PROPOSE NRC DEVELOPED JPMs

Administrative Job Performance Measure

Conduct of Operations

Ability to Apply Technical Specifications and Determine Reportability Requirements for an Event

TITLE: Determine All of the Applicable Tech. Specs that apply to a given plant occurrence during all applicable reporting requirements.

Evaluation Location: Simulator ____ Control Room ____ Plant____ Classroom__X__

Projected Time: __30 Min.__

Alternate Path _____

Time Critical _____

Date: _____ Trainee: _____

Evaluator: _____

JPM Performance: Satisfactory _____ Unsatisfactory _____

Evaluator Comments: _____

Initial Conditions

The following plant conditions exist:

- The plant was initially operating at steady state 100% power.
- Both S/G Feedwater pumps tripped and **No Operator Actions were taken.**
- S/G water level then decreased to the point that the Auxiliary Feedwater Pumps started
- The P-8A Auxiliary Feedwater pump started but subsequently tripped due to unknown reasons
- P-8C AFW Pump is in service providing 165 gpm flow to each S/G.

Initiating Cue:
Determine **all** of the Technical Specification entry condition(s) that apply due to the initial set of conditions and determine any applicable reportability requirement(s) to regulatory agencies.

EVALUATION CHECKLIST

Task Standard:

The applicant will identify the correct Technical Specifications (3.7.5 Cond. A) that must be entered for the given set of conditions and determine that the automatic start of the Auxiliary Feedwater System is reportable per 50.72(b)(3)(iv)(A) or 50.72(b)(3)(iv)(B)(6). The applicant must also realize that the Reactor tripped on Low S/G Level and that the Reactor Trip is reportable per 50.72(b)(2)(iv)(B) or 50.72(b)(3)(iv)(B)(1).

TASKS:	**STANDARDS:**	**RESULTS:**
Start Time: _____		
* 1) Determine that Tech Spec 3.7.5 applies, specifically Cond. A for the failure of P-8A, Aux. Feedwater Pump	Determine that Tech Spec 3.7.5 Cond A applies for the failure of P-8A, Aux. Feedwater Pump	S / U
*2) Determine that the automatic Aux. Feedwater pump start is from a valid signal and that this is reportable per 50.72(b)(3)(iv)(A) or 50.72(b)(3)(iv)(B)(6) and requires an 8 hour report.	Determine that the automatic Aux. Feedwater pump start is from a valid signal and that this is reportable per 50.72(b)(3)(iv)(A) or 50.72(b)(3)(iv)(B)(6) and requires an 8 hour report.	S / U

*3) Determine that the Reactor tripped on low S/G level and that this is reportable per 50.72(b)(2)(iv)(B) and is an 4 hour report.	Determine that the Reactor tripped on low S/G level and that this is reportable per 50.72(b)(2)(iv)(B) and is an 4 hour report.	S / U
4) Determine that the Rx Trip and Aux. Feedwater Actuation is reportable in a LER within 60 days per 50.73(a)(2)(iv)(A) or 50.73(a)(2)(iv)(B)(1) & (6)	Determine that the Rx Trip and Aux. Feedwater Actuation is reportable in a LER within 60 days per 50.73(a)(2)(iv)(A) or 50.73(a)(2)(iv)(B)(1) & (6)	S / U

STOP TIME: _____

Terminate JPM when applicant indicates that he has completed the task

CRITICAL ELEMENTS:

Critical Elements are denoted with an asterisk (*) before the element number. All Elements of this JPM are Critical.

GENERAL REFERENCES:

6. Technical Specification 3.7.5 Auxiliary Feedwater System
7. Operations Reportability Binder

GENERAL TOOLS AND EQUIPMENT:

None

COMMENTS:

Initial Conditions

The following plant conditions exist:

- The plant was initially operating at steady state 100% power.
- Both S/G Feedwater pumps tripped and **No Operator Actions were taken**.
- S/G water level then decreased to the point that the Auxiliary Feedwater Pumps started
- The P-8A Auxiliary Feedwater pump started but subsequently tripped due to unknown reasons
- P-8C AFW Pump is in service providing 165 gpm flow to each S/G.

Initiating Cue:
Determine **all** of the Technical Specification entry condition(s) that apply due to the initial set of conditions and determine any applicable reportability requirement(s) to regulatory agencies.

Administrative Job Performance Measure

Conduct of Operations

Ability to Locate and Use Procedures and Directives Related to Shift Staffing and Activities

TITLE: Determine the Shift Staffing Requirements following an illness.

Evaluation Location: Simulator ____ Control Room _____ Plant____ Classroom__X___

Projected Time: __15 Min.__

Alternate Path _____

Time Critical _____

Date: _____ Trainee: _____

Evaluator: _____

JPM Performance: Satisfactory _____ Unsatisfactory _____

Evaluator Comments: _____

Initial Conditions

The following plant conditions exist:

- The plant is operating at steady state 100% power.
- It is night shift on Christmas Day.
- The Operations Manager has authorized maximizing time off during Christmas Eve and Christmas Day.
- ONLY the SE / STA is qualified as STA.
- The shift complement at the beginning of the night shift (0000) was:
  Shift Manager
  Control Room Supervisor
  Shift Engineer/Shift Technical Advisor
  Reactor Operators - 2
  Auxiliary Operators- 4
  Radiation Safety Technician - 1 (EMT)
  Required number of Security personnel
- At 0300 the Shift Technical Advisor is taken to the hospital by the Radiation Safety Technician due to an allergic reaction to something he has eaten.

Initiating Cue:
You are the Shift Manager. You need to determine if staffing requirements are met? Explain your decision and required actions, if any.

EVALUATION CHECKLIST

Task Standard:

The applicant will determine that the applicable Plant Staffing Levels are not met due to the illness of the Shift Technical Advisor (STA) and the fact that the only Radiation Safety Technician is no longer onsite. These conditions require that another active STA qualified individual replace the ill Shift Technical Advisor within 2 hours and another Radiation Safety Technician must arrive onsite within 2 hours as well.

TASKS:	STANDARDS:	RESULTS:
Start Time: _____		
* 1) Determine that Tech Spec and Admin staffing is **NOT** met	Determine that Tech Spec manning is **NOT** met	S / U
*2) Explain the minimum manning required	Required to have one STA qualified individual on shift per Tech Specs. Another STA qualified individual must be onsite within 2 hours. Since the only Radiation Safety Technician took the SE/STA to the hospital the minimum staffing requirement of 1 Radiation Safety Technician is not met and another Radiation Safety Technician must arrive onsite within 2 hours.	S / U

STOP TIME: _____

Terminate JPM when applicant indicates that he has completed the task

CRITICAL ELEMENTS: Critical Elements are denoted with an asterisk (*) before the element number. All Elements of this JPM are Critical.

GENERAL REFERENCES:

2. Palisades Administrative Procedure 4.00, Operations Organization, Responsibilities and Conduct

3. 10 CFR Part 50.54

3. Technical Specifications

GENERAL TOOLS AND EQUIPMENT:

None

COMMENTS:

Initial Conditions

The following plant conditions exist:

- The plant is operating at steady state 100% power.
- It is night shift on Christmas Day
- The Operations Manager has authorized maximizing time off during Christmas Eve and Christmas Day
- ONLY the SE/STA is qualified as STA
- The shift complement at the beginning of the night shift (0000) was:
  Shift Manager
  Control Room Supervisor
  Shift Engineer/Shift Technical Advisor
  Reactor Operators - 2
  Auxiliary Operators- 4
  Radiation Safety Technician - 1 (EMT)
  Required number of Security personnel
- At 0300 the Shift Engineer/Shift Technical Advisor is taken to the hospital by the Radiation Safety Technician due to an allergic reaction to something he has eaten.

Initiating Cue:
You are the Shift Manager. You need to determine if staffing requirements are met? Explain your decision and required actions, if any.

Administrative Job Performance Measure

Equipment Control

Knowledge of Tagging and Clearance Procedures

TITLE: Determine the Mechanical and Electrical isolations points that must be tagged when removing the HP Safety Injection Pump P-66A from service.

Evaluation Location: Simulator ____ Control Room ____ Plant ____ Classroom__X__

Projected Time: __30 Min.__

Alternate Path _____

Time Critical _____

Date: _____ Trainee: _____

Evaluator: _____

JPM Performance: Satisfactory _____ Unsatisfactory _____

Evaluator Comments: _____

Initial Conditions

The High Pressure Safety Injection Pump P-66A is required to be taken Out of Service for replacement of its mechanical seal. Computer based tagging is down and a paper-based tagging order has been prepared.

Initiating Cue:
You are to review a paper-based tagging order for the High Pressure Safety Injection Pump, P-66A, to verify sequence, components, and positions are correct and make changes if required. After completion of your review, sign for Approved By and return it for Review.

EVALUATION CHECKLIST

Task Standard:

Identify the mistakes made on the Paper-Based Tagging for the High Pressure Safety Injection Pump P-66A. The applicant will determine that the pump's suction valve should not be closed before the pump's discharge valve. The applicant will determine that the pump casing vent valve needs to be open. Finally, the applicant will determine that the CC outlet isolation must also be added to perform work on the pump's mechanical seal.

TASKS:	**STANDARDS:**	**RESULTS:**

Start Time: _____

Cue: If asked, hand the applicant a blank copy of a tagging form from the procedure so that they can make corrections.

*1) Determine that the pump Suction Vlv should be closed **after** the Discharge Vlv	Determine that the pump Suction Vlv should be closed **after** the Discharge Vlv	S / U
*2) Determine that the pump casing vent MV-ES3287 needs to be opened instead of closed as listed.	Determine that the pump casing vent MV-ES3287 needs to be opened.	S / U

*3) Determine that the CC outlet isolation needs to be Closed to the pump's Mechanical Seal CC-157 **or** CC-199	Determine that the CC outlet isolation needs to be Closed to the pump's Mechanical Seal CC-157 **or** CC-199	S / U

STOP TIME: _____

Terminate JPM when applicant indicates that he has completed the task

CRITICAL ELEMENTS:

Critical Elements are denoted with an asterisk (*) before the element number. All Elements of this JPM are Critical.

GENERAL REFERENCES:

1. Palisades Administrative Procedure 4.10, Personnel Portective Tagging
2. Palisades P&ID drawings
3. Palisades Electrical drawings

GENERAL TOOLS AND EQUIPMENT:

None

COMMENTS:

Initial Conditions

The High Pressure Safety Injection Pump P-66A is required to be taken Out of Service for replacement of its mechanical seal. Computer based tagging is down and a paper-based tagging order has been prepared.

