Facility: WNP-2	Task No: RO-0573-N-ADMIN
Task Title: Evaluate LPCS-P-1 failure to start with EWDs	Job Performance Measure No: Ba.2JPM Rev 1
K/A Reference: 2.1.24 2.8/3.1	
Examinee:	NRC Examiner:
Facility Evaluator:	Date:

Method of testing:

Perform – Use of EWDs –
Simulator/Control Room

JPM SETUP INFORMATION

Initial Conditions: The plant is in MODE 4 with reactor level at –40 inches and the drywell is open for personnel access. All electrical busses are aligned normally for MODE 4.

Task Standard: Using the EWDs, correctly determine the cause of the failure to start.

Required Materials: N/A

General References: EWD 8E010 and 8E001

Initiating Cue: The plant is in MODE 4 with reactor level at -40 inches and the drywell is open for personnel access. All electrical busses are aligned normally for MODE 4.
You have been directed to start LPCS-P-1 by the use of the ARM and DEPRESS pushbutton. All LPCS valves realign as required but LPCS-P-1 does not start.

Using the EWDs, explain why the pump did not start.

Time Critical Task: NO

Validation Time: 10 minutes

Simulator ICs: N/A

Malfunctions/Remote Triggers: N/A

Overrides: N/A

Special Setup Instructions: N/A

00ba2jpmr1

PERFORMANCE INFORMATION

START TIME:

Critical Step: Yes
Performance Step: 1

Standard:	The applicant should note the following:
	1. LPCS-RLY-K12 closes when the ARM and DEPRESS pushbutton is pushed.
	2. LPCS/62/1 closes after UV or an FA signal and a 10 second time delay, so it remains open.
	3. LPCS/RHRA/1 energizes and opens when power is from TR-S which prevents a manual initiation of LPCS-P-1 with the ARM and DEPRESS pushbutton while powered from the Startup Transformer.
	FOR FULL CREDIT: LPCS-P-1 cannot be manually initiated with the ARM and DEPRESS pushbutton while powered from the Startup (TR-S) Transformer.

Comment: SAT / UNSAT

THE EXAMINEE SHOULD ANNOUNCE THE TERMINATION POINT OF THE JPM AT THIS POINT.

JPM TERMINATION
TIME:
JPM START TIME: -   _____
JPM COMPLETION TIME:

VERIFICATION OF COMPLETION

JPM Number: Ba.2JPM rev 1

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

JPM INFORMATION CARD

HAND THE STUDENT INFORMATION CARD TO THE EXAMINEE

READ TO THE EXAMINEE:
I will explain the initial conditions, which steps to simulate or discuss, and provide initiation cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

Task Standard:	Using the EWDs, correctly determine the cause of the failure to start.
Required Materials:	N/A
Safety Equipment:	N/A
General References:	EWD 8E010 and 8E001
Time Critical Task:	NO
Initial Conditions:	The plant is in MODE 4 with reactor level at –40 inches and the drywell is open for personnel access. All electrical busses are aligned normally for MODE 4.

INITIATING CUE

The plant is in MODE 4 with reactor level at -40 inches and the drywell is open for personnel access. All electrical busses are aligned normally for MODE 4.
You have been directed to start LPCS-P-1 by the use of the ARM and DEPRESS pushbutton. All LPCS valves realign as required but LPCS-P-1 does not start.

Using the EWDs, explain why the pump did not start.

INFORMATION BELOW THIS LINE NOT SHARED WITH EXAMINEE

Task Number: RO-0573-N-ADMIN   Validation Time: 10 minutes
NUREG 1123 Reference: 2.1.24 2.8/3.1   Time Critical: NO
Location: Simulator/Control room   Performance Method: Perform
Prepared/Revised by: S Hutchison   Revision Date: 7/23/99

STUDENT INFORMATION

Initial Conditions: The plant is in MODE 4 with reactor level at –40 inches and the drywell is open for personnel access. All electrical busses are aligned normally for MODE 4.

INITIATING CUE

The plant is in MODE 4 with reactor level at -40 inches and the drywell is open for personnel access. All electrical busses are aligned normally for MODE 4.
You have been directed to start LPCS-P-1 by the use of the ARM and DEPRESS pushbutton. All LPCS valves realign as required but LPCS-P-1 does not start.

Using the EWDs, explain why the pump did not start.

Facility: WNP-2	Task No:
Task Title: Complete Post Scram Report	Job Performance Measure No: Ra.1JPM Rev 2
K/A Reference: 2.1.18 2.9/3.0	
Examinee:	NRC Examiner:
Facility Evaluator:	Date:

Method of testing:

Perform - Simulator

JPM SETUP INFORMATION

Initial Conditions: The plant simulator has been frozen following the scenario you have just completed.

Task Standard: The Post Scram Reports are completed in accordance with PPM 1.3.5 and the values recorded are within 10% of panel indications. A score of 80% is required for passing the JPM.

NOTE: The attached turnover forms are based on panel indications following scenario validation. Actual values may vary depending on variables due to operation during the scenario and the stopping point of the scenario. The values given as reference will have to be verified prior to grading of this JPM.

