a. Inform the Shift Manager of the available interval and that additional inventory sources are required.	Shift Manager Informed that time interval available for heat removal = **4.2** hours (3.7 to 4.7 hours allowed)	**S U**
Comment: ***EVALUATOR: Notify candidate that the Shift Manager will have someone else identify potential inventory sources that can be made available per step 5.b of section 5.0.***			

Proc. Step	TASK ELEMENT 11	STANDARD	Grade
n/a	Notify the CRS EOP Supplement 2 is complete [reported time interval available for heat removal and available inventory sources]	CRS NOTIFIED that EOP Supplement 2 task is complete	**S U**
Comment: ***Evaluator: If notified as CRS, Acknowledge.***			

END OF TASK

SIMULATOR OPERATOR INSTRUCTIONS

- NONE

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS:

With the plant at 100% power, a loss of offsite power occurs. The reactor was manually tripped and the operators transitioned to EOP-8.0. The following plant conditions exist:

- Offsite power is not expected to be restored for at least 12 hours.
- Bus 13 is out of service and not expected to be restored for at least 10 hours
- It is 15 minutes after shutdown
- T-81 gravity feed to T-2 is not aligned
- T-2 is at 86%, T-81 is at 85%, and T-939 is at 58%
- Cold leg temperatures are stable at 535°F

INITIATING CUES:

The CRS has directed you to complete EOP Supplement 2, PCS Cooldown Strategy. Calculation of minimum cooldown rate (section 5.0 step 6) is NOT required at this time.

NRC REGION III

INITIAL LICENSE EXAM

JOB PERFORMANCE MEASURE

JPM: RO ADMIN 1b

TITLE: PERFORM A PCS HEATUP DETERMINATION

CANDIDATE: _____

EXAMINER: _____

JOB PERFORMANCE MEASURE
DATA PAGE

Task: Perform PCS Heatup Determination

Alternate Path: N/A

Facility JPM #: Modified from RO-A.1b 2008AUDIT

K/A: 2.1.23 Importance: RO: 4.3 SRO: 4.4

K/A Statement: Ability to perform specific system and integrated plant procedures during all modes of plant operation.

Task Standard: Allowable Shutdown Cooling outage time calculated to be 57 minutes (54 minutes to 60 minutes).

Preferred Evaluation Location: ANY __X__

Preferred Evaluation Method: Perform __X__ Simulate _____

References: SOP-3, "Safety Injection and Shutdown Cooling System"
ONP-17, "Loss of Shutdown Cooling"

Validation Time: 15 minutes Time Critical: NO

Candidate: _____

Time Start: _____ Time Finish: _____

Performance Time: _____ minutes

Performance Rating: SAT_____ UNSAT _____

Comments:

Examiner: _____ Date: _____
Signature

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Tools/Equipment/Procedures Needed:

SOP-3, “Safety Injection and Shutdown Cooling System”
ONP-17, “Loss of Shutdown Cooling”

Also see **Simulator Operator Instructions** (last page of this document).

READ TO CANDIDATE

DIRECTION TO CANDIDATE:

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:

- Seven days after a plant shutdown, PCS temperature is 116ºF
- The Reactor cavity is flooded to a level of 640'
- The Pressurizer manway is removed
- Shutdown Cooling is in operation, but must be shutdown for the maximum time allowed

INITIATING CUES:

The CRS directs you to determine how long (in minutes) Shutdown Cooling may be secured in accordance with SOP-3, Section 7.3.7.

Proc. Step	TASK ELEMENT 1	STANDARD	Grade
n/a	Locates SOP-3, Safety Injection And Shutdown Cooling System, Section 7.3.7, PCS Heatup Rate Determination	Section 7.3.7 of SOP-3 LOCATED	**S U**
Comment:			
Evaluator: Provides a working copy of SOP-3, section 7.3.7.			

Proc. Step	TASK ELEMENT 2	STANDARD	Grade
7.3.7a	DETERMINE "Approximate Time to 200°F time from appropriate curve in ONP-17, Loss of Shutdown Cooling, for existing/anticipated PCS conditions and convert to hours.	Attachment 1, Approximate Time to 200°F Curves, of ONP-17 LOCATED	**S U**
Comment:			
Evaluator: Provide a working copy of ONP-17, Attachment 1.			

Proc. Step	TASK ELEMENT 3	STANDARD	Grade
(ONP-17, Att.1) 1.	DETERMINE PCS level using all available indications.	PCS level **640 feet** (given in initial conditions)	**S U**
Comment:			

Proc. Step	TASK ELEMENT 4	STANDARD	Grade
(ONP-17, Att.1) 2.	DETERMINE PCS temperature using any of the following:	PCS temperature **116°F** (given in initial conditions)	**S U**
Comment:			

Proc. Step	TASK ELEMENT 5	STANDARD	Grade
(ONP17, Att.1) 5.	REFER TO appropriate page in this attachment for PCS conditions	**Page #10** of Attachment 1 REFERRED TO: ▪ Uses Refueling Cavity Flooded to 640' to determine time to 200ºF ▪ USES "7 Days" (time after reactor shutdown) and 116ºF point (initial PCS temperature) and DETERMINES time to 200ºF is 4 hours	**S U**
Comment: **CRITICAL STEP**			

Proc. Step	TASK ELEMENT 6	STANDARD	Grade
7.3.7b	DETERMINE PCS heatup rate as follows: $\frac{(200°F - T_{INITIAL})}{\text{Approximate Time to 200°F (Hours)}}$	Heatup rate CALCULATED to be 21ºF / hour (allow 20 - 22ºF / hour).	**S U**
Comment: **NOTE: Heatup rate is calculated by dividing 84ºF (200ºF - 116ºF) by 4 hours.** **CRITICAL STEP**			

Proc. Step	TASK ELEMENT 7	STANDARD	Grade
7.3.7c.	DETERMINE the allowable Shutdown Cooling outage time (heatup rate > 20°F/Hr)	CALCULATES allowable Shutdown Cooling outage time to be 57 minutes (54 - 60 minutes).	**S U**
Comment: **NOTE: Allowable outage time calculated by dividing 20ºF (maximum allowed heatup) by 21ºF / hour (previously calculated heatup rate) and converting to minutes.** **CRITICAL STEP**			

Proc. Step	TASK ELEMENT 8	STANDARD	Grade
n/a	Notifies the CRS that securing Shutdown Cooling has been calculated at approximately 57 minutes.	CRS NOTIFIED Shutdown Cooling can be secured for approximately 57 minutes (54 - 60 allowed).	**S U**
Comment: ***Evaluator: If notified by Operator of time for securing Shutdown Cooling, Acknowledge.***			

END OF TASK

SIMULATOR OPERATOR INSTRUCTIONS

- NONE

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS:

- Seven days after a plant shutdown, PCS temperature is 116ºF
- The Reactor cavity is flooded to a level of 640'
- The Pressurizer manway is removed
- Shutdown Cooling is in operation, but must be shutdown for the maximum time allowed

INITIATING CUES:

The CRS directs you to determine how long (in minutes) Shutdown Cooling may be secured in accordance with SOP-3, Section 7.3.7.