Initiating Cue:
You are to review a paper-based tagging order for the High Pressure Safety Injection Pump, P-66A, to verify sequence, components, and positions are correct and make changes if required. After completion of your review, sign for Approved By and return it for Review.

Administrative Job Performance Measure

Radiation Control

Knowledge of 10CFR 20 and Related Facility Radiation Control Requirements

TITLE: Determination of Radiological Dose Limits Will Be Exceeded

Evaluation Location: Simulator _____ Control Room ____ Plant____ Classroom__X__

Projected Time: __30 Min.__

Alternate Path _____

Time Critical _____

Date: _____ Trainee: _____

Evaluator: _____

JPM Performance: Satisfactory _____ Unsatisfactory _____

Evaluator Comments: _____

Initial Conditions

The conditions under which this task is to be performed are as follows:

- A power reduction from 100% to 10% has been performed.
- The Shift Manager has directed you to determine if either Worker 1 or Worker 2 can perform a containment entry to inspect the D Primary Coolant Pump, P-50D, seal area for leakage.
- The transit route dose rate is < 2 mR/hr except as noted on the provided survey maps.
- Rad Protection has determined the lowest dose route is that which is marked on the survey maps.
- Rad Protection estimates that it will take 20 seconds each way to pass through the field of the Regenerative Heat Exchangers.
- Ops estimates that it will take 5 minutes at the PCP seal area for the inspection.
- Ops estimates that it will take 20 minutes inside Containment including the transit time and the inspection time.
- Worker 1 and Worker 2 have accumulated 1700 mR and 1680 mR respectively so far this year.
- A pre-job brief has already been performed

Initiating Cue:
Your task is to determine if either Worker 1 or Worker 2 can perform this containment entry to inspect the P-50D PCP seal area, and to report the total accumulated dose each worker would have if they performed the inspection.

EVALUATION CHECKLIST

Task Standard:

The applicant will determine that Worker 1 should receive 317.5 mR during this job which will result in him/she exceeding the allowable annual dose limit of 2000 mR. The applicant will also determine that Worker 2 will not exceed the annual dose limit imposed by the plant.

TASKS:	**STANDARDS:** **RESULTS:**	
Start Time: _____		
1) Calculate dose received passing through Regen Hx radiation field. (9000mR/hr)(1hr/3600s)(20s/trip)(2trips)=100 mR	Calculate dose received to be 50 mR for each time the Regen Hx is passed for a total of 100 mR per worker (once going to the PCP and once coming back from PCP after inspection).	S / U
2) Calculate dose received near P-50D PCP (2600 mR/hr)(5 m)(1hr/60m) = 217 mR	Calculate dose received to be 217 mR per worker at PCP for the inspection.	S / U
3) Calculate dose received for transit inside containment (<2 mR/hr)(15 m)(1 hr/60m) = < 0.5 mR	Calculate dose received to be < 0.5 mR per worker for transit time within cnmt.	S / U
4) Calculate total dose received by each worker during inspection 100mR + 217mR + 0.5mR = 317.5 mR	Calculate total dose received by each worker during inspection of 317.5mR	S / U
5) Calculate total dose each worker has accumulated. Worker 1 317.5mR + 1700mR = 2017.5mR Worker 2 317.5mR + 1680mR = 1997.5mR	Calculates accumulated dose received after inspection to be 2017.5mR and 1997.5mR	S / U

*6) Determine that the annual admin dose limit will be exceeded by Worker 1 but not be Worker 2	Determines Worker 1 will exceed annual dose limit if allowed to perform inspection 2017.5mR > 2000mR	S / U

Cue: Is there any way possible for worker 1 to complete this task?

7) Informs the Shift Manager that the admin dose limit would be exceeded by one of the workers but not by the other	Informs the Shift Manager that the admin dose limit would be exceeded by one of the workers but not by the other. A dose extension will have to be obtained to allow Worker 1 to perform this task. No extension necessary for Worker 2.	S / U

STOP TIME: _____

_

Terminate JPM when Shift Manager has been informed of dose assessment.

CRITICAL ELEMENTS: Critical Elements are denoted with an asterisk (*) before the Element number.

GENERAL REFERENCES:

1. Palisades Health Physics Procedure 11.1, Processing RWP's and ALARA Reviews
2. 10 CFR 20
3. Survey Map of path taken to P-50D

GENERAL TOOLS AND EQUIPMENT:

None

COMMENTS:

Initial Conditions

The conditions under which this task is to be performed are as follows:

- A power reductions to 10% has been performed.
- The Shift Manager has directed you to determine if either Worker 1 or Worker 2 can perform a containment entry to inspect the D Primary Coolant Pump, P-50D, seal area for leakage.
- The transit route dose rate is < 2 mR/hr except as noted on the provided survey maps.
- Rad Protection has determined the lowest dose route is that which is marked on the survey maps.
- Rad Protection estimates that it will take 20 seconds each way to pass through the field of the Regenerative Heat Exchangers.
- Ops estimates that it will take 5 minutes at the PCP seal area for the inspection.
- Ops estimates that it will take 20 minutes inside Containment including the transit time and the inspection time.
- Worker 1 and Worker 2 have accumulated 1700 mR and 1680 mR respectively so far this year.
- A pre-job brief has already been performed

Initiating Cue:
Your task is to determine if either Worker 1 or Worker 2 can perform this containment entry to inspect the P-50D PCP seal area, and to report the total accumulated dose each worker would have if they performed the inspection.

Administrative Job Performance Measure

Emergency Plan

Knowledge of Emergency Action Level Thresholds & Classifications

(THIS JPM WITHHELD FROM ADAMS PACKAGE FOR SECURITY REASONS)

Control Room Systems

Job Performance Measure

Reactivity Control

TITLE: Initiate Emergency Manual Boration due to multiple stuck Control Rods

Evaluation Location: Simulator __X__ Control Room _____ Plant____ Classroom____

Projected Time: __10 Min.__

Alternate Path _____

Time Critical _____

Date: _____ Trainee: _____

Evaluator: _____

JPM Performance: Satisfactory _____ Unsatisfactory _____

Evaluator Comments: _____

Initial Conditions

The following plant conditions exist:

- Reactor Tripped from 100% power.
- Emergency Operating Procedure EOP-1.0, Standard Post Trip Recovery procedure is in progress
- Five Control Rods **did not** fully insert into the core following the Rx Trip
- Bus 1D is not available due to a bus fault

Initiating Cue:
The Control Room Supervisor has directed you to Emergency Borate per step 1.c.1 of EOP-1.0, Standard Post Trip Recovery procedure using SOP-2A, Chemical and Volume Control System procedure.

EVALUATION CHECKLIST

Task Standard:

The applicant will establish Gravity Feed to the suction of the operating charging pumps per SOP-2A Attachment 14 Emergency Manual Boration.

TASKS:	**STANDARDS:**	**RESULTS:**
Start Time: _____		
*1) Obtain a copy of SOP-2A, Chemical and Volume Control System procedure Attatchment 14 Emergency Manual Boration.	When applicant indicates where to find current copy of procedure provide a copy of SOP-2A, Chemical and Volume Control System procedure Attatchment 14 Emergency Manual Boration.	**S / U**
2) Step 1.0 Ensure charging flow is > 33 gpm.	Ensure charging flow is > 33 gpm	**S / U**

3) Step 2.a Determine that Bus 1D is not available and that Boric Acid Pumps are unavailable	Determine that Bus 1D is not available and that Boric Acid Pumps are unavailable	**S / U**
4) Step 2.b Determine that Bus 1C is Energized and that Gravity Feed can be established	Determine that Bus 1C is Energized and that Gravity Feed can be established	**S / U**
*5) Step 2.b.1 Open the following Boric Acid Tank Gravity Feed Isol Valves MO-2169 MO-2170	Open the following Boric Acid Tank Gravity Feed Isol Valves MO-2169 MO-2170	**S / U**
*6) Step 2.b.2 Close the Boric Acid Blender Outlet Control Valve CV-2155	Close the Boric Acid Blender Outlet Control Valve CV-2155	**S / U**
*7) Step 2.b.3 Close the VCT Outlet Isol Valve MO-2087	Close the VCT Outlet Isol Valve MO-2087	**S / U**
8) Step 2.b.4 Verify Closed SIRW Tank to Charging Pump Isol Valve MO-2160	Verify Closed SIRW Tank to Charging Pump Isol Valve MO-2160	**S / U**
9) Step 2.b.5 is not applicable because Y01 is energized	Step 2.b.5 is not applicable because Y01 is energized	**S / U**
10) Step 2.b.6 Verify Charging Flow is > 33 gpm as indicated by FIA-0212, Charging Line Flow Indicator Alarm	Verify Charging Flow is > 33 gpm as indicated by FIA-0212, Charging Line Flow Indicator Alarm	**S / U**

Cue: "45 minutes have elapsed and the CRS directs you to secure Emergency Boration per EOP Supplement 40, Charging Pump Suction Alignment"		
11) Step 1.1 of EOP Supplement 40 Open Charging Pumps Suction VCT Outlet Valve MO-2187	Open Charging Pumps Suction VCT Outlet Valve MO-2187	**S / U**
12) Step 1.2 is not applicable since neither Boric Acid Pumps are running	Step 1.2 is not applicable since neither Boric Acid Pumps are running	**S / U**
13) Step 1.3 Close the Boric Acid Pump Feed Valve MO-2140 **and** Gravity Feed Valves MO-2169 & MO-2170	Close the Boric Acid Pump Feed Valve MO-2140 **and** Gravity Feed Valves MO-2169 & MO-2170	**S / U**
14) Step 1.4 Verify Closed Charging Pumps Suction from SIRWT MO-2160	Closed Charging Pumps Suction from SIRWT MO-2160	**S / U**
15) Step 1.5 Operate each Charging Pump for at least five minutes **start** a non-running charging pump per SOP-2A, Chemical and Volume Control System procedure.	Operate each Charging Pump for at least five minutes **start** a non-running charging pump per SOP-2A, Chemical and Volume Control System procedure.	**S / U**
Cue: When Applicant indicates that he needs to swap charging pumps state that "Another Operator will complete that task and indicate the JPM is complete		

STOP TIME: _____

CRITICAL ELEMENTS: Critical Elements are denoted with an asterisk (*) before the element number.

GENERAL REFERENCES:

14. SOP-2A, Chemical and Volume Control System procedure Attachment 14

15. SOP-2A, Chemical and Volume Control System procedure

GENERAL TOOLS AND EQUIPMENT:

COMMENTS:

Initial Conditions

The following plant conditions exist:

- Reactor Tripped from 100% power.
- Emergency Operating Procedure EOP-1.0, Standard Post Trip Recovery procedure is in progress
- Five Control Rods **did not** fully insert into the core following the Rx Trip
- Bus 1D is not available due to a bus fault

Initiating Cue:
The Control Room Supervisor has directed you to Emergency Borate per step 1.c.1 of EOP-1.0, Standard Post Trip Recovery procedure using SOP-2A, Chemical and Volume Control System procedure.