Required Materials: PPM 1.3.5 rev 15, att 5.3

General References: PPM 1.3.5 rev 15

Initiating Cue: The plant simulator has been frozen following the scenario you have just completed. Complete the given Post Scram Report. All ROs are to complete the CRO1 Post Scram Report.

Notify me when you have completed the Post Scram Report

Time Critical Task: NO

Validation Time: 10 minutes

Simulator ICs: N/A

Malfunctions/Remote Triggers: N/A

Overrides: N/A

Special Setup Instructions: The simulator will be frozen following the completion of either OP Test 1 Scen #2 or OP Test 2 Scen #1. Ensure these scenarios have notes in the setup not to reset the simulator until this JPM is completed.

PERFORMANCE INFORMATION

START TIME:

Critical Step: Yes*	
Performance Step: 1	The CRO1 Post Scram reports will be completed with data from the frozen simulator following either OP Test 1 Scen. #2 or OP Test 2 Scen. #1.
Standard:	The Post Scram Reports are completed in accordance with PPM 1.3.5 and the values recorded are within 10% of panel indications. A score of 80% is required for passing the JPM. NOTE: The attached turnover forms are based on panel indications following scenario validation. Actual values may vary depending on variables due to operation during the scenario and the stopping point of the scenario. The values given as reference will have to be verified prior to grading of this JPM.
Comment: SAT / UNSAT	

THE EXAMINEE SHOULD ANNOUNCE THE TERMINATION POINT OF THE JPM AT THIS POINT.

JPM TERMINATION TIME:
JPM START TIME: -   _____
JPM COMPLETION TIME:

VERIFICATION OF COMPLETION

JPM Number: RA.1JPM rev 2

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

00ra1jpmr2

JPM INFORMATION CARD

HAND THE STUDENT INFORMATION CARD TO THE EXAMINEE

READ TO THE EXAMINEE:
I will explain the initial conditions, which steps to simulate or discuss, and provide
initiation cues. When you complete the task successfully, the objective for this job
performance measure will be satisfied.

Task Standard: The Post Scram Reports are completed in accordance with PPM
           1.3.5 and the values recorded are within 10% of panel
           indications. A score of 80% is required for passing the JPM.

           NOTE: The attached turnover forms are based on panel
           indications following scenario validation. Actual values may
           vary depending on variables due to operation during the scenario
           and the stopping point of the scenario. The values given as
           reference will have to be verified prior to grading of this JPM.

Required Materials: PPM 1.3.5 rev 15, att 5.3

Safety Equipment: N/A

General References: PPM 1.3.5 rev 15

Time Critical Task: No

Initial Conditions: The plant simulator has been frozen following the scenario you
           have just completed.

INITIATING CUE

The plant simulator has been frozen following the scenario you have just completed. Complete the given Post Scram Report. All ROs are to complete the CRO1 Post Scram Report.

Notify me when you have completed the Post Scram Report

INFORMATION BELOW THIS LINE <u>NOT SHARED WITH EXAMINEE</u>

Task Number: Validation Time: 10 minutes
NUREG 1123 Reference: 2.1.18 2.9/3.0   Time Critical: No
Location: Simulator   Performance Method: Perform
Prepared/Revised by: S Hutchison   Revision Date: 7/23/00

STUDENT INFORMATION

Initial Conditions: The plant simulator has been frozen following the scenario you
have just completed.

INITIATING CUE

The plant simulator has been frozen following the scenario you have just completed.
Complete the given Post Scram Report. All ROs are to complete the CRO1 Post Scram
Report.

Notify me when you have completed the Post Scram Report

Question No. RA.1-1:	A maintenance test has been performed on RHR-V-24A, Test Return, (MOV type SMB-3) that required the valve to be stroked from closed to full open and back to closed 5 times, with no time between change of direction. The valve takes an average of 3 minutes to stroke full open and back closed. The work order has allowed no deviation in duty cycle requirements. What is the required cooldown time prior to the next allowable operation of RHR-V-24A? **OPEN REFERENCE** ANSWER: 3 hours
Response:	
SAT / UNSAT	
2.1.1 3.7/3.8	NO LO	PPM 1.3.1 rev 46, page 55

Question No. RA.1-2	As the CRO you have been given a surveillance procedure, with a Temporary Change attached, to perform during your shift. With regards to this procedure, what are your required actions prior to performance of the surveillance? **CLOSED REFERENCE** ANSWER: Verify the procedure is the correct revision and the TCN is correct by the use of one of the following: 1. The online Passport Document Management System Database. 2. Level 1 controlled Procedure Manuals (Control room copies are level 1) 3. Controlled hard copy Procedure Tracking Report (PTR). NOTE: Any one of the 3 answers above is acceptable for full credit.
Response:	
SAT / UNSAT	
2.1.21 3.1/3.2	6062	SWP-PRO-01 rev 2, page 7

sQuestion No. RA.1-1:	A maintenance test has been performed on RHR-V-24A, Test Return, (MOV type SMB-3) that required the valve to be stroked from closed to full open and back to closed 5 times, with no time between change of direction. The valve takes an average of 3 minutes to stroke full open and back closed. The work order has allowed no deviation in duty cycle requirements.