NRC REGION III

INITIAL LICENSE EXAM

JOB PERFORMANCE MEASURE

JPM: SRO ADMIN 1b

TITLE: MONITOR PCS HEATUP/COOLDOWN WITH THE PPC

CANDIDATE: _____

EXAMINER: _____

JOB PERFORMANCE MEASURE
DATA PAGE

Task: Operate the Palisades Plant Computer System

Alternate Path: N/A

Facility JPM #: PPC-JPM-02

K/A: 2.1.19 Importance: RO: 3.9 SRO: 3.8

K/A Statement: Ability to use plant computers to evaluate system or component status.

Task Standard: PPC setup to monitor the PCS heatup rate and candidate determines that LCO action statement 3.4.3.A needs to be entered due to heatup rate being above the limit.

Preferred Evaluation Location: Simulator __X__ In Plant _____

Preferred Evaluation Method: Perform __X__ Simulate _____

References: GOP-2, "MODE 5 To MODE 3 ≥ 525°F"
PO-2, "PCS Heatup/Cooldown Operations"

Validation Time: 10 minutes Time Critical: NO

Candidate: _____

Time Start: _____ Time Finish: _____

Performance Time: _____ minutes

Performance Rating: SAT_____ UNSAT _____

Comments:

Examiner: _____ Date: _____
Signature

EXAMINER COPY ONLY

Tools/Equipment/Procedures Needed:

- PO-2, PCS Heatup/Cooldown Operations

Also see **Simulator Operator Instructions** (last page of this document).

READ TO CANDIDATE

DIRECTION TO CANDIDATE:

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:

- A Plant refueling has just been completed
- Shutdown Cooling is NOT in service
- PCS temperature is approximately 190°F
- GCL-2, Mode 5 to Mode 3 $\geq$ 525°F Checklist is in progress
- Two PCPs are in service
- Technical Specification Surveillance Procedure PO-2, PCS Heatup/Cooldown Operations, has just been authorized by the CRS
- No equipment is out of service, all systems are OPERABLE

INITIATING CUES:

The CRS directs you to monitor and record PCS parameters during the heatup using the PPC per PO-2, step 5.1.

Proc. Step	TASK ELEMENT 1	STANDARD	Grade
n/a	Locate PO-2, PCS Heatup/Cooldown Operations, step 5.1	Step 5.1 of PO-2 LOCATED	**S U**
Comment: ***EVALUATOR: Provide Operator a working copy of PO-2.***			

Proc. Step	TASK ELEMENT 2	STANDARD	Grade
5.1.1b	**SELECT** the "Operator Mode Support" screen from the main menu	▪ Main menu screen SELECTED. ▪ "Operator Mode Support" screen SELECTED from main menu screen**.**	**S U**
Comment: ***EVALUATOR NOTE: Operator may go straight to PPC page 361 (task element 3).***			

Proc. Step	TASK ELEMENT 3	STANDARD	Grade
5.1.1c	**SELECT** any of the following, as applicable, to monitor PCS heatup/cooldown rate: ▪ Page 361 "PCS 15 Minute Rate Trend"	Page 361 "PCS 15 Minute Trend" page SELECTED	**S U**
Comment: **CRITICAL STEP**			

Proc. Step	TASK ELEMENT 4	STANDARD	Grade
5.1.1.d.1	**START** 15 minute automatic reports as follows: ▪ **DEPRESS** F7 key "HCR Reports"	F7 key "HCR Reports" DEPRESSED	**S U**
Comment: **CRITICAL STEP**			

Proc. Step	TASK ELEMENT 5	STANDARD	Grade
5.1.1.d.2	**START** 15 minute automatic reports as follows: ▪ **SELECT** the "Cyclic Printout Enabled" response	"Cyclic Printout Enabled" SELECTED	**S U**
Comment: **CRITICAL STEP**			

Proc. Step	TASK ELEMENT 6	STANDARD	Grade
5.1.1.d.3	**START** 15 minute automatic reports as follows: ▪ TYPE a one (1) AND **DEPRESS** the "UPDATE" Hardkey to start the reports.	One (1) or Y is TYPED AND "Update" Hardkey is DEPRESSED.	**S U**
Comment: ***NOTE: The Heatup/Cooldown print out is on a 15 minute timer that is always running. When the printout is enabled, the next print timeout could be anywhere from 1 second to 15 minutes later.*** ***EVALUATOR: When candidate has completed this step, hand them a printout of PPC pages 391, 392, and 393 for one hour later. Ensure the candidate understands that one hour has elapsed.*** **CRITICAL STEP**			

Proc. Step	TASK ELEMENT 7	STANDARD	Grade
5.1.1.d.4	**DETERMINE** PCS parameters are within allowable limits at least once every 15 minutes during the heatup/cooldown AND **INITIAL** the PPC Data Sheet. Refer to Step 5.2 and Step 5.3.	Candidate determines that step 5.2 is N/A. Candidate refers to step 5.3 and compares heatup limits in step 6.0 to the heatup rates determined on the PPC printout. Candidate determines that the heatup rate limit of 40°F hour has been exceeded	**S U**
Comment: **CRITICAL STEP**			

Proc. Step	TASK ELEMENT 8	STANDARD	Grade
5.3.1	IF any PCS parameter exceeds its limit or the heatup/cooldown rate exceeds the maximum allowable rate, THEN **PERFORM** the following ...	Candidate determines that LCO 3.4.3 condition A needs to be entered because the heatup rate limit has been exceeded.	**S U**
Comment: ***EVALUATOR: When candidate determines that LCO 3.4.3 condition A needs to be entered, end the JPM.*** **CRITICAL STEP**			

END OF TASK

SIMULATOR OPERATOR INSTRUCTIONS

- IC-3, Ready to come off S/D Cooling.
- Remove SDC from service.
- Ensure PCS temperature is approximately 190°F.