Control Room Systems

Job Performance Measure

Primary Coolant System Inventory Control

TITLE: Establish the Containment Sump as the ECCS suction source following a Large Break Loss of Coolant Accident

Evaluation Location: Simulator __X__ Control Room _____ Plant____ Classroom____

Projected Time: __20 Min.__

Alternate Path __X__

Time Critical _____

Date: _____ Trainee: _____

Evaluator: _____

JPM Performance: Satisfactory _____ Unsatisfactory _____

Evaluator Comments: _____

Initial Conditions

:The following plant conditions exist:

- A Large Break Loss of Coolant Accident has occurred
- SIRWT level is at 3% and decreasing
- PRE-RAS Actions have been performed

Initiating Cue:
The Control Room Supervisor has tasked you with performing the POST-RAS Actions associated with EOP Supplement 42 step 2.0.

EVALUATION CHECKLIST

Task Standard:

The applicant will demonstrate the ability to obtain and use EOP Supplement 42, POST-RAS Actions to re-align the ECCS flow paths to the Containment Sump.

TASKS:	STANDARDS:	RESULTS:
Start Time: _____		
*1) Obtain a copy of EOP Supplement 42, POST-RAS Actions	When applicant indicates where to find current copy of procedure provide a copy EOP Supplement 42	S / U
*2) When SIRWT level lowers to < 2% perform step 2 of EOP Supplement 42, POST-RAS Actions	**Start Step 2 of EOP Supplement 42, POST-RAS Actions when SIRWT is <2%**	S / U

*3) Step 1a Ensure Both LPSI Pumps trip	**LPSI P-67B must be manually tripped**. P-67A trips automatically	S / U
4) Step 1b Check Open Both Containment Sump Isolation Valves CV-3030 CV-3029	**CV-3030 does not auto OPEN** but CV-3029 is Open	S / U
*5) Step 1.b.1)a) Stop the following pumps: P-66B HPSI Pp P-54B CS Pp P-54C CS Pp	**Stop the following pumps:** **P-66B HPSI Pp** **P-54B CS Pp** **P-54C CS Pp**	S / U
6) Step 1.b.1)b) Check Closed Containment Spray Valve CV-3001	**CV-3001 closed** automatically	S / U
7) Step 1c Ensure Both SIRWT Isolation Valves Close: CV-3031 CV-3057	Both SIRWT Isolation Valves **Close automatically** **CV-3031** **CV-3057**	S / U
8) Step 1d Ensure Both SI pump Minimum Flow Stop Valves are Closed CV-3027 CV-3056	Both SI pump Minimum Flow Stop Valves are **Closed** **CV-3027** **CV-3056**	S / U
9) Step 1e Ensure Both CCW Hx SW outlet valves Open: CV-0826 CV-0823	**CV-0826 is Open** **CV-0823 is Open**	S / U

10) Step 1f Ensure Both CCW Hx TCV's Closed: CV-0822 CV-0821	Both CCW Hx TCV's **Closed:** **CV-0822** **CV-0821**	S / U
11) Step 1g.1 Ensure at least 1 CS pump operating for each operating HPSI	Check that **CS Pp P-54A and HPSI Pp P-66A are operating**	S / U
12) Step 1g.2 Open HPSI Subcooling Valve for operating HPSI Pp	**Verify Open CV-3071** HPSI Subcooling Valve for P-66A	S / U
13) Step 1.h If any HPSI pump is operating with HPSI subcooling valve closed, then stop pump	No action required	S / U
14) Step 1i.1 If only 1 CS Pp is operating Ensure only 1 HPSI Pp is operating	Check that **CS Pp P-54A and HPSI Pp P-66A are operating**	S / U
*15) Step 1i.2 Place HS-3001C to Bypass (key 397)	**Place HS-3001C to Bypass** (key 397)	S / U
16) Ensure CV-3001 Closed	**Ensure CV-3001 Closed**	S / U
17) Inform CRS that CV-3030 is closed and ask if he would like it Opened **Cue: Attempt to Open CV-3030**	Inform CRS that CV-3030 is closed	S / U
*18) Step 1j.1a Perform the following to Open CV-3030. Place HS-3001C in Bypass (key 397).	To Open CV-3030. **Place HS-3001C in Bypass** (key 397).	S / U

19) Step 1j.1b Ensure HS-3001A in Closed position	**Ensure HS-3001A in Closed position**.	S / U
*20) Step 1j.1c Place HS-3030A to Open position (key 147)	**Place HS-3030A to Open position** (key 147) Valve CV-3030 opens	S / U
21) Inform CRS that CV-3030 is Open and ask if he wants additional CS or HPSI pumps running?	Inform CRS that CV-3030 is Open and ask if he wants additional CS or HPSI pumps running?	S / U

CUE: As CRS state that CV-3030 is Open but another NCO will start additional CS and HPSI pumps.

Terminate JPM when applicant indicates that he has informed the Control Room Supervisor of the fact that CV-3030 is open and asks if additional CS or HPSI pumps should be started.

STOP TIME: _____

CRITICAL ELEMENTS: Critical Elements are denoted with an asterisk (*) before the element number.

GENERAL REFERENCES:

8. Palisades Emergency Operating Procedure Supplement 42, Pre and Post RAS Actions

GENERAL TOOLS AND EQUIPMENT:

None

COMMENTS:

Initial Conditions

The following plant conditions exist:

- A Large Break Loss of Coolant Accident has occurred
- SIRWT level is at 3% and decreasing
- PRE-RAS Actions have been performed

Initiating Cue:
The Control Room Supervisor has tasked you with performing the POST-RAS Actions associated with EOP Supplement 42 step 2.0.

Control Room Systems

Job Performance Measure

Rx Pressure Control

TITLE: Swap Pressurizer Pressure Control channels

Evaluation Location: Simulator __X__ Control Room _____ Plant____ Classroom____

Projected Time: __10 Min.__

Alternate Path __X__

Time Critical _____

Date: _____ Trainee: _____

Evaluator: _____

JPM Performance: Satisfactory _____ Unsatisfactory _____

Evaluator Comments: _____

Initial Conditions

:The following plant conditions exist:

- Steady state 100% power
- Pressurizer Pressure Controller PIC-0101B is selected and is in AUTO
- Pressurizer Pressure Controller PIC-0101A is in MANUAL at 50% demand

Initiating Cue:

The Control Room Supervisor has asked you to switch Pressurizer Pressure Controllers per SOP-1A for normal rotation of controllers.

EVALUATION CHECKLIST

Task Standard:

The applicant will demonstrate the ability to locate and obtain the appropriate copy of SOP-1A, Primary Coolant System procedure for switching Pressurizer Pressure Control Channels. The applicant will then use SOP-1A, Primary Coolant System procedure to switch Pressurizer Pressure Controlling Channels. During the evolution the applicant shall recognize the failure of PIC-0101A failing high by observing it's output signal going off-scale high. The applicant will then switch PZR Pressure Channel back to PIC-0101B.

TASKS:	**STANDARDS:**	**RESULTS:**
Start Time: _____		
*1) Obtain a copy of SOP-1A, Primary Coolant System procedure	When applicant indicates where to find current copy of procedure provide a copy of SOP-1A, Primary Coolant System	S / U
*2) Determine that Section 7.2.2.3 of SOP-1A should be use to alternate Pzr Press Controllers	Review Section 7.2.2 Pzr Press Control and determine section 7.2.2.3 needs to be performed	S / U

3) Step 3a Verify PIC-0101A is in MANUAL	Verify PIC-0101A is in MANUAL	S / U
4) Step 3b Adjust output signal on PIC-0101A to match output signal on PIC-0101B	Adjust output signal on PIC-0101A to match output signal on PIC-0101B for bumpless transfer	S / U
*5) Step 3c Place selector switch 1/PRC-0101 to PIC-0101A **CUE: If asked, state that AUTO CONTROL IS DESIRED**	Place selector switch 1/PRC-0101 to PIC-0101A	S / U
6) Step 3.d.1 Ensure Pzr Htr Control Channel Selector Switch in CHAN A & B	Ensure Pzr Htr Control Channel Selector Switch in CHAN A & B	S / U
*7) Step 3.d.2 Ensure PIC-0101A setpoint set at desired PCS pressure	Ensure PIC-0101A setpoint set at desired PCS pressure	S / U
*8) Step 3.d.3 Adjust PIC-0101A output to match indicated Pzr Press (red pointer) with setpoint press. (Blue pointer)	Adjust PIC-0101A output to match indicated Pzr Press (red pointer) with setpoint press. (Blue pointer)	S / U
*9) Step 3.d.4 Depress the ‘A’ pushbutton on PIC-0101A to place it in AUTO	Depress the ‘A’ pushbutton on PIC-0101A to place it in AUTO	S / U

10) Step 3e Place PIC-0101B in MANUAL with 50% output signal	Place PIC-0101B in MANUAL with 50% output signal	S / U

NOTE: When PIC-0101A is placed in AUTO control, after approx. 10 seconds, its output will slowly start to fail high (to 100% output). This will cause Pzr Press to decrease (sprays open, heaters turn off).

*11) Applicant should recognize the failure by observing the output of PIC-0101A failing high. Pzr Press. Off Normal Hi-Lo alarm will also alert Applicant of the problem	Place PIC-0101A back to MANUAL and reduce controller output to restore Pzr Press to 2060 psig	S / U
12) Inform CRS of the problem with PIC-0101A and recommend switching back to PIC-0101B	Inform CRS of the problem with PIC-0101A and recommend switching back to PIC-0101B	S / U

Cue: Control Room Supervisor directs the Reactor Operator to restore PIC-0101B to Automatic control

13) Step 3a Verify PIC-0101B is in MANUAL	Verify PIC-0101B is in MANUAL	S / U
*14) Step 3b Adjust output signal on PIC-0101B to desired output	Adjust output signal on PIC-0101B to desired output	S / U
*15) Step 3c Place selector switch 1/PRC-0101 to PIC-0101B	Place selector switch 1/PRC-0101 to PIC-0101B	S / U

CUE: IF ASKED STATE THAT AUTO CONTROL IS DESIRED

CUE: If asked Direct RO to place PZR Htr control channel selector switch in Channel B		
16) Step 3.d.1 Ensure Pzr Htr Control Channel Selector Switch in CHAN B	Ensure Pzr Htr Control Channel Selector Switch in CHAN B	S / U
*17) Step 3.d.2 Ensure PIC-0101B setpoint set at desired PCS pressure	Ensure PIC-0101B setpoint set at desired PCS pressure	S / U
*18) Step 3.d.3 Adjust PIC-0101B output to match indicated Pzr Press (red pointer) with setpoint press. (Blue pointer)	Adjust PIC-0101B output to match indicated Pzr Press (red pointer) with setpoint press. (Blue pointer)	S / U
*19) Step 3.d.4 Depress the 'A' pushbutton on PIC-0101B to place it in AUTO	Depress the 'A' pushbutton on PIC-0101B to place it in AUTO	S / U

Terminate JPM when applicant indicates that he has informed the Control Room Supervisor of the problem with PIC-0101A.