What is the required cooldown time prior to the next allowable operation of RHR-V-24A?

OPEN REFERENCE |

Question No. RA.1-2	As the CRO you have been given a surveillance procedure, with a Temporary Change attached, to perform during your shift.
	With regards to this procedure, what are your required actions prior to performance of the surveillance?
	CLOSED REFERENCE

Facility: WNP-2	Task No:
Task Title: Process into the RCA using the TES System	Job Performance Measure No: Ra.3JPM Rev 1
K/A Reference: 2.3.1 2.6/3.0	
Examinee:	NRC Examiner:
Facility Evaluator:	Date:

Method of testing:

Perform - Plant

<div style="text-align:center">

JPM SETUP INFORMATION

</div>

Initial Conditions: The plant is in operation at 100% power. There are no unusual radiological conditions in the RCA.

Task Standard: Process into the RCA correctly using the Total Exposure System for Access Control.

Required Materials: TES terminal

General References: GEN-RPP- 04 and GEN-RPP-11

Initiating Cue: The plant is in operation at 100% power. There are no unusual radiological conditions in the RCA.

Process into the RCA with an electronic dosimeter using the TES System.
Notify me when access has been granted by the TES Sytem

Time Critical Task: NO

Validation Time: 5 minutes

Simulator ICs: N/A

Malfunctions/Remote Triggers: N/A

Overrides: N/A

Special Setup Instructions: N/A

00ra3jpmr1

PERFORMANCE INFORMATION

START TIME:

Critical Step: Yes	
Performance Step: 1	5.1.1) Obtain an electronic dosimeter from Health Physics at Health Physics Access Control.
Standard:	Obtain and electronic dosimeter from HP
Comment: SAT / UNSAT	

Critical Step: Yes	
Performance Step: 2	5.1.8.1) Insert electronic dosimeter into the reader.
Standard:	The dosimeter is inserted into the reader.
Comment: SAT / UNSAT	

Critical Step: Yes	
Performance Step: 3	5.1.8.2) Bar-code employee ID number.
Standard:	Bar-code employee ID number (this can be typed also)
Comment: SAT / UNSAT	

00ra3jpmr1

Critical Step: Yes	
Performance Step: 4	5.1.8.3) Bar-code employee ALARA Task Number.
Standard:	Bar-code ALARA (this can be typed also).
Comment: SAT / UNSAT	

Critical Step: Yes	
Performance Step: 5	5.1.8.4) Ensure the correct revision to the RWP and ALARA Task requirements have been read and bar-code Y or N (this can also be typed)
Standard:	Bar-code Y or N (this can also be typed)
Comment: SAT / UNSAT	

Critical Step: No	
Performance Step: 6	5.1.8.5) Review dosimeter alarm setpoints.
Standard:	Review dosimeter alarm setpoints.
Comment: SAT / UNSAT	

Critical Step: Yes	
Performance Step: 7	5.1.8.6) Remove the dosimeter from the reader when prompted.
Standard:	Dosimeter is removed when promoted by TES.
Comment: SAT / UNSAT	

Critical Step: No	
Performance Step: 8	5.1.8.7) If the screen displays ACCESS DENIED, contact HP for assistance.
Standard:	HP contacted if ACCESS DENIED is displayed.
Comment: SAT / UNSAT	

THE EXAMINEE SHOULD ANNOUNCE THE TERMINATION POINT OF THE JPM AT THIS POINT.

JPM TERMINATION TIME: JPM START TIME: - JPM COMPLETION TIME:

VERIFICATION OF COMPLETION

JPM Number: RA.3JPM rev 1

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

JPM INFORMATION CARD

HAND THE STUDENT INFORMATION CARD TO THE EXAMINEE

READ TO THE EXAMINEE:
I will explain the initial conditions, which steps to simulate or discuss, and provide
initiation cues. When you complete the task successfully, the objective for this job
performance measure will be satisfied.

Task Standard: Process into the RCA correctly using the Total Exposure System
                        for Access Control.

Required Materials: TES terminal

Safety Equipment: As required for RCA entry.

General References: GEN-RPP- 04 and GEN-RPP-11

Time Critical Task: No

Initial Conditions: The plant is in operation at 100% power. There are no unusual
                        radiological conditions in the RCA.

INITIATING CUE

The plant is in operation at 100% power. There are no unusual radiological conditions in
the RCA.

Process into the RCA with an electronic dosimeter using the TES System.
Notify me when access has been granted by the TES Sytem

INFORMATION BELOW THIS LINE <u>NOT SHARED WITH EXAMINEE</u>

Task Number: Validation Time: 5 minutes
NUREG 1123 Reference: 2.3.1 2.6/3.0   Time Critical: No
Location: Access Control - Plant   Performance Method: Perform
Prepared/Revised by: S Hutchison   Revision Date: 7/23/00

STUDENT INFORMATION

Initial Conditions: The plant is in operation at 100% power. There are no unusual radiological conditions in the RCA.

INITIATING CUE

The plant is in operation at 100% power. There are no unusual radiological conditions in the RCA.