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS:

- A Plant refueling has just been completed
- Shutdown Cooling is NOT in service
- PCS temperature is approximately 190°F
- GCL-2, Mode 5 to Mode 3 $\geq$ 525°F Checklist is in progress
- Two PCPs are in service
- Technical Specification Surveillance Procedure PO-2, PCS Heatup/Cooldown Operations, has just been authorized by the CRS
- No equipment is out of service, all systems are OPERABLE

INITIATING CUES:

The CRS directs you to monitor and record PCS parameters during the heatup using the PPC per PO-2, step 5.1.

NRC REGION III

INITIAL LICENSE EXAM

JOB PERFORMANCE MEASURE

JPM: RO ADMIN 2

TITLE: PERFORM SHO-1 SURVEILLANCE

CANDIDATE: _____

EXAMINER: _____

JOB PERFORMANCE MEASURE
DATA PAGE

Task: Complete the SHO-1 Surveillance

Alternate Path: N/A

Facility JPM #: Modified from RO-A.2 2008 AUDIT

K/A: 2.2.12 Importance: RO: 3.7 SRO: 4.1

K/A Statement: Knowledge of surveillance procedures

Task Standard: Identification of two out-of-spec readings during the performance of SHO-1 for MO-3045, T-82B Outlet Isolation, and 'B' S/G Feedwater Temperature.

Preferred Evaluation Location: Simulator __X__ In Plant _____

Preferred Evaluation Method: Perform __X__ Simulate _____

References:SHO-1, “Operator’s Shift Items Modes 1, 2, 3, and 4”

Validation Time:20 minutes Time Critical: NO

Candidate: _____

Time Start: _____ Time Finish: _____

Performance Time: _____ minutes

Performance Rating: SAT_____ UNSAT _____

Comments:

Examiner: _____ Date: _____
Signature

EXAMINER COPY ONLY

Tools/Equipment/Procedures Needed:

- SHO-1, Attachment 1, Shift Surveillance Data Sheet
- Red ink pen

Also see **Simulator Operator Instructions** (last page of this document).

READ TO CANDIDATE

DIRECTION TO CANDIDATE:

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:

- The plant is at 100% power.
- It is Monday, 0100 hours.

INITIATING CUES:

You have been directed to take the readings of SHO-1, Items 5.1.28 through and including 5.1.39 for 'A' Shift. ALL remaining readings have already been taken by another NCO.

Proc. Step	TASK ELEMENT 1	STANDARD	Grade
n/a	Partially completed copy of SHO-1 located	LOCATES copy of partially completed SHO-1	**S U**
Comment:			
Evaluator: Provides Operator with a partially completed copy of SHO-1.			

Proc. Step	TASK ELEMENT 2	STANDARD	Grade
5.1.28	**PIP/SPI Rod Position:** Check PIP/SPI within 8 inches and each rod within 8 inches of other group rods on PPC pages 411 and 412	▪ CHECKS all readings agree within 8" ▪ RECORDS a √ in "Shift A Readings" column ▪ INITIALS "RECRD BY"	**S U**
Comment:			

Proc. Step	TASK ELEMENT 3	STANDARD	Grade
5.1.29	**5.1.29 PDIL Rod Position:** Check rod position above PDIL on PPC Page 412	▪ CHECKS all rods above PDIL ▪ RECORDS a √ in "Shift A Readings" column ▪ INITIALS "RECRD BY"	**S U**
Comment:			

Proc. Step	TASK ELEMENT 4	STANDARD	Grade
5.1.30	**Shutdown and Part-Length Rod Position:** Check rods ≥ 128" on PPC Pages 411 & 412	▪ CHECKS all rods ≥ 128" ▪ RECORDS a √ in "Shift A Readings" column ▪ INITIALS "RECRD BY"	**S U**
Comment:			

Proc. Step	TASK ELEMENT 5	STANDARD	Grade
5.1.31	**Linear Heat Rate:** Check Incore flux below alarm limits on PPC Pages 512 & 513	▪ CHECKS Incore flux below alarm limits ▪ RECORDS a √ in "Shift A Readings" column ▪ INITIALS RECRD BY	**S U**
Comment:			

Proc. Step	TASK ELEMENT 6	STANDARD	Grade
5.1.32	**Main Feed Temperature:** Record data and check channels agree within 10°F on PPC Page 521	▪ RECORDS Main Feed Temperatures from TR-0706 in "Shift A Readings" column ▪ RECORDS Main Feed Temperatures from PPC Page 521 in "Shift A Readings" column ▪ CHECKS Main Feed temperatures on PPC Page 521 are within 10°F of associated readings on TR-0706	**S U**
Comment: **NOTE:** ***Data for 'B' S/G Feedwater Temperature indication on PPC is > 10°F less than 'B' S/G Feedwater Temperature on TR-0706***			

Proc. Step	TASK ELEMENT 7	STANDARD	Grade
5.1.32	**Main Feed Temperature:** Record data and check channels agree within 10°F on PPC Page 521	▪ DETERMINES 'B' S/G Feedwater Temperature indication on PPC is > 10°F less than 'B' S/G Feedwater Temperature on TR-0706 ▪ CIRCLES in RED one or both 'B' S/G Feedwater Temperatures * ▪ INITIALS RECRD BY * ▪ NOTIFY CRS of the out of spec reading *	**S U**
Comment: ***Evaluator Cue: If notified as the CRS of the out of spec reading: Acknowledge. If asked if the surveillance should continue: RESPOND to continue with the surveillance.*** **** NOTE: Not part of the critical step*** **CRITICAL STEP**			

Proc. Step	TASK ELEMENT 8	STANDARD	Grade
5.1.33	**Main Feed Flow** Record data and check channels agree within 0.5 E6 PPH on PPC Page 521	▪ RECORDS Main Feed Flow to both S/Gs ▪ CHECKS within 0.5 E6 PPH ▪ INITIALS RECRD BY	**S U**
Comment:			

Proc. Step	TASK ELEMENT 9	STANDARD	Grade
5.1.34	**Auxiliary Feed Flow** Record flow and check channels agree within 30 GPM (45 GPM with no flow to the steam generator)	▪ RECORDS AFW flow to both S/Gs ▪ VERIFIES all channels agree within 45 gpm ▪ INITIALS RECRD BY	**S U**
Comment:			

Proc. Step	TASK ELEMENT 10	STANDARD	Grade
5.1.35	**Pressurizer Level** Record data and check Pressurizer level < 62.8% on PPC Page 325	▪ RECORDS PZR level in “Shift A Readings” column ▪ CHECKS PZR level < 62.8% ▪ INITIALS RECRD BY	**S U**
Comment:			