STOP TIME: _____

CRITICAL ELEMENTS: Critical Elements are denoted with an asterisk (*) before the element number.

GENERAL REFERENCES:

7. Palisades System Operating Procedure SOP-1A, Primary Coolant System

2. Palisades Alarm Response Procedure ARP-4, Pressurizer Pressure Off Normal Hi-Lo

GENERAL TOOLS AND EQUIPMENT:

COMMENTS:

Critical elements of this JPM were determined to be the selection of the correct procedure to accomplish the task and placing the PIC-0101A control back to MANUAL following the failure.

Initial Conditions

The following plant conditions exist:

- Steady state 100% power
- Pressurizer Pressure Controller PIC-0101B is selected and is in AUTO
- Pressurizer Pressure Controller PIC-0101A is in MANUAL at 50% demand

Initiating Cue:
The Control Room Supervisor has asked you to switch Pressurizer Pressure Controllers per SOP-1A due to normal rotation of the controllers.

Control Room Systems

Job Performance Measure

Heat Removal From Rx Core

TITLE: Initiate Shutdown Cooling of the Primary Coolant System per SOP-3, Safety Injection and Shutdown Cooling System procedure.

Evaluation Location: Simulator __X__ Control Room _____ Plant____ Classroom____

Projected Time: __20 Min.__

Alternate Path _____

Time Critical _____

Date: _____ Trainee: _____

Evaluator: _____

JPM Performance: Satisfactory _____ Unsatisfactory _____

Evaluator Comments: _____

Initial Conditions

The following plant conditions exist:

- PCS Pressure is 270 psia.
- PCS Temperature is 290°F.
- Step 7.3.2 of SOP-3, Safety Injection and Shutdown Cooling System procedure is in progress with steps completed through 7.3.2.gg. P-67A has just been shutdown after running for 15 minutes.
- PCP P-50B & C are running to provide mixing flow.

Initiating Cue:
The Control Room Supervisor has asked you to take over SOP-3, Safety Injection and Shutdown Cooling System procedure at step 7.3.2.hh and commence cooling the PCS at a rate of 50°F/Hr. The CRS is obtaining the heat-up / cooldown rates for surveillance PO-2, PCS Heatup/Cooldown Operation. PCS temperature has been constant for the last 1 hour.

EVALUATION CHECKLIST

Task Standard:

The applicant will demonstrate the ability to obtain and use SOP-3, Safety Injection and Shutdown Cooling System procedure to establish shutdown cooling system operation.

TASKS:	**STANDARDS:**	**RESULTS:**
Start Time: _____		
*1) Obtain a copy of SOP-3, Safety Injection and Shutdown Cooling System procedure	When applicant indicates where to find current copy of procedure provide a copy of SOP-3, Safety Injection and Shutdown Cooling System procedure	S / U
*2) Start the P-67B LPSI pump per step 7.3.2.hh	Start the P-67B LPSI pump	S / U

CUE: When P-67B pump parameters have stabilized state that '15 minutes have elapsed'		
*3) 7.3.2.ii SLOWLY OPEN the remaining LPSI injection valves to establish the following: 1) Total LPSI flow of 3600-4000gpm 2) Balanced flow between all four injection legs approx. 950 gpm	OPEN the remaining LPSI injection valves to establish the following: 1) Total LPSI flow of 3600-4000gpm 2) Balanced flow between all four injection legs approx. 950 gpm	S / U
*4) 7.3.2.jj PLACE HS-3025A shutdown cooling flow control in MANUAL (key 97)	PLACE HS-3025A shutdown cooling flow control in MANUAL (key 97)	S / U
*5) 7.3.2.kk SLOWLY OPEN CV-3025, SDC Hx outlet to pressurize the SDC Hx's while observing the following: 1) PZR level 2) SDC Hx inlet pressure & LPSI pump discharge pressure	OPEN CV-3025, SDC Hx outlet to pressurize the SDC Hx's	S / U
*6) 7.3.2.ll CLOSE CV-3025 when PZR level stabilizes	CLOSE CV-3025 when PZR level stabilizes by setting HIC-3025A to Manual at 0%	S / U
*7) 7.3.2.mm OPEN CV-3055, SDC Hx Inlet (key 102)	OPEN CV-3055, SDC Hx Inlet (key 102)	S / U

*8) 7.3.2.nn OPERATE CV-3006, SDC Hx Bypass Valve as follows: 1. CHECK FIC-0306 in MANUAL with 0% output signal (full open) 2. PLACE CV-3006 keyswitch to AUTO (key 94) 3. ADJUST FIC-0306 to establish a flow rate of 3400-3600 gpm.	OPERATE CV-3006 as follows: 1. CHECK FIC-0306 in MANUAL with 0% output signal (full open) 2. PLACE CV-3006 keyswitch to AUTO (key 94) 3. ADJUST FIC-0306 to establish a flow rate of 3400-3600 gpm.	S / U
9) 7.3.2.oo REQUEST Chemistry to sample the PCS for Boron **CUE: 'Chemistry will sample the PCS for boron concentration'.**	REQUEST Chemistry to sample the PCS for Boron	S / U
*10) 7.3.2.pp CLOSE CV-3031 (key 149) and CV-3057 (key 150) SI Pump Suction SIRWT Valves and PLACE Caution Tags on keyswitches	CLOSE CV-3031 (key 149) and CV-3057 (key 150) SI Pump Suction SIRWT Valves and PLACE Caution Tags on keyswitches	S / U
*11) 7.3.2.qq PLACE LPSI pump trip on Low Level in SIRWT handswitches to DEFEAT P-67A key 154 P-67B key 155 **CUE: 'This completes this JPM'**	PLACE LPSI pump trip on Low Level in SIRWT handswitches to DEFEAT P-67A key 154 P-67B key 155	S / U

STOP TIME: _____

CRITICAL ELEMENTS: Critical Elements are denoted with an asterisk (*) before the element number.

GENERAL REFERENCES:

8. Palisades System Operating Procedure SOP-3, Safety Injection and Shutdown Cooling System procedure

GENERAL TOOLS AND EQUIPMENT:

COMMENTS:

Initial Conditions

The following plant conditions exist:

- PCS Pressure is 270 psia
- PCS Temperature is 290ºF
- Step 7.3.2 of SOP-3, Safety Injection and Shutdown Cooling System procedure is in progress with steps completed through 7.3.2.gg. P-67A has just been shutdown after running for 15 minutes.
- PCP P-50B & C are running to provide mixing flow

Initiating Cue:
The Control Room Supervisor has asked you to take over SOP-3, Safety Injection and Shutdown Cooling System procedure at step 7.3.2.hh and commence cooling the PCS at a rate of 50ºF/Hr. The CRS is obtaining the heat-up / cooldown rates for surveillance PO-2, PCS Heatup/Cooldown Operation. PCS temperature has been constant for the last 1 hour.

Control Room Systems

Job Performance Measure

Containment Integrity

TITLE: Alignment of Containment Air Coolers following fan maintenance.

Evaluation Location: Simulator __X__ Control Room _____ Plant____
Classroom____

Projected Time: __15 Min.__

Alternate Path __X___ New ___X___ Modified _____
RCA _____

Low Power _____ Emergency _____ Bank _____

Time Critical _____

Date: _____ Trainee: _____

Evaluator: _____

JPM Performance: Satisfactory _____ Unsatisfactory _____

Evaluator Comments: _____

Initial Conditions

The following plant conditions exist:

- Steady State 100% power
- VHX-1 Cooling Fans V-1A and V-1B are Off with Service Water isolated.
- VHX-4 Cooling Fans V-4A and V-4B are Off with Service Water isolated.
- All Outlet Bypass Valves are properly aligned.

Initiating Cue:
The Control Room Supervisor has directed you to restore the Containment Air Cooling System to its normal alignment.

EVALUATION CHECKLIST

Task Standard:

The applicant will demonstrate the ability to obtain a copy of SOP-5, Containment Air Cooling and Hydrogen Recombiner System procedure and use it to restore the Containment Air Cooling System to operation. The applicant will note low Service Water pressure and start a third Service Water Pump.

TASKS:	STANDARDS:	RESULTS:
Start Time: _____		
*1) Obtain a copy of SOP-5, Containment Air Cooling and Hydrogen Recombiner System procedure section 7.1.1.	When applicant indicates where to find current copy of procedure provide a copy of SOP-5, Containment Air Cooling and Hydrogen Recombiner System section 7.1.1	S / U

CUE: If asked to start a third Service Water Pump state that 'If possible operate with two Service Water Pumps'.

Note: Order of valve alignment is not critical nor is order of fan starts

2) For VHX-4 Verify Open High Capacity Inlet Valve CV-0869	Verify Open High Capacity Inlet Valve CV-0869	S / U

Service Water Pump discharge pressure has been setup low and will decrease when high capacity valves are opened.		
*3) For VHX-4 Open High Capacity Outlet Valve CV-0867	Open High Capacity Outlet Valve CV-0867	S / U
4) For VHX-1 Verify Open High Capacity Inlet Valve CV-0862	Verify Open High Capacity Outlet Valve CV-0862	S / U
*5) For VHX-1 Open High Capacity Outlet Valve CV-0861	Open High Capacity Outlet Valve CV-0861	S / U
*6) Monitor Service Water Header Pressure and determine that Service Water system pressure is < 55 psig	Determine that the Standby Service Water Pump P-7C needs to be started because system pressure decreased to < 55 psig	S / U
7) Obtain SOP-15 Service Water Pump procedure	Obtain SOP-15 Service Water Pump procedure	S / U
8) Notify Chemistry to recalculate mixing basin discharge flow volume. **CUE: CRS will notify Chemistry of P-7C start so they can recalculate mixing basin discharge flow volume.**	Notify Chemistry to recalculate mixing basin discharge flow volume.	S / U
*9) Dispatch AO to OPEN P-7C discharge valve MV-SW104 and Check P-7C motor oil levels. **CUE: MV-SW104 is Open and P-7C motor oil levels are normal.**	Dispatch AO to OPEN P-7C discharge valve MV-SW104 and Check P-7C motor oil levels.	S / U

10) REMOVE P-7C from standby by placing Control Switch to TRIP	REMOVE P-7C from standby by placing Control Switch to TRIP	S / U
*11) START P-7C to increase Service Water Header Pressure. **CUE: AO states that 'Local discharge pressure is 73 psig and packing leakoff is not excessive'.**	START P-7C to increase Service Water Header Pressure	S / U
12) Verify Service Water Header Pressure increases to > 55psig	Verify Service Water Header Pressure increases to > 55psig	S / U
*13) For VHX-1 Start fan V-1A	Start fan V-1A	S / U
*14) For VHX-1 Start fan V-1B	Start fan V-1B	S / U
*15) For VHX-4 Start V-4A	Start fan V-4A	S / U
*16) For VHX-4 Start V-4B	Start fan V-4B	S / U

STOP TIME: _____

CRITICAL ELEMENTS: Critical Elements are denoted with an asterisk (*) before the element number.