Process into the RCA with an electronic dosimeter using the TES System.
Notify me when access has been granted by the TES Sytem

Question No. RA.4-1	The plant is operating at reduced power following a trip of RRC-P-1A. Off Gas activity has increased and a valid annunciator for SJAE CONDENSER OUTLET RAD HI-HI, P602 A5 drop 3-3 illuminates. What is the classification of this event and who is the CRO required to notify? **OPEN REFERENCE** ANSWER: 1. Unusual Event 2. The Shift Manager
Response:	
SAT / UNSAT	
2.4.39 3.3/3.1 | 6130	PPM 4.602.A5.3-3 rev 12, page 25, PPM 13.1.1, rev 26, pages 4 and 11

Question No. RA.4-2	The plant has experienced a LOCA and the Shift Manager has declared an emergency. The FAX machine is not working. Which one of the phone systems is the preferred system for notification of local authorities? **CLOSED REFERENCE** ANSWER: The CRASH Phone
Response:	
SAT / UNSAT	
2.4.43 2.8/3.5	8907	PPM 13.4.1 rev 25, page 5

Question No. RA.4-1	The plant is operating at reduced power following a trip of RRC-P-1A. Off Gas activity has increased and a valid annunciator for SJAE CONDENSER OUTLET RAD HI-HI, P602 A5 drop 3-3 illuminates.
	What is the classification of this event and who is the CRO required to notify?
	OPEN REFERENCE

Question No. RA.4-2	The plant has experienced a LOCA and the Shift Manager has declared an emergency. The FAX machine is not working. Which one of the phone systems is the preferred system for notification of local authorities? **CLOSED REFERENCE**

Facility: WNP-2	Task No:
Task Title: Complete the Emergency Director Turnover Sheet	Job Performance Measure No: Sa.4JPM Rev 2
K/A Reference: 2.4.40 2.3/4.0	
Examinee:	NRC Examiner:
Facility Evaluator:	Date:

Method of testing:

Perform - Simulator

00sa4jpmr2

JPM SETUP INFORMATION

Initial Conditions: The plant simulator has been frozen following the scenario you have just completed.

Task Standard: The Emergency Director Turnover Sheet is completed and the values recorded are within 10% of the attached marked up copy. A score of 80% is required for passing the JPM.
For Op Test 1 Scenario 2, there are 17 correct responses. 3 can be missed and pass the JPM.
For Op Test 2 Scenario 1, there are 20 correct responses. 4 can be missed and pass the JPM.

Required Materials: Emergency Director Turnover Sheet

General References: Emergency Director Turnover Sheet, PPM 13.1.1 rev 27, pages 14 and 21.

Initiating Cue: The plant simulator has been frozen following the scenario you have just completed. Complete the given Emergency Director Turnover Sheet.
• Include all out of service equipment and actions being taken for recovery.
• There have been no CNF forms released yet. The oncoming ED will release the first one.
• All forms and procedures are available for use in completing the Emergency Director Turnover sheet.

Notify me when you have completed the Emergency Director Turnover Sheet.

Time Critical Task: NO
Validation Time: 15 minutes
Simulator ICs: N/A
Malfunctions/Remote N/A
Triggers:
Overrides: N/A
Special Setup The simulator will be frozen following the completion of either
Instructions: OP Test 1 Scen #2 or OP Test 2 Scen #1. Ensure these scenarios have notes in the setup not to reset the simulator until this JPM is completed.

PERFORMANCE INFORMATION

START TIME:

Critical Step: Yes*	
Performance Step: 1	The Emergency Director Turnover Sheet will be completed with data from the frozen simulator following either OP Test 1 Scen. #2 or OP Test 2 Scen. #1.
CUE: Inform the examinee the time for the emergency declaration (space 1b on the ED Turnover Sheet) is the actual time he determines the classification.	
Standard:	The Emergency Director Turnover Sheet is completed and the values recorded are within 10% of the attached marked up copy. A score of 80% is required for passing the JPM. For Op Test 1 Scenario 2, there are 17 correct responses. 3 can be missed and pass the JPM. For Op Test 2 Scenario 1, there are 20 correct responses. 4 can be missed and pass the JPM.
Comment: SAT / UNSAT	

THE EXAMINEE SHOULD ANNOUNCE THE TERMINATION POINT OF THE JPM AT THIS POINT.

JPM TERMINATION TIME: JPM START TIME: -   _____   JPM COMPLETION TIME:

VERIFICATION OF COMPLETION

JPM Number: SA.4JPMrev 2

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

JPM INFORMATION CARD

HAND THE STUDENT INFORMATION CARD TO THE EXAMINEE

READ TO THE EXAMINEE:
I will explain the initial conditions, which steps to simulate or discuss, and provide
initiation cues. When you complete the task successfully, the objective for this job
performance measure will be satisfied.

Task Standard:	The Emergency Director Turnover Sheet is completed and the values recorded are within 10% of the attached marked up copy. A score of 80% is required for passing the JPM. For Op Test 1 Scenario 2, there are 17 correct responses. 3 can be missed and pass the JPM. For Op Test 2 Scenario 1, there are 20 correct responses. 4 can be missed and pass the JPM.
Required Materials:	Emergency Director Turnover Sheet
Safety Equipment:	N/A
General References:	Emergency Director Turnover Sheet, PPM 13.1.1 rev 27, pages 14 and 21.
Time Critical Task:	No
Initial Conditions:	The plant simulator has been frozen following the scenario you have just completed.