Proc. Step	TASK ELEMENT 11	STANDARD	Grade
5.1.36	**PCS Cooling Loops** Check at least minimum pumps operating: Modes 1, 2 - 4 Pumps Mode 3 - 1 Pump	▪ CHECKS all PCPs operating ▪ RECORDS a √ in “Shift A Readings” column ▪ INITIALS RECRD BY	**S U**
Comment:			

Proc. Step	TASK ELEMENT 12	STANDARD	Grade
5.1.37	**PORV Block Valve Position Indication** Check indication is as expected	▪ CHECKS both PORV block valves indicate closed ▪ RECORDS a √ in "Shift A Readings" column ▪ INITIALS RECRD BY	**S U**
Comment:			

Proc. Step	TASK ELEMENT 13	STANDARD	Grade
5.1.38	**SIT Isolation Valve Position** Check each SIT Isolation Valve fully open	▪ CHECKS SIT Isolation Valve, MO-3041, MO-3045, MO-3049, MO-3052, position ▪ VERIFIES all valves indicate full open	**S U**
Comment: ***Evaluator Note: MO-3045, T-82B Isolation, will indicate in the mid-position, (red and green lights energized)***			

Proc. Step	TASK ELEMENT 14	STANDARD	Grade
5.1.38	**SIT Isolation Valve Position** Check each SIT Isolation Valve fully open	▪ DETERMINES MO-3045 is out of spec due to being in the mid-position ▪ RECORDS a √ in "Shift A Readings" column for each valve <u>except</u> MO-3045 *. Candidate may either leave the MO-3045 space blank or place a √ in the blank <u>and</u> circle in red ▪ INITIALS RECRD BY * ▪ NOTIFY CRS of the out of spec reading *	**S U**
Comment: ***Evaluator Cue: If notified as the CRS of the out of spec reading: Acknowledge. If asked if the surveillance should continue: RESPOND to continue with the surveillance.*** **** NOTE: Not part of the critical step*** **CRITICAL STEP**			

Proc. Step	TASK ELEMENT 15	STANDARD	Grade
5.1.39	**SIRWT Recirc Valve Position** Check SIRWT Recirc Valves and Handswitches in the OPEN position	▪ CHECKS SIRWT Recirc Valves, CV-3027 and CV-3056, valves and handswitches indicate open ▪ RECORDS a √ in "Shift A Readings" column ▪ INITIALS RECRD BY	**S U**
Comment:			

Proc. Step	TASK ELEMENT 16	STANDARD	Grade
n/a	▪ Return completed SHO-1 to CRS ▪ Inform CRS of out of spec readings (if not already done)	▪ Completed SHO-1 RETURNED to the CRS ▪ CRS INFORMED of the out of spec readings (if not already done)	**S U**
Comment:			

END OF TASK

SIMULATOR OPERATOR INSTRUCTIONS

- Reset to any full power IC.
- Insert the following or use CAE file
  - Override for 'B' S/G Feedwater Temperature TR-0706-R to 0.915
  - Override MO-3045-G to ON
- Adjust all PWR Range NI to 99.9 -100.1% power as necessary.
- Ensure copies of SHO-1, Attachment 1, pages 10-13 are available
- Ensure Simulator clipboard copy of SHO-1, Attachment 1 is the current revision

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS:

- The plant is at 100% power
- It is Monday, 0100 hours

INITIATING CUES:

You have been directed to take the readings of SHO-1, Items 5.1.28 through and including 5.1.39 for 'A' Shift. ALL remaining readings have already been taken by another NCO.

NRC REGION III

INITIAL LICENSE EXAM

JOB PERFORMANCE MEASURE

JPM: SRO ADMIN 2

TITLE: DETERMINE A TECHNICAL SPECIFICATION COMPLETION TIME EXTENSION

CANDIDATE: _____

EXAMINER: _____

JOB PERFORMANCE MEASURE
DATA PAGE

Task: Given a technical specification entry condition and references, determine a completion time extension.

Alternate Path: N/A

Facility JPM #: NEW

K/A: 2.2.23 Importance: RO:3.1 SRO: 4.6

K/A Statement: Ability to track Technical Specification limiting conditions for operation.

Task Standard: LCO 3.5.2.D and LCO 3.0.3 entered and completion time of action statement 3.5.2.B extended to June 5th, 2009 at 0900.

Preferred Evaluation Location: ANY _X_

Preferred Evaluation Method: Perform _X_ Simulate _____

References: LCO 3.5.2, "ECCS - Operating"
LCO 1.3, "Completion Times"

Validation Time: _10_ minutes Time Critical: NO

Candidate: _____

Time Start: _____ Time Finish: _____

Performance Time: _____ minutes

Performance Rating: SAT_____ UNSAT _____

Comments:

Examiner: _____ Date: _____
Signature

EXAMINER COPY ONLY

Tools/Equipment/Procedures Needed:

Also see **Simulator Operator Instructions** (last page of this document).

EXAMINER NOTE: There are two initiating cue sheets for this JPM. Ensure the cue sheet on page 8 is handed out FIRST.

READ TO CANDIDATE

DIRECTION TO CANDIDATE:

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:

- The Plant is at full power
- Today's date is June 3rd, 2009. The time is 0900
- On June 1st, 2009 at 0900, P-66A, HPSI Pump, was declared INOPERABLE
- LCO Action Statement 3.5.2.B, "One or more ECCS trains INOPERABLE for reasons other than Condition A," was entered at that time
- P-66B, HPSI Pump, was just declared INOPERABLE today at 0855

FIRST INITIATING CUE:

- The Shift Manager has directed you to determine the Technical Specification Action Statement(s), if any, that need to be entered as a result of the INOPERABILITY of P-66B.

SECOND INITIATING CUE:

- The time is now 1300 on June 3rd, 2009
- P-66A was just declared OPERABLE following completion of corrective maintenance, return to service and satisfactory surveillance testing.
- The Shift Manager directs you to determine the latest date and time that P-66B must be repaired without having to enter action statement LCO 3.5.2.C, "Required Action and associated Completion Time of Condition A or B not met."