GENERAL REFERENCES:

9. Palisades System Operating Procedure SOP-5, Containment Air Cooling and Hydrogen Recombiner procedure

GENERAL TOOLS AND EQUIPMENT:

COMMENTS:

Initial Conditions

The following plant conditions exist:

- Steady State 100% power
- VHX-1 Cooling Fans V-1A and V-1B are Off with Service Water isolated.
- VHX-4 Cooling Fans V-4A and V-4B are Off with Service Water isolated.
- All Outlet Bypass Valves are properly aligned.

Initiating Cue:
The Control Room Supervisor has directed you to restore the Containment Air Cooling System to its normal alignment.

Control Room Systems

Job Performance Measure

Electrical

TITLE: Transfer Electrical Power Source from Startup Power to Safeguards/Station Power.

Evaluation Location: Simulator __X__ Control Room _____ Plant____ Classroom____

Projected Time: __10 Min.__

Alternate Path _____ New __X____ Modified _____ RCA _____

Low Power _____ Emergency _____ Bank ____

Time Critical _____

Date: _____ Trainee: _____

Evaluator: _____

JPM Performance: Satisfactory _____ Unsatisfactory _____

Evaluator Comments: _____

Initial Conditions

The plant is operating at 100% reactor power with all systems aligned for normal operation.

Initiating Cue:
The Control Room Supervisor has directed you to transfer the power supply for buses 1C, 1D, & 1E from Startup Power to Safeguards/Station Power.

EVALUATION CHECKLIST

Task Standard:

The applicant will use SOP-30, Station Power procedure to transfer power supply for buses 1C, 1D, & 1E from Start-up Power to Safeguards/Station Power.

TASKS:	STANDARDS:	RESULTS:
Start Time: _____		
*1) Obtain a copy of SOP-30, Station Power procedure	When applicant indicates where to find current copy of procedure provide a copy of SOP-30, Station Power	S / U
2) Check Safeguards/Station Power supply Bkr's 152-401 & 152-402 aligned per Section 7.2.3 or 7.2.4	Review Sections 7.2.3 & 7.2.4 and check Bkr alignments	S / U
CUE: Breaker 152-401 is Closed & Breaker 152-402 is Open		
3) Check bus 1C, 1D, & 1E control power lamps LIT	Check bus 1C, 1D, & 1E control power lamps LIT	S / U
4) Check Startup XFMR UV aux. relays 127X-5 and 127X-6 reset.	Check Startup XFMR UV aux. relays 127X-5 and 127X-6 reset.	S / U
5) Check Station Power XFMR 1-2 trouble lamp functional.	Check Station Power XFMR 1-2 trouble lamp functional	S / U

6) Check voltage on Safeguards Bus approximately 2400 V	Check voltage on Safeguards Bus approximately 2400 V	S / U
7) Direct AO to Check all relays cut in and targets reset on bus and feeder breakers for: Bus 1C Bus 1D Bus 1E	Direct AO to Check all relays cut in and targets reset on bus and feeder breakers for: Bus 1C Bus 1D Bus 1E	S / U
CUE: AO reports 'All relays cut in and targets reset on bus feeder Bkr's'		
*8) Scope and Close Safeguards/Station Power Incoming Brk for Bus 1C 152-105	Scope and Close Safeguards/Station Power Incoming Brk for Bus 1C 152-105	S / U
9) Verify Startup Power Incoming BKR Opens on Bus 1C 152-106	Verify Startup Power Incoming BKR Opens on Bus 1C 152-106	S / U
10) Verify White Springs Charged lamp lit for 152-105	White Springs Charged lamp lit for 152-105	S / U
*11) Scope and Close Safeguards/Station Power Incoming Brk for Bus 1D 152-203	Scope and Close Safeguards/Station Power Incoming Brk for Bus 1D 152-203	S / U
12) Verify Startup Power Incoming BKR Opens on Bus 1D 152-202	Verify Startup Power Incoming BKR Opens on Bus 1D 152-202	S / U
13) Verify White Springs Charged lamp lit for 152-203	White Springs Charged lamp lit for 152-203	S / U
*14) Scope and Close Safeguards/Station Power Incoming Brk for Bus 1E 152-302	Scope and Close Safeguards/Station Power Incoming Brk for Bus 1E 152-302	S / U

15) Verify Startup Power Incoming BKR Opens on Bus 1E 152-303	Startup Power Incoming BKR Opens on Bus 1E 152-303.	S / U
16) Verify White Springs Charged lamp lit for 152-302	White Springs Charged lamp lit for 152-302	S / U
17) When the buses have been transferred Place Startup Power Incoming BKR control switches momentarily to Trip to match targets 1C 152-106 1D 152-202 1E 152-302	When the buses have been transferred Place Startup Power Incoming BKR control switches momentarily to Trip to match targets 1C 152-106 1D 152-202 1E 152-302	S / U

STOP TIME: _____

CRITICAL ELEMENTS: Critical Elements are denoted with an asterisk (*) before the element number.

GENERAL REFERENCES:

5. Palisades System Operating Procedure SOP-30, Statio Power procedure

GENERAL TOOLS AND EQUIPMENT:

COMMENTS:

Initial Conditions

The plant is operating at 100% reactor power with all systems aligned for normal operation.

Initiating Cue:
The Control Room Supervisor has directed you to transfer the power supply for the 2400 V buses 1C, 1D, & 1E from Startup Power to Safeguards/Station Power.

Control Room Systems

Job Performance Measure

Plant Service Systems

TITLE: Initiate a Containment Purge per SOP-24, Ventilation and Air Conditioning System procedure.

Evaluation Location: Simulator __X__ Control Room _____ Plant____ Classroom____

Projected Time: __20 Min.__

Alternate Path __X__

Time Critical _____

Date: _____ Trainee: _____

Evaluator: _____

JPM Performance: Satisfactory _____ Unsatisfactory _____

Evaluator Comments: _____

Initial Conditions

The following plant conditions exist:

- The plant is in Mode 5 with the PCS vented to containment.

Initiating Cue:
The Control Room Supervisor has asked you to initiate a Containment Purge. The CRS has informed you that an AO has been briefed and is standing by awaiting your instructions. The CRS also informs you that the RGEM system is in operation per SOP-38, Gaseous Process Monitoring System.

EVALUATION CHECKLIST

Task Standard:

The applicant will initiate a Containment Purge using SOP-24, Ventilation and Air Conditioning System procedure. After the Containment Purge is started the running main exhaust fan V-6A will trip and V-6B will not start. As a result the release previously started should be isolated. The applicant will have to recognize this and take manual actions to isolate the Containment Purge manually.

TASKS:	**STANDARDS:**	**RESULTS:**
Start Time: _____		
*1) Obtain a copy of SOP-24, Ventilation and Air Conditioning System procedure.	**6.14 are met.**	When applicant indicates where to find current copy of procedure provide a copy of SOP-24, Ventilation and Air Conditioning System procedure section 7.2.5.
2) Notify the RETS/REMP Supervisor or Duty HP to ensure requirements of HP 6.14, Containment Purge, are met.		
Cue: If asked to see the Batch Card inform Candidate that he doesn't need to see it but inform me of the start and stop times of the release so that it can be recorded.		
Cue: The Duty HP indicates that the requirements of HP		Notify the

RETS/REMP Supervisor or Duty HP to ensure requirements of HP 6.14, Containment Purge, are met.

S / U

S / U

3) Ensure one Main Exhaust Fan operating

Ensure Main Exhaust Fan V-6A running

S / U

4) Ensure RGEM system is in operation per SOP-38, Gaseous Process Monitoring System.

RGEM system is in operation per SOP-38, Gaseous Process Monitoring System per initial conditions (from initiating cue)

S / U

Note: Applicant will call AO to verify the following valves are locked closed
Cue: CRS indicates that these times have been logged.

5) Ensure the following Test Tap Valves are Locked Closed &Capped
MV-VA506
MV-VA508
MV-VA505

CV-1807 (key 275)
CV-1808 (key 277)
CV-1813 (key 273)
CV-1814 (key 276)

Ensure the following

Cue: AO Reports that MV-VA506, 508, & 505 are locked closed and capped

*6) INSERT key and OPEN the following Purge Supply and Exhaust Valves:

CV-1805 (key 272)
CV-1806 (key274)

7) Record the time the valves were opened in the Control Room Logbook

Test Tap Valves are Locked Closed & Capped
MV-VA506

MV-VA508
MV-VA505

INSERT key and OPEN the following Purge Supply and Exhaust Valves:

CV-1805 (key 272)
CV-1806 (key274)
CV-1807 (key 275)
CV-1808 (key 277)
CV-1813 (key 273)
CV-1814 (key 276)

Record the time the valves were opened in the Control Room Logbook

S / U

S / U

S / U

*8) Start Air Room Purge Supply Fan V-46

Note: After Purge Supply Fan is started, the V-6A main exhaust fan will trip and V-6B will not start which requires the cnmt purge to be manually terminated.

9) Exhaust Fan V-6A trips.	The Applicant refers to ARP-7, EK-1127, Main Exhaust Fan V-6A or B trip.	S / U
10) Per ARP-7, EK-1127 directs starting standby main exhaust fan V-6B	V-6B will not auto or manually start.	S / U
*11) Per ARP-7, EK1127 secure any radioactive waste gas batch per SOP-18A & shutdown any plant ventilation air flow per SOP-24 .	Secure any radioactive waste gas batch per SOP-18A & shutdown any plant ventilation air flow per SOP-24 .	S / U
12) Stop Air Room Supply Fan V-46	Stop Air Room Supply Fan V-46	S / U
*13) Manually CLOSE all OPEN Purge CIV's. The Applicant may use EOP Supplement 6, Cnmt Isolation as a guide CV-1805 (key 272) CV-1806 (key274) CV-1807 (key 275) CV-1808 (key 277) CV-1813 (key 273) CV-1814 (key 276)	Manually CLOSE all OPEN Purge CIV's CV-1805 (key 272) CV-1806 (key274) CV-1807 (key 275) CV-1808 (key 277) CV-1813 (key 273) CV-1814 (key 276)	S / U
Start Air Room Purge Supply Fan V-46	S / U	

Note: Candidate may start by securing other ventilation systems but stop JPM when Containment Purge is isolated.