INITIATING CUE

The plant simulator has been frozen following the scenario you have just completed.
Complete the given Emergency Director Turnover Sheet.
• Include all out of service equipment and actions being taken for
  recovery.
• There have been no CNF forms released yet. The oncoming ED
  will release the first one.
• All forms and procedures are available for use in completing the
  Emergency Director Turnover sheet.

Notify me when you have completed the Emergency Director Turnover Sheet.

INFORMATION BELOW THIS LINE <u>NOT SHARED WITH EXAMINEE</u>

Task Number: Validation Time: 15 minutes
NUREG 1123 Reference: 2.4.40 2.3/4.0   Time Critical: No
Location: Simulator   Performance Method: Perform
Prepared/Revised by: S Hutchison   Revision Date: 7/23/00

STUDENT INFORMATION

Initial Conditions: The plant simulator has been frozen following the scenario you
have just completed.

INITIATING CUE

The plant simulator has been frozen following the scenario you have just completed.
Complete the given Emergency Director Turnover Sheet.
• Include all out of service equipment and actions being taken for
  recovery.
• There have been no CNF forms released yet. The oncoming ED
  will release the first one.
• All forms and procedures are available for use in completing the
  Emergency Director Turnover sheet.

Notify me when you have completed the Emergency Director Turnover Sheet.

Facility: WNP-2	Task No: SRO-0225-P-PLA
Task Title: Determination of Mode Change	Job Performance Measure No: SA.1JPM Rev 1
K/A Reference: 2.4.40 2.3/4.0	
Examinee:	NRC Examiner:
Facility Evaluator:	Date:

Method of testing:

Perform – Simulator/Control Room

JPM SETUP INFORMATION

Initial Conditions: The plant is in Mode 4. A startup is underway following a short
maintenance outage. The following conditions exist:

- SRMs have normal indications
- All IRM indications are normal except IRM-A which has an
  upscale trip and is bypassed
- The ECP has been calculated and entered on the control
  rod sequence pull sheet in the control room.
- RPS is reset.
- The Barrier Impairment Log has no Mode change limiting
  conditions
- The Surveillance in Progress Log shows no mode change
  limiting conditions
- RCC-V-5 has just gone out of service in the open position due
  to a failed motor-operator
- A search of the LCO/INOP/RFO log shows no limiting
  conditions for a mode change
- All surveillances are complete and up to date
- RHR is secured in the LPCI standby lineup with all valves
  positioned as required
- RRC is in operation at 15 hz
- Containment was not opened or ventilated

Task Standard: Evaluate plant conditions and evaluate all variances for
applicability prior to placing the MODE Switch to RUN. The
Change to MODE 2 is not allowed due to the failed RCC-V-5.

Required Materials: N/A

General References: PPM 3.1.2 rev 51, pages 17-20, LCS 1.6.1.3 rev 20, TS 3.6.1.3

Initiating Cue: The plant is ready to enter MODE 2 from MODE 4. Complete the
given PPM 3.1.2 from step 5.1.21 through 5.1.44 to evaluate plant
conditions and determine if the change to MODE 2 is allowed.
Notify the Shift Manager with your determination and
justifications.

Time Critical Task: NO

Validation Time: 20 minutes

Simulator ICs: N/A

Malfunctions/Remote   N/A
Triggers:

Overrides: N/A

Special Setup   N/A
Instructions:

PERFORMANCE INFORMATION

START TIME:

Critical Step: YES *	
Performance Step: 1	Complete PPM 3.1.2 steps 5.1.21 through 5.1.44. The following determinations should be made: 1. IRM-A upscale does not prevent placing the MODE Switch in the RUN position. Only 3 per channel are required in MODE 2. 2. *RCC-V-5 is a containment isolation valve and cannot remain open with the motor operator inoperable. RCC-V-5 or the other isolation valve inline has to be closed. This Tech Spec does not allow the dependence on an action statement when changing MODES.
Standard:	Information is evaluated correctly and the fact that the MODE change is not allowed due to RCC-V-5 inoperable in the open position.
Comment: SAT / UNSAT	

THE EXAMINEE SHOULD ANNOUNCE THE TERMINATION POINT OF THE JPM AT THIS POINT.

JPM TERMINATION TIME:
JPM START TIME: -   _____
JPM COMPLETION TIME:

00sa1jpmr1

VERIFICATION OF COMPLETION

JPM Number: SA.1JPM rev 1

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

JPM INFORMATION CARD

HAND THE STUDENT INFORMATION CARD TO THE EXAMINEE

READ TO THE EXAMINEE:
I will explain the initial conditions, which steps to simulate or discuss, and provide initiation cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

Task Standard: Evaluate plant conditions and evaluate all variances for applicability prior to placing the MODE Switch to RUN. The Change to MODE 2 is not allowed due to the failed RCC-V-5.