Proc. Step	TASK ELEMENT 1	STANDARD	Grade
--	Candidate locates LCO 3.5.2	LCO 3.5.2 is located	S U
Comment:			

Proc. Step	TASK ELEMENT 2	STANDARD	Grade
LCO 3.5.2	Evaluate additional TS LCO action statements that need to be entered.	Candidate determines that LCO 3.5.2.D "Less than 100% of the required ECCS flow available" is applicable and that LCO 3.0.3 needs to be entered immediately.	S U
Comment: ***Evaluator Note: Candidate may refer to TS Bases 3.5.2 for this answer.*** ***Evaluator Cue: Hand the candidate the SECOND Initiating Cue sheet.*** **CRITICAL STEP**			

Proc. Step	TASK ELEMENT 3	STANDARD	Grade
LCO 1.3	Candidate reviews action statement completion time extension criteria of LCO 1.3.	Candidate determines that the criteria of LCO 1.3 are met to allow an extension of the completion time of LCO 3.5.2.B.	S U
Comment:			

Proc. Step	TASK ELEMENT 4	STANDARD	Grade
LCO 1.3	Candidate evaluates the amount of time that action of LCO 3.5.2.B may be extended.	Candidate determines that the actions of LCO 3.5.2.B may be extended until June 5th, 2009 at 0900.	S U
Comment: **CRITICAL STEP**			

Proc. Step	TASK ELEMENT 5	STANDARD	Grade
---	Candidate notifies the Shift Manager that LCO 3.5.2.B may be extended to June 5th, 2009 at 0900 hours prior to entering LCO 3.5.2.C.	Shift Manager notified.	S U
Comment:			

END OF TASK

SIMULATOR OPERATOR INSTRUCTIONS

N/A

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS:

- The time is now 1300 on June 3rd, 2009.
- P-66A was just declared OPERABLE following completion of corrective maintenance, return to service and satisfactory surveillance testing.

INITIATING CUES:

The Shift Manager directs you to determine the latest date and time that P-66B must be repaired without having to enter action statement LCO 3.5.2.C, "Required Action and associated Completion Time of Condition A or B not met."

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS:

- The Plant is at full power
- Today's date is June 3rd, 2009. The time is 0900
- On June 1st, 2009 at 0900, P-66A, HPSI Pump, was declared INOPERABLE
- LCO Action Statement 3.5.2.B, "One or more ECCS trains INOPERABLE for reasons other than Condition A," was entered at that time
- P-66B, HPSI Pump, was just declared INOPERABLE today at 0855

INITIATING CUES:

The Shift Manager has directed you to determine the Technical Specification Action Statement(s), if any, that need to be entered as a result of the INOPERABILITY of P-66B.

NRC REGION III

INITIAL LICENSE EXAM

JOB PERFORMANCE MEASURE

JPM: SRO ADMIN 3

TITLE: CALCULATE MAXIMUM PERMISSIBLE STAY TIME

CANDIDATE: _____

EXAMINER: _____

JOB PERFORMANCE MEASURE
DATA PAGE

Task: Determine maximum permissible stay time

Alternate Path: N/A

Facility JPM #: NEW

K/A: 2.3.4 Importance: RO: 3.2 SRO: 3.7

K/A Statement: Knowledge of radiation exposure limits under normal or emergency conditions.

Task Standard: Maximum time to perform Task #3 is calculated to be 51.0 to 51.9 minutes.

Preferred Evaluation Location: ANY __X__

Preferred Evaluation Method: Perform __X__ Simulate _____

References: EI-2.1, “Site Emergency Director”
EN-RP-201, “Dosimetry Administration”

Validation Time: 20 minutes Time Critical: NO

Candidate: _____

Time Start: _____ Time Finish: _____

Performance Time: _____ minutes

Performance Rating: SAT_____ UNSAT _____

Comments:

Examiner: _____ Date: _____
Signature

EXAMINER COPY ONLY

Tools/Equipment/Procedures Needed:

EI-2.1, "Site Emergency Director"

READ TO CANDIDATE

DIRECTION TO CANDIDATE:

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:

The plant was at 100% power when a Steam Generator Tube Rupture occurred. A General Emergency was declared due to the plant conditions (fuel failure is also evident). Due to plant conditions, a radioactive release is in progress. Worker #1 has received 1.85 R TEDE this year prior to this event. Worker #1 has performed the following task for this event:

#	TASK	TIME REQUIRED	DOSE RATE
1	Closed 'A' S/G ASDV air supply isolation valves	4 min	17.75 R/hr

The Shift Manager then determined that the 'B' S/G should have been isolated instead of 'A' S/G. The following outside the Control Room tasks are now required:

#	TASK	TIME REQUIRED	DOSE RATE
2	Open 'A' S/G ASDV air supply isolation valves	3 min	17.75 R/hr
3	Manually open MO-0510, 'A' S/G MSIV Bypass Valve	unknown	25.5 R/hr
4	Close 'B' S/G ASDV air supply isolation valves	3 min	17.75 R/hr

NOTE: Assume no dose is received while traveling between tasks.

INITIATING CUES:

Worker #1 is the only worker available to perform Tasks 2, 3 and 4. Your task is to determine the maximum time (in minutes) for Worker #1 to perform Task #3 without exceeding any established emergency dose limits. Report your results to the Shift Manager.

Proc.Step	TASK ELEMENT 1	STANDARD	Grade
---	Determine dose received while performing Task #1.	Calculates dose received at 1.18 - 1.20R.	**S U**
Comment: **(17.75 R/hr) (1hr/60 min) (4 min) = 1.183 R** **CRITICAL STEP**			

Proc.Step	TASK ELEMENT 2	STANDARD	Grade
---	Determine dose to be received while performing Task #2.	Calculates dose received at 0.88 - 0.90R.	**S U**
Comment: **(17.75 R/hr) (1hr/60 min) (3 min) = 0.8875 R** **CRITICAL STEP**			

Proc.Step	TASK ELEMENT 3	STANDARD	Grade
---	Determine dose to be received while performing Task #4.	Calculates dose received at 0.88 - 0.90R.	**S U**
Comment: **(17.75 R/hr) (1hr/60 min) (3 min) = 0.8875 R** **CRITICAL STEP**			

Proc.Step	TASK ELEMENT 4	STANDARD	Grade
---	Determine dose remaining from emergency dose limits.	Dose remaining determined to be 22.042 R. (allow 22.00 - 22.06R). Candidate may use EI-2.1, "Site Emergency Director" to determine 25R emergency dose limit.	**S U**
Comment: **(25R) – (1.183R) – (2) (0.8875R) = 22.042 R** ***EVALUATOR: If candidate asks which emergency dose limit is being considered for Task #3, inform them to determine this from plant conditions. Also if asked, inform candidate that the worker does <u>not</u> desire to volunteer dose limit above 25R.*** **CRITICAL STEP**			

Proc. Step	TASK ELEMENT 5	STANDARD	Grade
---	Determine time available for Worker #1 to complete Task #3 without exceeding emergency dose level.	Time available calculated to be 51.9 min (allow 51.0 - 51.9).	S U
Comment: **(Available Dose)/(Dose Rate) = (22.042 R)/(25.5 R/hr) = 0.8644 hr (60 min/Hr) = 51.86 minutes (accept 51.0 to 51.9 minutes)** **CRITICAL STEP**			

Proc. Step	TASK ELEMENT 6	STANDARD	Grade
n/a	Inform the Shift Manager of calculation results.	Inform the Shift Manager that Worker #1 will exceed 25 R emergency dose limit if Task #3 takes more than 51.9 minutes (allow 51.0 - 51.9).	S U
Comment:			

END OF TASK

SIMULATOR OPERATOR INSTRUCTIONS

- No Simulator setup required.