STOP TIME: _____

CRITICAL ELEMENTS: Critical Elements are denoted with an asterisk (*) before the element number.

GENERAL REFERENCES:

2. Palisades System Operating Procedure SOP-24, Ventilation and Air Conditioning System.

2. Palisades Health Physics Procedure HP 6.14, Containment Purge.

3. Palisades System Operating Procedure SOP-38, Gaseous Process Monitoring System

4. Palisades Alarm and Response Procedure ARP-7, EK-1127 Main Exhaust Fan V-6A Trip

GENERAL TOOLS AND EQUIPMENT:

COMMENTS:

Initial Conditions

The following plant conditions exist:

- The plant is in Mode 5 with the PCS vented to containment.

Initiating Cue:
The Control Room Supervisor has asked you to initiate a Containment Purge. The CRS has informed you that an AO has been briefed and is standing by awaiting your instructions. The CRS also informs you that the RGEM system is in operation per SOP-38, Gaseous Process Monitoring System.

In-Plant

Job Performance Measure

Electrical

TITLE: Isolate and Locally Start 1-1 Emergency Diesel Generator

Evaluation Location: Simulator _____ Control Room _____ Plant__X__ Classroom____

Projected Time: __30 Min.__

Alternate Path _____

Time Critical _____

Date: _____ Trainee: _____

Evaluator: _____

JPM Performance: Satisfactory _____ Unsatisfactory _____

Evaluator Comments: _____

Initial Conditions

The following plant conditions exist:

Start-up Transformer 1-2 is not available
Safeguards Transformer 1-1 is Not available
Fire in the Control Room damages Bus 1C load shed circuits
Fire in the Control Room damaged 1-1 D/G control circuits
1-1 D/G is Not Operating

Initiating Cue:
Your task per the Control Room Supervisor and Step 5 of ONP-25.2, Alternate Safe Shutdown Procedure is to:

1. Locally Start the 1-1 D/G and energize 2400 VAC bus 1C per ONP-20 and,
2. Locally Close Breakers 152-103(Starting P-7B) and 152-108(Energizing LCC-13)

Contact the Control Room Supervisor **prior** to powering up any further equipment.

EVALUATION CHECKLIST

Task Standard:

The applicant will start and load the P-7B, Service Water Pump and LCC-13 onto the 1-1 D/G after the D/G has been isolated from the Control Room and Locally started per Section 4.3.2.a of ONP-20, Diesel Generator Manual Control .

TASKS:	**STANDARDS:**	**RESULTS:**
Start Time: _____		
*1) Obtain a copy of ONP-20, Diesel Generator Manual Control procedure.	Obtain a copy of ONP-20, Diesel Generator Manual Control procedure. (in room between diesel generator rooms)	S / U
*2) Step 4.3.2.a.1 Trip all breakers on Bus 1C electrically or mechanically. **Cue: (Opened electrically) The Green & if applicable, White status lights are lit & red light is not lit.** **(Opened mechanically) Bkr status flag reads OPEN.**	Applicant describes tripping Bkr's electrically by using handswitch or mechanically using the mechanical trip plunger located bottom center of the bkr inside the cubicle.	S / U

*3) Step 4.3.2.a.2 Remove Closing Circuit and Close and Trip Circuit Fuses for all Bkr's on Bus 1C EXCEPT 152-103(P-7B), 152-107(D/G 1-1), & 152-108(Bus 13) **Cue: "The Bkr's fuse is removed"As each Bkr fuse is removed.**	Applicant describes how to Remove Closing Circuit and Close and Trip Circuit Fuses for all Bkr's on Bus 1C EXCEPT 152-103(P-7B), 152-107(D/G 1-1), & 152-108(Bus 13)	S / U
*4) Step 4.3.2.a.3 Obtain the Remote-Local-Transfer Switch (RLTS) Handles from cubicle 152-102(Dilution Water Pp)	Applicant describes where to Obtain the RLTS Handles. From cubicle 152-102(Dilution Water Pp)	S / U
5) Step 4.3.2.a.4 Review Att 2 for effects of placing D/G 1-1 RLTS's in LOCAL position.	Review Att 2 for effects of placing D/G 1-1 RLTS switches in LOCAL position.	S / U
*6) Step 4.3.2.a.5 Isolate D/G 1-1 control circuits by Placing the RLTS's on D/G Exciter Control Panel (HS-C22-RLTS) and D/G 1-1 Engine Gauge Panel (HS-G20-RLTS) in LOCAL **Cue: HS-C22-RLTS and HS-G20-RLTS are in LOCAL**	Isolate D/G 1-1 control circuits by Placing HS-C22-RLTS and HS-G20-RLTS in LOCAL	S / U
*7) Step 4.3.2.a.6 Isolate Bkr Control Circuits by Placing the following RLTS's in LOCAL: HS-152-107RLTS (D/G 1-1) HS-152-103RLTS (P-7B) HS-152-108RLTS (Bus 13)	Isolate Bkr Control Circuits by Placing the following RLTS's in LOCAL: HS-152-107RLTS (D/G 1-1) HS-152-103RLTS (P-7B) HS-152-108RLTS (Bus 13) **Cue: HS-152-107RLTS HS-152-103RLTS & HS-152-108RLTS are in Local**	S / U

*8) Step 4.3.2.a.7 Refer to Att 3 and Remove the Close and Trip Circuit fuses for the following Bkr's: 152-107 D/G 1-1 152-103 P-7B 152-108 Bus 13 **Cue: "Close and Trip Circuit fuse is removed" for each Bkr**	Remove the Close and Trip Circuit fuses for the following Bkr's: 152-107 D/G 1-1 152-103 P-7B 152-108 Bus 13	S / U
9) Step 4.3.2.a.8 Verify Bkr status lights are lit for: 152-107 D/G 1-1 152-103 P-7B 152-108 Bus 13 **Cue: "Bkr status lights are lit for: 152-107 D/G 1-1 152-103 P-7B 152-108 Bus 13**	Verify Bkr status lights are lit for: 152-107 D/G 1-1 152-103 P-7B 152-108 Bus 13	S / U
*10) Step 4.3.2.a.9.a Start D/G 1-1 by Placing Engine Control Switch on Local Gauge Board to START **Cue: "Engine Control Switch is in Start and engine is running at 900 rpm, frequency is 60 Hz and voltage is 2.4 KV"**	Start D/G 1-1 by Placing Engine Control Switch on Local Gauge Board to START	S / U
*11) Step 4.3.2.a.10 Energize Bus 1C by Locally Closing D/G 1-1 Output Bkr 152-107. **Cue: "Red and White Bkr status lights are lit and the Green Bkr status light is Out"**	Applicant will describe Closing D/G 1-1 Output Bkr 152-107 Locally.	S / U

*12) Step 4.3.2.a.11 Locally Close the Service Water Pump's Bkr 152-103 P-7B **Cue: "Red and White Bkr status lights are lit and the Green Bkr status light is Out"**	Applicant will describe Closing the Service Water Pump Bkr 152-103	S / U
*13) Step 4.3.2.a.11 Locally Close the Supply Bkr to Bus 13 152-108 **Cue: "Red and White Bkr status lights are lit and the Green Bkr status light is Out"**	Applicant will describe Closing the Supply Bkr to Bus 13 152-108.	S / U
14) Step 4.3.2.a.12 Verify Service Water Header pressure is > 25 psig on PI-1472 on D/G 1-1 Local Control Panel **Cue: "PI-1472 is reading 30 psig"**	Verify Service Water Header pressure is > 25 psig on PI-1472 on D/G 1-1 Local Control Panel	S / U
15) Notify CRS the 1-1 D/G is running and Service Water Pump P-7B and Bus 13 are energized. **STOP TIME: _____**	Notify CRS the 1-1 D/G is running and Service Water Pump P-7B and Bus 13 are energized.	S / U

CRITICAL ELEMENTS: Critical Elements are denoted with an asterisk (*) before the element number.

GENERAL REFERENCES:

2. Palisades Off Normal Procedure ONP-20, Diesel Generator Manual Control

2. Palisades Off Normal Procedure ONP-25.2, Alternate Safe Shutdown Procedure

.

GENERAL TOOLS AND EQUIPMENT:

Electrical Safety should be utilized if manually closing Bkr's onto a live 2.4KV Bus

COMMENTS:

Initial Conditions

The following plant conditions exist:

- Start-up Transformer 1-2 is not available
- Safeguards Transformer 1-1 is Not available
- Fire in the Control Room damages Bus 1C load shed circuits
- Fire in the Control Room damaged 1-1 D/G control circuits
- 1-1 D/G is Not Operating

Initiating Cue:
Your task per the Control Room Supervisor and Step 5 of ONP-25.2, Alternate Safe Shutdown Procedure is to:

1. Locally Start the 1-1 D/G and energize 2400 VAC bus 1C per ONP-20 and,
2. Locally Close Breakers 152-103(Starting P-7B) and 152-108(Energizing LCC-13)

Contact the Control Room Supervisor **prior** to powering up any further equipment.

In-Plant

Job Performance Measure

Plant Service Systems

TITLE: Line-up Fire Protection Water to Aux. Feedwater Pumps P-8A and P-8B.

Evaluation Location: Simulator _____ Control Room _____ Plant__X__ Classroom____
Projected Time: __10 Min.__

Alternate Path _____ New _____ Modified _____ RCA _____

Low Power _____ Emergency _____ Bank __X___

Date: _____ Trainee: _____

Evaluator: _____

JPM Performance: Satisfactory _____ Unsatisfactory _____

Evaluator Comments: _____

Initial Conditions

The following plant conditions exist:

- Rx Trip has occurred
- Loss of All Feedwater has occurred
- Normal suction to Auxiliary Feedwater Pumps P-8A, P-8B, & P-8C is not available
- Condensate Storage Tank, T-2 is indicating 0% and the 'Condensate Storage Tank T-2 Hi-Lo Level' alarm is in on low level
- No Aux. Feedwater pumps are in operation

Initiating Cue:
Your task per the Control Room Supervisor and EOP-7, Loss of All Feedwater Recovery, is to align P-8A / P-8B suction to Fire Water per EOP Supplement 31, Section 2.0 starting at step 3 through step 10.