Required Materials: N/A
Safety Equipment: N/A
General References: PPM 3.1.2 rev 51, pages 17-20, LCS 1.6.1.3 rev 20, TS 3.6.1.3
Time Critical Task: NO
Initial Conditions: The plant is in Mode 4. A startup is underway following a short maintenance outage. The following conditions exist:

- SRMs have normal indications
- All IRM indications are normal except IRM-A which has an upscale trip and is bypassed
- The ECP has been calculated and entered on the control rod sequence pull sheet in the control room.
- RPS is reset.
- The Barrier Impairment Log has no Mode change limiting conditions
- The Surveillance in Progress Log shows no mode change limiting conditions
- RCC-V-5 has just gone out of service in the open position due to a failed motor-operator
- A search of the LCO/INOP/RFO log shows no limiting conditions for a mode change
- All surveillances are complete and up to date
- RHR is secured in the LPCI standby lineup with all valves positioned as required
- RRC is in operation at 15 hz
- Containment was not opened or ventilated

INITIATING CUE

The plant is ready to enter MODE 2 from MODE 4. Complete the given PPM 3.1.2 from step 5.1.21 through 5.1.44 to evaluate plant conditions and determine if the change to MODE 2 is allowed. Notify the Shift Manager with your determination and justifications.

INFORMATION BELOW THIS LINE NOT SHARED WITH EXAMINEE

Task Number: SRO-0225-P-PLA   Validation Time: 20 minutes
NUREG 1123 Reference: 2.4.40 2.3/4.0   Time Critical: No
Location: Simulator/Control Room   Performance Method: Perform
Prepared/Revised by: S Hutchison   Revision Date: 7/31/00

STUDENT INFORMATION

Initial Conditions: The plant is in Mode 4. A startup is underway following a short maintenance outage. The following conditions exist:

- SRMs have normal indications
- All IRM indications are normal except IRM-A which has an upscale trip and is bypassed
- The ECP has been calculated and entered on the control rod sequence pull sheet in the control room.
- RPS is reset.
- The Barrier Impairment Log has no Mode change limiting conditions
- The Surveillance in Progress Log shows no mode change limiting conditions
- RCC-V-5 has just gone out of service in the open position due to a failed motor-operator
- A search of the LCO/INOP/RFO log shows no limiting conditions for a mode change
- All surveillances are complete and up to date
- RHR is secured in the LPCI standby lineup with all valves positioned as required
- RRC is in operation at 15 hz
- Containment was not opened or ventilated

INITIATING CUE

The plant is ready to enter MODE 2 from MODE 4. Complete the given PPM 3.1.2 from step 5.1.21 through 5.1.44 to evaluate plant conditions and determine if the change to MODE 2 is allowed. Notify the Shift Manager with your determination and justifications.

Question No. SA.1-1	"A" Crew is relieving "B" Crew on day shift. All HP Techs, Chem Techs, and Equipment Operators are Fire Brigade Qualified. The on shift Plant Laborer has had a car accident on the way to work and will not be at work for the entire shift.
	Concerning shift staffing requirements, what actions are required in order for "A" Crew to assume the watch?
	OPEN REFENCE
	ANSWER: The on duty Plant Laborer from "B" Crew has to remain on watch until relieved by a qualified individual

Response:

SAT / UNSAT		
2.1.4 2.3/3.4	6071	PPM 1.3.1 rev 46, page 41

Question No. SA.1-2	The plant is operating at 80% power for economic dispatch. The following conditions exist:
	The Shift Manager is out of the control room. An inactive licensed SRO is under instruction as the CRS. The CRS is in the restroom.
	BPA has called and asked that power be increased to 1100 MWe. The CRS under instruction has directed the CRO to increase power to 1100 MWe.
	Is the CRS under instruction allowed to direct this power increase? Justify your answer.
	CLOSED REFERENCE
	ANSWER: No. The CRS under instruction has an inactive SRO license and cannot direct manipulation of reactor controls without the direct supervision of and actively licensed SRO.

Response:

SAT / UNSAT		
2.1.1 3.7/3.8	6076	PPM 1.3.1 rev 46, page 25.

Question No. SA.1-1	"A" Crew is relieving "B" Crew on day shift. All HP Techs, Chem Techs, and Equipment Operators are Fire Brigade Qualified. The on shift Plant Laborer has had a car accident on the way to work and will not be at work for the entire shift. Concerning shift staffing requirements, what actions are required in order for "A" Crew to assume the watch? **OPEN REFENCE**

Question No. SA.1-2	The plant is operating at 80% power for economic dispatch. The following conditions exist:
	The Shift Manager is out of the control room. An inactive licensed SRO is under instruction as the CRS. The CRS is in the restroom.
	BPA has called and asked that power be increased to 1100 MWe. The CRS under instruction has directed the CRO to increase power to 1100 MWe.
	Is the CRS under instruction allowed to direct this power increase? Justify your answer.
	CLOSED REFERENCE

Facility: WNP-2	Task No:
Task Title: Calculate Projected dose and make Protective action recommendations	Job Performance Measure No: SA.3JPRM rev 1
K/A Reference: 2.3.11 2.7/3.2	
Examinee:	NRC Examiner:
Facility Evaluator:	Date:

Method of testing:

Perform - Simulator

JPM SETUP INFORMATION

Initial Conditions: The plant was operating at 100% power when a transient
occurred. The reactor scrammed 30 minutes ago. The following
conditions exist:

- Wind Speed – 2 mph
- Wind Direction – from 300°
- A release is underway from the turbine building with TB
  HVAC flow rate of 360000 cfm
- The Turbine Building Intermediate Range Monitor indicates 7
  pmu.
- The release is expected to last 3 hours.