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS:

The plant was at 100% power when a Steam Generator Tube Rupture occurred. A General Emergency was declared due to the plant conditions (fuel failure is also evident). Due to plant conditions, a radioactive release is in progress. Worker #1 has received 1.85 R TEDE this year prior to this event. Worker #1 has performed the following task for this event:

#	TASK	TIME REQUIRED	DOSE RATE
1	Closed 'A' S/G ASDV air supply isolation valves	4 min	17.75 R/hr

The Shift Manager has determined that the wrong S/G has been isolated. The following outside the Control Room tasks are now required:

#	TASK	TIME REQUIRED	DOSE RATE
2	Open 'A' S/G ASDV air supply isolation valves	3 min	17.75 R/hr
3	Manually open MO-0510, 'A' S/G MSIV Bypass Valve	**unknown**	25.5 R/hr
4	Close 'B' S/G ASDV air supply isolation valves	3 min	17.75 R/hr

NOTE: Assume no dose is received while traveling between tasks.

INITIATING CUES:

Worker #1 is the only worker available to perform Tasks 2, 3 and 4. Your task is to determine the <u>maximum</u> time (in minutes) for Worker #1 to perform Task #3 without exceeding any established emergency dose limits. Report your results to the Shift Manager.

NRC REGION III

INITIAL LICENSE EXAM

JOB PERFORMANCE MEASURE

JPM: RO ADMIN 4

TITLE: OBTAIN METEOROLOGICAL DATA FOR EMERGENCY NOTIFICATION FORM

CANDIDATE: _____

EXAMINER: _____

JOB PERFORMANCE MEASURE
DATA PAGE

Task: Obtain Meteorological Data for Emergency Notification Form

Alternate Path: N/A

Facility JPM #: RO-A.4 2008 NRC

K/A: 2.4.39 Importance: RO: 3.9

K/A Statement: Knowledge of RO responsibilities in emergency plan implementation

Task Standard: EI-6.7, Attachment 1, completed with correct data obtained within 12 minutes per attached key

Preferred Evaluation Location: Simulator __X__ In Plant _____

Preferred Evaluation Method: Perform __X__ Simulate _____

References: EI-3.0, “Communications and Notifications”
EI-6.0, “Offsite Dose Calculation and Recommendations for Protective Actions”
EI-6.7, “Plant Site Meteorological System”

Validation Time: 10 minutes Time Critical: YES - 12 Minutes

Candidate: _____

Time Start: _____ Time Finish: _____

Performance Time: _____ minutes

Performance Rating: SAT_____ UNSAT _____

Comments:

Examiner: _____ Date: _____
Signature

EXAMINER COPY ONLY

Tools/Equipment/Procedures Needed:

EI-6.7, Attachment 1

Also see **Simulator Operator Instructions** (last page of this document).

READ TO CANDIDATE

DIRECTION TO CANDIDATE:

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:

The Shift Manager, acting as the Site Emergency Director, has declared an Alert condition. A thunderstorm is in progress.

INITIATING CUES:

The Shift Manager has directed you to obtain Meteorological Data by completing Attachment 1 of EI-6.7, utilizing the Meteorological Data display in the Control Room. This data is required to complete EI-3, attachment 1, Palisades Event Notification Form.

THIS JPM IS TIME CRITICAL.

Proc. Step	TASK ELEMENT 1	STANDARD	Grade
n/a	Correct Procedure located	EI-6.7, Attachment 1 located	**S U**
Comment: ***Evaluator: Provide candidate with a Working Copy.***			

EVALUATOR NOTE: EI-6.7 Attachment 1 is completed by referencing steps 5.1.3 and 5.1.4. Due to wind speed and wind direction at 10 meters unavailable, 60 meter data is used.

Proc. Step	TASK ELEMENT 2	STANDARD	Grade
5.1.3	Obtain meteorological data from the PPC, page 351 WS, Wind Speed (WS60) _9_MPH	On EI-6.7 Att. 1 data recorded as follows: WS, Wind Speed = 6.93 mph (6.9-7.0 acceptable) 9 mph X .77 = 6.93 MPH (X) 60 meters, *corrected	**S U**
Comment: **NOTE:** ***WS60 must be used. WS60 multiplied by 0.77 to obtain corrected wind speed.*** **CRITICAL STEP**			

Proc. Step	TASK ELEMENT 3	STANDARD	Grade
5.1.3	Obtain meteorological data from the PPC, page 351 WD, Wind Direction (WD60) _____°	On EI-6.7 Att. 1 data recorded as follows: WD, Wind Direction = 73° from (X) 60 meters	**S U**
Comment: **NOTE:** ***WD60 must be used.*** **CRITICAL STEP**			

Proc. Step	TASK ELEMENT 4	STANDARD	Grade
5.1.4	Obtain meteorological data from the PPC, page 351 Stability Class (STAB) _____	On EI-6.7 Att. 1 data recorded as follows: Stability Class = _C_	**S U**
Comment: **CRITICAL STEP**			

Proc. Step	TASK ELEMENT 5	STANDARD	Grade
n/a	EI-6.7, Attachment 1 completed: Date:, Time:, Completed By:	On EI-6.7 Att. 1 data recorded as follows: Date: Today's date *Time: Current time -within 12 minutes from start of JPM Completed By: Operator's name	**S U**
Comment: **CRITICAL STEP** *** Time is only portion of critical step**			

Proc. Step	TASK ELEMENT 6	STANDARD	Grade
n/a	Notify the CRS that EI-6.7 Attachment 1 completed.	Operator notifies CRS of completion of EI-6.7, Attachment 1.	**S U**
Comment:			