EVALUATION CHECKLIST

Task Standard:

The applicant will align Fire Protection Water to the P-8A and P-8B Auxiliary Feedwater Pumps using EOP Supplement 31, Supply AFW Pumps From Alternate Sources.

TASKS:	**STANDARDS:**	**RESULTS:**
Start Time: _____		
*1) Obtain a copy of EOP Supplement 31, Supply AFW Pumps from Alternate Sources	Obtain a copy of EOP Supplement 31, Supply AFW Pumps from Alternate Sources	**S / U**
*2) Step 2.3 Place K-8 Cooling Water 3-Way Valve, MV-FW211 in EMERGENCY position (turn vlv handle fully clockwise) **Cue: "Vlv handle is in the fully clockwise position"**	Place K-8 Cooling Water 3-Way Valve, MV-FW211 in EMERGENCY position (turn vlv handle fully clockwise)	**S / U**

3) Step 2.4 Verify Turbine Building Sump Pumps P-45A and P-45B are operating to maintain expected sump level **Cue: If asked "1E Bus is energized & sump level is normal"**	Verify Turbine Building Sump Pumps P-45A and P-45B are operating to maintain expected sump level	**S / U**
4) Step 2.5 Unlock MV-FW775, AFW pumps Supply from Fire Protection System **Cue: "MV-FW775 is unlocked"**	Unlock MV-FW775, AFW pumps Supply from Fire Protection System	**S / U**
5) Step 2.6 Throttle Open MV-FW775 **<u>until</u>** water issues from AFW Pp Supply from FPS Leak Test Valve MV-FW504 **Cue: "Water is coming out of MV-FW504"**	Throttle Open MV-FW775 **<u>until</u>** water issues from AFW Pp Supply from FPS Leak Test Valve MV-FW504	**S / U**
*6) Step 2.7 When water issues from MV-FW504 CLOSE MV-FW504 **Cue: "MV-FW504 is closed"**	When water issues from MV-FW504 CLOSE MV-FW504	**S / U**
*7) Step 2.8 Open MV-FW775, AFW Pp Supply from FPS **Cue: "MV-FW775 is Open"**	Open MV-FW775, AFW Pp Supply from FPS	**S / U**
*8) Step 2.9 Unlock and Open MV-FW774 AFW Pp Supply from FPS **Cue: "MV-FW774 is Unlocked and Open"**	Unlock and Open MV-FW774 AFW Pp Supply from FPS	**S / U**

9) Step 2.10 Notify the CRS that P-8A / P-8B AFW Pps have Fire Protection System water aligned to them **Cue: Repeat back the notification and state that the JPM is complete**	Notify the CRS that P-8A / P-8B AFW Pps have Fire Protection System water aligned to them	**S / U**

STOP TIME: _____

CRITICAL ELEMENTS: Critical Elements are denoted with an asterisk (*) before the element number.

GENERAL REFERENCES:

11. Palisades Emergency Operating Procedure EOP-7, Loss of All Feedwater Recovery

2. Palisades Emergency Operating Procedure Supplement EOP-31, Supply AFW Pumps from Alternate Sources

GENERAL TOOLS AND EQUIPMENT:

1. Locked Valve Key

COMMENTS:

Initial Conditions

The following plant conditions exist:

- Rx Trip has occurred
- Loss of All Feedwater has occurred
- Normal suction to Auxiliary Feedwater Pumps P-8A, P-8B, & P-8C is not available
- Condensate Storage Tank, T-2 is indicating 0% and the 'Condensate Storage Tank T-2 Hi-Lo Level' alarm is in on low level
- No Aux. Feedwater pumps are in operation

Initiating Cue:
Your task per the Control Room Supervisor and EOP-7, Loss of All Feedwater Recovery, is to align P-8A / P-8B suction to Fire Water per EOP Supplement 31, Section 2.0 starting at step 3 through step 10.

In-Plant

Job Performance Measure

Containment Integrity

TITLE: M-69B Hydrogen Recombiner Start-up per SOP-5, Containment Air Cooling and Hydrogen Recombining System.

Evaluation Location: Simulator _____ Control Room _____ Plant__X__ Classroom____

Projected Time: __10 Min.__

Alternate Path _____

Time Critical _____

Date: _____ Trainee: _____

Evaluator: _____

JPM Performance: Satisfactory _____ Unsatisfactory _____

Evaluator Comments: _____

Initial Conditions

The following plant conditions exist:

- A LOCA is in progress
- Containment Pressure is 24 psia
- All Containment Air Coolers and fans are in service in Emergency Mode
- Pre-Accident Containment temperature was 90°F

Initiating Cue:
The Control Room Supervisor is performing step 58 of EOP-4.0, Loss of Coolant Accident Recovery Procedure and he directs you to start the M-69B Hydrogen Recombiner per SOP-5, Containment Air Cooling and Hydrogen Recombining System. All initial conditions and Precautions and Limitations of SOP-5, Containment Air Cooling and Hydrogen Recombining System, are met.

EVALUATION CHECKLIST

Task Standard:

The applicant will start and running the M-69B Hydrogen Recombiner per SOP-5, Containment Air Cooling and Hydrogen Recombining System.

TASKS:	**STANDARDS:**	**RESULTS:**
Start Time: _____		
Cue: If asked, another operator will open MCC 9 Feeder Breaker 52-1304.		
*1) Locate procedure SOP-5, Containment Air Cooling and Hydrogen Recombining System.	Locate procedure SOP-5, Containment Air Cooling and Hydrogen Recombining System.	S / U
2) Step 7.2.1.a Ensure at least one safety related CAC fan is in service. **Cue: If asked "All CAC's are in Emergency Mode"**	Ensure at least one safety related CAC fan is in service. All are in service per initial conditions.	S / U
*3)Step 7.2.1.b CLOSE M-69B Hydrogen Recombiner Bkr 52-176 **Cue: "52-176 Indicates ON"**	CLOSE M-69B Hydrogen Recombiner Bkr 52-176	S / U

4) Step 7.2.1.c.1 Verify Power Available lamp lit **Cue: "Power Available light is lit"**	Verify Power Available lamp lit on Hydrogen Recombiner control panel C-123	S / U
5) Step 7.2.1.c.2 Ensure Power Adjust knob is set at '000' **Cue: "Power Adjust knob is set at '000'"**	Ensure Power Adjust knob is set at '000'	S / U
*6) Step 7.2.1.c.3 Place Power Out Switch to ON position **Cue: "Power Out Switch is ON"**	Place Power Out Switch to ON position	S / U
7) Step 7.2.1.c.4 Verify Power Out Switch Red light lit. **Cue: "Power Out Switch red light is lit"**	Verify Power Out Switch Red light lit.	S / U
8) Step 7.2.1.c.5 Place Temp Channel Selector Switch to position 1, 2, or 3. **Cue: "Temp Channel Selector Switch is in position 1, 2, or 3"**	Place Temp Channel Selector Switch to position 1, 2, or 3.	S / U
9) Step 7.2.1.d If Recombiner is being started for testing ...	Applicant determines that Recombiner is **Not** to be started for testing per initiating cue.	S / U
10) Step 7.2.1.e.1 Determine the following: Current Cnmt Pressure Previous Cnmt Temp.	From Initial Conditions: Cnmt Pressure is 24 psia Previous Cnmt temp 90°F	S / U

11) Step 7.2.1.e.2 Determine Recombiner Power setting using Att 1 of SOP-5 and parameters determined above for Cnmt Press & Cnmt Temp.	Applicant should determine power setting between 58 to 60 kw using 9 psig and 90ºF	S / U
*12) 7.2.1.e.3.a Adjust Power Adjust knob in the clockwise direction until Recombiner power (as read on the kw power out meter) is between 58 to 60 kw **Cue: "Power Out meter is reading 59 kw"**	Adjust Power Adjust knob in the clockwise direction until Recombiner power (as read on the kw power out meter) is bewteen 58 to 60 kw	S / U
13) 7.2.1.e.3.b Commence monitoring Power Out meter on C-123	Commence monitoring Power Out meter on C-123	S / U
14) Step 7.2.1.e.3.c Adjust Power Adjust knob to maintain desired setting between 58 and 60 kw.	Adjust Power Adjust knob to maintain desired setting between 58 and 60 kw.	S / U
15) Step 7.2.1.e.4 Notify CRS that M-69B is in service and that the CR should commence sampling Cnmt hydrogen per SOP-38, Gaseous Process Monitoring System. **Cue: Terminate JPM after the Applicant informs the CRS that the M-69B Hydrogen Recombiner is in service.**	Notify CRS that M-69B is in service and that the CR should commence sampling Cnmt hydrogen per SOP-38, Gaseous Process Monitoring System.	S / U

STOP TIME: _____

CRITICAL ELEMENTS: Critical Elements are denoted with an asterisk (*) before the element number.

GENERAL REFERENCES:

10. Palisades Emergency Operating Procedure EOP-4, Loss of Coolant Accident Recovery

2. Palisades System Operating Procedure SOP-5, Containment Air Cooling and Hydrogen Recombining System

GENERAL TOOLS AND EQUIPMENT:

COMMENTS:

Initial Conditions

The following plant conditions exist:

- A LOCA is in progress
- Containment Pressure is 24 psia
- All Containment Air Coolers and fans are in service in Emergency Mode
- Pre-Accident Containment temperature was 90°F

Initiating Cue:
The Control Room Supervisor is performing step 58 of EOP-4.0, Loss of Coolant Accident Recovery Procedure and he directs you to start the M-69B Hydrogen Recombiner per SOP-5, Containment Air Cooling and Hydrogen Recombining System. All initial conditions and Precautions and Limitations of SOP-5, Containment Air Cooling and Hydrogen Recombining System, are met.

Control Room Systems

Job Performance Measure

Radioactivity Release

TITLE: Set up Radwaste Discharge Monitor RIA-1049 High Alarm Stepoint.

Evaluation Location: Simulator __X__ Control Room _____ Plant____ Classroom____

Projected Time: __30 Min.__

Alternate Path _____

Time Critical _____

Date: _____ Trainee: _____

Evaluator: _____

JPM Performance: Satisfactory _____ Unsatisfactory _____

Evaluator Comments: _____

Initial Conditions

The
Initiating Cue:
Your task is to complete the release of Waste Gas Decay Tank T-101A.

EVALUATION CHECKLIST

Task Standard:

The applicant will complete the release of Waste Gas Decay Tank, T-101A, in accordance with SOP-18A, Radioactive Waste System - Gaseous.