Task Standard: Projected dose is calculated to correctly identify the minimum
PARs for a General Emergency and the correct section is
evacuated.

Required Materials: A computer terminal with QEDPS

General References: PPM 1.3.8 rev, 19 page 6 and 7

Initiating Cue: The plant was operating at 100% power when a transient
occurred. The reactor scrammed 30 minutes ago. The following
conditions exist:

- Wind Speed – 2 mph
- Wind Direction – from 300°
- A release is underway from the turbine building with TB
  HVAC flow rate of 360000 cfm
- The Turbine Building Intermediate Range Monitor indicates 7
  pmu.
- The release is expected to last 3 hours.
- Stability class = E

You are directed to calculate a projected dose using QEDPS and
complete the CNF Form section 5 with the correct PARs. Notify
me when you have completed the CNF Form section 5.

Time Critical Task: NO

Validation Time: 15 minutes

Simulator ICs: N/A

Malfunctions/Remote   N/A
Triggers:

Overrides: N/A

Special Setup   N/A
Instructions:

00sa3jpmr1

PERFORMANCE INFORMATION

START TIME:

Critical Step: Yes	
Performance Step: 1	Turn on computer equipment as needed.
Standard:	Equipment is on and ready for software start.
Comment: SAT / UNSAT	

Critical Step: Yes	
Performance Step: 2	Start QEDPS by double clicking on QEDPS Icon.
Standard:	Double click on the icon.
Comment: SAT / UNSAT	

Critical Step: Yes	
Performance Step: 3	Select Turbine Building Intermediate Monitor.
Standard:	Turbine Building Intermediate Monitor selected.
Comment: SAT / UNSAT	

00sa3jpmr1

Critical Step: Yes	
Performance Step: 4	Enter 7 for the monitor reading.
Standard:	Enter 7 for the monitor reading.
Comment: SAT / UNSAT	

Critical Step: Yes	
Performance Step: 5	Enter 3 hours for the release duration.
Standard:	Enter 3 hours for the release duration.
Comment: SAT / UNSAT	

Critical Step: Yes	
Performance Step: 6	Enter 30 min for time since reactor shutdown.
Standard:	Enter 30 min for time since reactor shutdown.
Comment: SAT / UNSAT	

Critical Step: Yes	
Performance Step: 7	Enter meteorological data: Wind Speed – 2 mph Wind Direction – 290° Stability Class - E
Standard:	Enters correctly as above.
Comment: SAT / UNSAT	

00sa3jpmr1

Critical Step: No	
Performance Step: 8	Print data.
Standard:	Data printed.
Comment: SAT / UNSAT	

Critical Step: No	
Performance Step: 9	Click on MAP to display map of plume.
Standard:	Click on MAP
Comment: SAT / UNSAT	

Critical Step: No	
Performance Step: 10	Print Map.
Standard:	Map printed.
Comment: SAT / UNSAT	

Critical Step: Yes-	
Performance Step: 11	Compare data with 13.1.1 to classify the event.
Standard:	
Comment: SAT / UNSAT	

00sa3jpmr1

Critical Step: Yes	
Performance Step: 12	Complete the CNF form section 5.
Standard:	CNF section 5 completed correctly per the attached CNF Form.
Comment: SAT / UNSAT	

THE EXAMINEE SHOULD ANNOUNCE THE TERMINATION POINT OF THE JPM
AT THIS POINT.

JPM TERMINATION TIME: JPM START TIME: -   _____ JPM COMPLETION TIME:

VERIFICATION OF COMPLETION

JPM Number: SA.3JPM rev 1

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

JPM INFORMATION CARD

HAND THE STUDENT INFORMATION CARD TO THE EXAMINEE

READ TO THE EXAMINEE:
I will explain the initial conditions, which steps to simulate or discuss, and provide initiation cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

Task Standard: Projected dose is calculated to correctly identify the minimum PARs for a General Emergency and the correct section is evacuated.

Required Materials: A computer terminal with QEDPS

Safety Equipment: N/A

General References: PPM 13.8.1 rev, 20 pages 5-7, PPM 13.1.1 rev 27 page 19

Time Critical Task: No

Initial Conditions: The plant was operating at 100% power when a transient occurred. The reactor scrammed 30 minutes ago. The following conditions exist:

- Wind Speed – 2 mph
- Wind Direction – from 300°
- A release is underway from the turbine building with TB HVAC flow rate of 360000 cfm
- The Turbine Building Intermediate Range Monitor indicates 7 pmu.
- The release is expected to last 3 hours.