END OF TASK

SIMULATOR OPERATOR INSTRUCTIONS

1. Reset to IC 17

2. Remove the following two PPC points from service by using MFs PC20 and PC 21 on PID PC02. These MFs will cause a "V" or invalid display from the Met Tower 10 meter height. Candidate will have to use the 60 meter readings and use a conversion factor of 0.77 to obtain appropriate data. **(ENSURE these MFs are changed back after JPM is completed)**

    - MWD10
    - MWS10

3. Provide a Working Copy of EI-6.7, Att. 1 to evaluator.

4. Use Remote Functions (RF) on PID PC02 to modify the following (after all RFs are changed, then use UPDATE NOW and respond 'YES"):
    - WS60 = 9 (change RF to this value)
    - WD60 = 73 degrees FROM (change RF to this value)
    - Stability = C (no change needed since RF should already say "3")

5. Candidate may use PPC monitor in Simulator Computer Room for this JPM: ensure it is up and running.

PLANT SITE METEOROLOGICAL SYSTEM WORKSHEET

ANSWER KEY ANSWER KEY ANSWER KEY ANSWER KEY ANSWER KEY

1.	WS, Wind Speed = 6.93 mph	( ) 10 meters (X) 60 meters, *corrected (see Step 5.1.3 or 5.2.6)
	*Multiply by 0.77 (9 MPH X 0.77 = 6.93 MPH (6.9 - 7.0 acceptable)	

2.	WD, Wind Direction = 73 ° from	( ) 10 meters (X) 60 meters (see Step 5.1.3 or 5.2.6)
		(see Step 5.1.4 or 5.2.7)
3.	Stability Class = C	

Date: __TODAY_____ Time: __NOW___ Completed By: __JOE OPERATOR_____

ANSWER KEY ANSWER KEY ANSWER KEY ANSWER KEY ANSWER KEY

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS:

The Shift Manager, acting as the Site Emergency Director, has declared an Alert condition. A thunderstorm is in progress.

INITIATING CUES:

The Shift Manager has directed you to obtain Meteorological Data by completing Attachment 1 of EI-6.7, utilizing Meteorological Data display in the Control Room. This data is required to complete EI-3, attachment 1, Palisades Event Notification Form.

THIS JPM IS TIME CRITICAL

NRC REGION III

INITIAL LICENSE EXAM

JOB PERFORMANCE MEASURE

JPM: SRO ADMIN 4

TITLE: CLASSIFY EVENT AND DETERMINE PAR

CANDIDATE: _____

EXAMINER: _____

JOB PERFORMANCE MEASURE
DATA PAGE

Task: Classify an Event and Determine PARs - Protective Action Recommendations

Alternate Path: N/A

Facility JPM #: SRO-A.4 2003 NRC

K/A: 2.4.41, 2.4.44 Importance: RO:4.1, 4.0 SRO: 4.1, 4.4

K/A Statement: (2.4.41) Knowledge of the emergency action level threshholds and classifications.
(2.4.44) Knowledge of emergency plan protective action recommendations.

Task Standard: Event classified as a General Emergency within 15 minutes and PAR is evacuation of Areas 1 and 2, within 12 minutes from declaration of GE.

Preferred Evaluation Location: Simulator __X__ In Plant _____

Preferred Evaluation Method: Perform __X__ Simulate _____

References: EI-1, Emergency Classifications and Actions
EI-3, Communications and Notifications
EI-6.13, Protective Action Recommendations for Offsite Populations

Validation Time: __30__ minutes Time Critical: YES - see task standard

Candidate: _____

Time Start: _____ Time Finish: _____

Performance Time: _____ minutes

Performance Rating: SAT_____ UNSAT _____

Comments:

Examiner: _____ Date: _____
Signature

EXAMINER COPY ONLY

Tools/Equipment/Procedures Needed:

EI-1 Attachment 1
EI-3
EI-6.13 Attachment 1

Also see **Simulator Operator Instructions** (last page of this document).

READ TO CANDIDATE

DIRECTION TO CANDIDATE:

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:

1. The Reactor tripped 12 minutes ago.
2. A LOCA is in progress.
3. Pressurizer level is off-scale LOW.
4. PCS pressure is 100 psia.
5. CETs indicate 600ºF.
6. Total LPSI/HPSI flow is NOT adequate per EOP Supplement 4.
7. SIRW tank level is 38% and lowering slowly.
8. Containment isolation has occurred as designed and EOP Supplement 6 for Containment Isolation is in progress.
9. A release is NOT occurring through the plant stack or steam dumps.
10. Containment Gamma Monitors (RIA-2321 and 2322) are indicating 5E4R/hr.
11. Reactor Vessel Level Monitoring System (RVLMS) indicates ALL red lights
12. Failed fuel analysis is in progress with no results to report yet.
13. The weather is clear with no precipitation.

INITIATING CUES:

During activation of the Site Emergency Plan, you are the Shift Manager (acting as the Site Emergency Director). You are to classify the event given the above information and complete the Event Notification Form. No previous event declaration has been made.

This JPM is Time Critical.

Proc.Step	TASK ELEMENT 1	STANDARD	Grade
EI-1	Locates procedure to determine Emergency Classification.	Locates EI-1 and refers to Attachment 1, “Hot Conditions (PCS > 200 degrees F)”.	**S U**
Comment: ***EVALUATOR: Candidate may use placard of site emergency plan classifications or use paper copy from EI-1, attachment 1.***			

Proc.Step	TASK ELEMENT 2	STANDARD	Grade
EI-1 Att 1	Refers to "Fission Product Barriers" section (lower right-hand corner)	Refers to lower right-hand corner of EI-1, Attachment 1, “Hot Conditions (PCS > 200 degrees F)”.	**S U**
Comment:			

Proc.Step	TASK ELEMENT 3	STANDARD	Grade
EI-1 Att 1	Determines status of fission product barriers.	___ Refers to Table F1 ___ Determines a LOSS of Fuel Cladding (based on Containment Gamma monitors readings (item 5) ___ Determines a LOSS of PCS Barrier (based on leak rate and PCS subcooling)(item 2) OR based on Containment Gamma Monitor readings (item 4). ___ Determines a POTENTIAL LOSS of Containment Barrier (based on Containment Gamma monitors readings) (item 6).	**S U**
Comment:			

Proc.Step	TASK ELEMENT 4	STANDARD	Grade
EI-1 Att 1	Declares Emergency Classification.	Declares a GENERAL EMERGENCY per FG1 based on status of fission product barriers (loss of TWO and potential loss of THIRD).	**S U**
Comment: **CRITICAL STEP - must be performed within 15 minutes of start of JPM.**			