TASKS:	STANDARDS:	RESULTS:
Start Time: _____		
*1) Obtain a copy of SOP-18A, Radioactive Waste System - Gaseous procedure from the NCO.	Obtain a copy of SOP-18A, Radioactive Waste System - Gaseous procedure from the NCO.	S / U
2) Step 7.5.l Ensure Closed CV-1113, Waste Gas Surge Tank Discharge (At C-40 panel using HS-1113 and position indicator lights).	Ensure Closed CV-1113, Waste Gas Surge Tank Discharge	S / U
Cue: CV-1113 is closed		S / U
*3) Step 7.5.m Place in OPEN HS-1123, WGDT Discharge.	Place in OPEN HS-1123, WGDT Discharge	
Cue: HS-1123 is in Open		

4) Step 7.5.n Reset CV-1123 WGDT Discharge, high-radiation trip on Panel C-40. **Cue: CV-1123 is Reset**	Reset CV-1123 WGDT Discharge, high-radiation trip on Panel C-40. (Vlv indication will not change until it is opened in step 7.5.r)	S / U
5) Step 7.5.o Ensure RE-1113 is valved in correctly by checking the following valves in their Locked position: MV-WG117 Open MV-WG119 Open MV-WG118 Closed MV-WG114 Open **Cue: MV-WG117 Open** **MV-WG119 Open** **MV-WG118 Closed** **MV-WG114 Open**	Ensure RE-1113 is valved in correctly by checking the following valves in their Locked position: MV-WG117 Open MV-WG119 Open MV-WG118 Closed MV-WG114 Open (Inside Vent Plenum on 590') (there should be a locked valve program that can be used to verify positions)	S / U
*6) Step 7.5.p.1 Open MV-WG726, Drain Trap DT-1123 equalizing valve **Cue: MV-WG726 is Open**	Open MV-WG726, Drain Trap DT-1123 equalizing valve	S / U
*7) Step 7.5.p.2 Close MV-WG721, DT-1123 Bypass Valve **Cue: MV-WG721 is Closed**	Close MV-WG721, DT-1123 Bypass Valve (C-50 Comp Rm)	S / U
*8) Step 7.5.p.3 Close MV-WG735, N_2 Purge Isolation **Cue: MV-WG735 is Closed**	Close MV-WG735, N_2 Purge Isolation (C-50 Comp Rm)	S / U
*9) Step 7.5.q Open WGDT outlet valve for the tank to be released T-101A. Open MV-CA367, T-101A Outlet CV1160 A/S **Cue: MV-CA367 is Open**	Open MV-CA367, T-101A Outlet CV1160 A/S	S / U

*10) Step 7.5.r Open CV-1123, SGDT Discharge, using HIC-1123, Waste Gas Discharge To Stack **Cue: CV-1123 is Open**	Open CV-1123, SGDT Discharge, using HIC-1123, Waste Gas Discharge To Stack	S / U
11) Step 7.5.s.1 Record the following on HP 6.6-3 Tank Pressure Wind Speed Wind Direction Stability Class Start Time Start Date	Record the following on HP 6.6-3 Tank Pressure Wind Speed Wind Direction Stability Class Start Time Start Date	S / U
12) Step 7.5.s.2 Determine initial DP on dPI-1817, F-58 Decay Tank Discharge Filter DP indicator **Cue: dPI-1817 is reading 0.5" H_2O**	Determine initial DP on dPI-1817, F-58 Decay Tank Discharge Filter DP indicator	S / U
*13) Step 7.5.t Slowly Open Discharge Hdr Vlv's for the T-101A tank: MV-WG718 T-101A outlet vlv MV-WG718A T-101A outlet vlv **Cue: MV-WG718 and MV-WG718A are open**	Slowly Open Discharge Hdr Vlv's for the T-101A tank MV-WG718 T-101A outlet vlv MV-WG718A T-101A outlet vlv	S / U
14) Step 7.5.v Check dPI-1817, F-58 Decay Tank Discharge Filter DP indicator, < 2.5" H_2O **Cue: dPI-1817 is reading 1.5" H_2O**	Check dPI-1817, F-58 Decay Tank Discharge Filter DP indicator, < 2.5" H_2O	S / U

15) Step 7.5.w Record RIA-1113 reading on Form HP 6.6-3	Record RIA-1113 reading on Form HP 6.6-3	S / U
16) Step 7.5.x Tank pressure indicates less than 3 psig **Cue: 30 Mins have elapsed and tank pressure is 2 psig**		S / U
17) Step 7.5.y Record final tank pressure on Form HP 6.6.3	Record final tank pressure on Form HP 6.6.3	S / U
*18) Step 7.5.z Close the following valve MV-WG718A for T-101A **Cue: MV-WG718A is closed**	Close the following valve MV-WG718A for T-101A	S / U

Terminate JPM when MV-WG718A is Closed

STOP TIME: _____

CRITICAL ELEMENTS: Critical Elements are denoted with an asterisk (*) before the element number.

GENERAL REFERENCES:

5. Palisades System Operating Procedure SOP-18A, Ventilation and Air Conditioning System.

2. Palisades Health Physics Procedure HP 6.14, Containment Purge.

3. Palisades Health Physics Form 6.6-3, Batch Releases

.

GENERAL TOOLS AND EQUIPMENT:

COMMENTS:

Initial Conditions

The T-101A, Waste Gas Decay Tank is to be released and the following plant conditions exist:

T-101A pressure is 85 psig
Wind Speed is 12 mph
Wind Direction is from 165^{o}
Stability Class B
Radiation Monitor RE-1113 is operable
Main Exhaust Fan V-6B is operating and no Containment Purge is in progress

The NCO has just completed setting the RE-1113 Hi Alarm Setpoint per step 7.5.k of SOP-18A.

Initiating Cue:
Your task is to complete the release of Waste Gas Decay Tank T-101A.

CONSUMERS ENERGY
PALISADES NUCLEAR TRAINING DEPARTMENT
JOB PERFORMANCE MEASURE

Job Performance Measure: **ASEE-02.JPM**

UFI No.: 06*26
Course No.: 601284
Approx. Time: 7.5 minutes

Program Title: NUCLEAR OPERATOR TRAINING

Course: Advanced Systems

Module: N/A

JPM Title: Respond to a 'Control Rods Out of Sequence' Alarm

Revision: 2

Prepared by	Date
Validated by	Date
Approved - Training Section Supervisor/Lead Individual	Date

DEVELOPMENT HISTORY

		Date
Originator:	RLTucker	2/22/98
Approval:	RJFrigo	2/22/98
Revision:	1	
Originator:	RLTucker	10/13/89
Approval:	RJFrigo	11/09/89
Revision:	0	

PREVIOUSLY RO-097

TASK NUMBER:	014 001 01 01	**IMPORTANCE RATING:**
3.5		
	001 009 01 01	
4.0		
	001 104 04 01	
5.0		
APPROX COMPLETION TIME:	7.5 minutes	
OPERATOR:	_____	~ RO ~ SRO
EVALUATOR:	_____	
EVALUATION METHOD:	~ Actual ~ Simulated	
EVALUATION LOCATION:	Simulator	**DATE:** _____
SIMULATOR SETUP:	IC-6, insert rods in Manual Sequential until Group 3 is at 87", then insert Group 4 in manual group until "Control Rods Out of Sequence" alarm (EK-09-16) comes in (should be around 4.5"). Will also get Group 4 PPDIL alarm and PPC audible alarm acknowledged. Put group selector switch back to manual sequential. JPM is now ready to give.	

1.0 DIRECTIONS

Please read 1.1, 1.2 and 1.3. Repeat back same. If correct, then I will tell you to continue.

1.1 Task Standards

Performance Time Limit = NONE

1.2 Task Conditions

A. Reactor Startup was in progress using Control Rods in "Manual Sequential".
B. EK-09 Alarm 16 'Control Rods out of Sequence' alarm is in.
C. All rod motion is currently stopped.

1.3 INITIATING CUES

A. During performance of a Reactor Startup using Control Rods, the Control Room Supervisor directs you to identify the cause of, and to take actions to clear the 'Control Rods Out of Sequence' alarm.

2.0 PERFORMANCE CHECKLIST (Critical Elements designated by *)

Start Time: _____

1. Locate ARP 5 and SOP 6.

STANDARD: ARP 5 and SOP 6, Attachment 1 located. S/U

2. Stop all rod motion.

STANDARD: All rod motion stopped as part of IC. N/A

3. Check Primary Rod position on control board or 'syncho' on PPC to identify cause of alarm.

STANDARD: Check rod positions on PPC page. S/U

*4. Check that 78.5" to 81.5" exists between groups being moved.

STANDARD: Identify that > 81.5" exists between Group 3 and 4. S/U

5. Turn Rod Selector Switch for Groups out of sequence through all positions and compare Primary & Secondary Rod position indications on PPC display 412.

STANDARD: Rod Selector Switch for groups out of sequence rotated and PPC displays checked. S/U

6. Compare indicated positions from Primary and Secondary.

STANDARD: Compare indicated positions using rod positions from Primary and Secondary. Verify Primary and Secondary agree. S/U

*7. Identify cause of out of sequence condition.

STANDARD: Operator identifies failure of PIP node sequencers as the cause of the problem. S/U

[CUE: The Control Room Supervisor directs you to continue with SOP-6.]
[CUE: If asked Recommend inserting Group 3 in Manual.]
[Note: Based on ARP-5, candidate may use manual individual to re-align control rods or he/she may use manual group to re-align control rods per SOP-6.]

S3 *8. Return Rod Groups to their proper sequence to clear alarm.

STANDARD: Insert Group 3 in manual group to at least 84". S/U

9. Make necessary log entries.

STANDARD: Loss of sequencing logged. S/U

10. Notify CRS.

STANDARD: CRS notified. S/U

Stop Time: _____

2.1 OPERATOR PERFORMANCE

~ Satisfactory ~ Unsatisfactory

JPM was performed in _____ minutes.

COMMENTS

3.0 GENERAL REFERENCES

SOP 6, rev 23
ARP 5 rev 66

1.0 DIRECTIONS

Please read 1.1, 1.2 and 1.3. Repeat back same. If correct, then I will tell you to continue.

1.1 TASK STANDARDS

Performance Time Limit = NONE

Task Conditions

A. Reactor Startup was in progress using Control Rods in "Manual Sequential".
B. EK-09 Alarm 16 'Control Rods out of Sequence' alarm is in.
C. All rod motion is currently stopped.

INITIATING CUE

During performance of a Reactor Startup using Control Rods, the Control Room Supervisor directs you to identify the cause of, and to take actions to clear the 'Control Rods Out of Sequence' alarm.