Proc.Step	TASK ELEMENT 5	STANDARD	Grade
EI-1 Att 2	Prepares Emergency Actions/Notifications form.	Obtains EI-1, Attachment 2 and fills out.	**S U**
Comment: ***EVALUATOR NOTE: This Task Element may be performed at any time during the JPM. Filling out this form is NOT required for this JPM.*** ***EVALUATOR NOTE: It is NOT the intent of this JPM to have candidate actually make the notifications*.**			

Proc.Step	TASK ELEMENT 6	STANDARD	Grade
EI-3 Att 1	Prepares Event Notification Form.	Obtains EI-3, Attachment 1 and fills out per attached KEY.	**S U**
Comment: ***EVALUATOR NOTE: When candidate asks for Meteorological Data, hand them attachment 1 of EI-6.7, "Plant Site Meteorological System Worksheet," which has been previously completed (attached)*** ***EVALUATOR NOTE: KEY is attached to this JPM.*** ***EVALUATOR NOTE: EI-3, Attachment 2, "Palisades Event Technical Data Sheet" is NOT required during this JPM.*** ***EVALUATOR NOTE: Candidate will use computer on Control Room island area to prepare this form.***			

Proc.Step	TASK ELEMENT 7	STANDARD	Grade
EI-6.13 Att 1	Determines Protective Action Recommendations (PARs).	Obtains EI-6.13 and corresponding Attachment 1 and determines: ___ Evacuate Areas 1 and 2 (minimum GE recommendation on bottom of Pg 1 of Attachment 1)	**S U**
Comment: ***EVALUATOR NOTE: Provide candidate with a working copy of EI-6.13.*** **CRITICAL STEP - must be performed within 12 minutes of declaration of General Emergency.**			

Proc.Step	TASK ELEMENT 8	STANDARD	Grade
EI-11	Candidate may determine status of Core Damage per EI-11.	Candidate refers to graph on attachment 2 and determines that < 20% of the core is damaged.	**S U**
Comment: ***EVALUATOR NOTE: If candidate attempts to perform this step, provide them with a working copy of EI-11, attachment 2.***			

Proc.Step	TASK ELEMENT 9	STANDARD	Grade
EI-3 Att 1	Completes filling out Palisades Event Notification Form.	Palisades Event Notification Form completely filled per attached KEY AND form is approved (Candidate initials, date, and time entered at bottom of form) *	**S U**
Comment: ***NOTE: Candidate will use computer on back-bar of Control Room island area to complete and print this form.*** * The following are the critical parts of this step: • General Emergency is checked in "current classification" section • Date and time filled in "current classification" section • FG1 filled in "reason for classification" section OR Fission Product Barrier Degradation checked in "reason for classification" section • Areas 1 and 2 checked for Evacuation of Areas **CRITICAL STEP**			

END OF TASK

Proc No EI-3
Attachment 1
Revision 27
Page 1 of 1

PALISADES EVENT NOTIFICATION FORM

☐ **Actual Event** ☒ **Drill**

Plant Contact Information

Nuclear Power Plant: _____

Plant Communicator: _____ Time of Communication: V.B. _____
S.O.M. _____
NRC _____

1
Plant Message Number

Calling From: ☐ Control Room ☐ TSC ☐ EOF ☐ Other_____

Call Back Telephone Number: _____

Current Classification

☐ Unusual Event ☐ Alert ☐ Site Area Emergency ☒ General Emergency ☐ Termination

This Classification was declared as of: Date: **Today** Time: **Within 15 minutes from start of JPM**

Reason for Classification

☐ Abnormal Rad Levels / Radiological Effluent

☐ Hazards and Other Conditions Affecting Plant Safety

☐ System Malfunctions

☐ Cold Shutdown / Refueling System Malfunction

☐ Independent Spent Fuel Storage Installation Events

☒ Fission Product Barrier Degradation

IC Number: **FG1**

Radiological Release in Progress Due to Event

☐ Yes ☒ No

Protective Action Recommendations

☐ None

Evacuation of Areas(s): ☒ 1 ☒ 2 ☐ 3 ☐ 4 ☐ 5

In-Place Shelter of Area(s) ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

PAR based on: ☐ Dose Calculation (Palisades Event Technical Data Sheet required) ☐ Plant Status ☐ Security Event

☐ Other _____

Meteorological Data

Wind Direction (degrees): From **235** To **55** Wind Speed (MPH): **1**

Stability Class: **G** Precipitation: ☐ Yes ☒ No

Emergency Director Approval: _____ Date: _____ Time: _____

ANSWER KEY

SIMULATOR OPERATOR INSTRUCTIONS

- No Simulator setup required.
- It is preferred that this JPM be done separately from the simulator. If, by chance, candidate IS in the simulator while doing this JPM, THEN ensure the IC does NOT have a release in progress.

ENSURE ALL DATA IS CLEARED FROM EP NOTIFICATION COMPUTER ON BACK-BAR OF CRS ISLAND PRIOR TO NEXT USE OF THIS JPM.

PLANT SITE METEOROLOGICAL SYSTEM WORKSHEET

1.	WS, Wind Speed = 1.0 mph *Multiply by 0.77	(X) 10 meters ( ) 60 meters, *corrected (see Step 5.1.3 or 5.2.6)

2.	WD, Wind Direction = 235 ° from	(X) 10 meters ( ) 60 meters (see Step 5.1.3 or 5.2.6)
		(see Step 5.1.4 or 5.2.7)
3.	Stability Class = G	

Date: TODAY Time: NOW Completed By: JOE OPERATOR

CANDIDATE CUE SHEET

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS:

1. The Reactor tripped 12 minutes ago.
2. A LOCA is in progress.
3. Pressurizer level is off-scale LOW.
4. PCS pressure is 100 psia.
5. CETs indicate 600ºF.
6. Total LPSI/HPSI flow is NOT adequate per EOP Supplement 4.
7. SIRW tank level is 38% and lowering slowly.
8. Containment isolation has occurred as designed and EOP Supplement 6 for Containment Isolation is in progress.
9. A release is NOT occurring through the plant stack or steam dumps.
10. Containment Gamma Monitors (RIA-2321 and 2322) are indicating 5E4R/hr.
11. Reactor Vessel Level Monitoring System (RVLMS) indicates ALL red lights
12. Failed fuel analysis is in progress with no results to report yet.
13. The weather is clear with no precipitation.

INITIATING CUES:

During activation of the Site Emergency Plan, you are the Shift Manager (acting as the Site Emergency Director). You are to classify the event given the above information and complete the Event Notification Form. No previous event declaration has been made.

This JPM is Time Critical.