INITIATING CUE

The plant was operating at 100% power when a transient occurred. The reactor scrammed 30 minutes ago. The following conditions exist:

- Wind Speed – 2 mph
- Wind Direction – from 300°
- A release is underway from the turbine building with TB
  HVAC flow rate of 360000 cfm
- The Turbine Building Intermediate Range Monitor indicates 7
   pmu.
- The release is expected to last 3 hours.
- Stability class = E

You are directed to calculate a projected dose using QEDPS and complete the CNF Form section 5 with the correct PARs. Notify me when you have completed the CNF Form section 5.

INFORMATION BELOW THIS LINE NOT SHARED WITH EXAMINEE

Task Number: Validation Time: 15 minutes
NUREG 1123 Reference: 2.3.11 2.7/3.2   Time Critical: No
Location: Simulator   Performance Method: Perform
Prepared/Revised by: S Hutchison   Revision Date: 7/25/00

STUDENT INFORMATION

Initial Conditions: The plant was operating at 100% power when a transient occurred. The reactor scrammed 30 minutes ago. The following conditions exist:

- Wind Speed – 2 mph
- Wind Direction – from 300°
- A release is underway from the turbine building with TB HVAC flow rate of 360000 cfm
- The Turbine Building Intermediate Range Monitor indicates 7 pmu.
- The release is expected to last 3 hours.

INITIATING CUE

The plant was operating at 100% power when a transient occurred. The reactor scrammed 30 minutes ago. The following conditions exist:

- Wind Speed – 2 mph
- Wind Direction – from 300°
- A release is underway from the turbine building with TB HVAC flow rate of 360000 cfm
- The Turbine Building Intermediate Range Monitor indicates 7 pmu.
- The release is expected to last 3 hours.
- Stability class = E

You are directed to calculate a projected dose using QEDPS and complete the CNF Form section 5 with the correct PARs. Notify me when you have completed the CNF Form section 5.

Facility: WNP-2	Task No: RO-0371-N-RFW
Task Title: REACTOR FEED PUMP QUICK RESTART	Job Performance Measure No: B.1.a 00JPM1R2
K/A Reference: 259001A4.02 (3.9/3.7)	
Examinee:	NRC Examiner:
Facility Evaluator:	Date:

Method of testing:

Actual Performance - Simulator

JPM SETUP INFORMATION

Initial Conditions: A manual reactor scram has been inserted as part of a normal shutdown early in core life. RPV level increased to greater than +54.5 inches and both feed pumps have tripped.

Task Standard: One feed pump started and maintaining reactor level in the normal operating band.

Required Materials: PPM 2.2.4A and 2.2.4B on the hard card at BD A

General References: PPM 2.2.4A, rev 1 and PPM 2.2.4B, rev0

Initiating Cue: You have been directed by the CRS to perform a Quick restart of RFW-P-1A. Inform the CRS when reactor level is being controlled +13 inches to +54 inches per the hard card at BD A.

Time Critical Task: NO

Validation Time: 16 minutes

Simulator ICs: 78

Malfunctions/Remote Triggers: N/A

Overrides: N/A

Special Setup Instructions: N/A

PERFORMANCE INFORMATION

START TIME:

NOTE: Step 2.1 directs transfer of RFW-FCV-10A/B per PPM 2.2.4B concurrently with this procedure. A copy of 2.2.4B is included for reference.

Critical Step: NO	
Performance Step: 1	2.2 - Ensure RFW-V-112A and RFW-V-112B are started closed.
Standard:	Closes RFW-V-112A and RFW-V-112B.
Comment: SAT / UNSAT	

Critical Step: Yes	
Performance Step: 2	2.3 – Ensure MSIVs are OPEN* and no other Reactor Feed Pump is in service
Standard:	Verify MSIVs are open* and no feed pump in service
Comment: SAT / UNSAT	

Critical Step: Yes	
Performance Step: 3	2.4 – Ensure at least two HIGH LEVEL SEAL INs are RESET
Standard:	Push at least 2 High Level Seal In Reset Pushbuttons and verify the high level seal in indicating lights are extinguished.
Comment: SAT / UNSAT	

Critical Step: YES*	
Performance Step: 4	2.5 – Ensure speed controller RFW-SC-601A is in MDVP at 0%.
Standard:	Notes RFW-SC-601A is in MDVP at 40% and notifies the CRS. Manually* reduces setpoint to 0%.
Cue: If notified by the CRO, as CRS direct the CRO to reduce the setpoint to 0%	
Comment: SAT / UNSAT	

Critical Step: YES	
Performance Step: 5	2.6 – Reset the Reactor Feed Pump. Hold the TRIP/RESET switch to RESET until the HP and LP Stop Valves indicate full open.
Standard:	Place the TRIP/RESET switch to RESET and hold until the HP and LP Stop Valves indicate full open.
Comment: SAT / UNSAT	

Critical Step: YES	
Performance Step: 6	2.7 – Increase Turbine speed using RFW-SC-601A in MDVP in MDVP (turbine will roll on main steam at approximately 60% valve position)
Standard:	Roll turbine with RFW-SC-601A in MDVP.
Comment: SAT / UNSAT	

Critical Step: YES	
Performance Step: 7	2.8 – Transfer RFW-SC-601A to MDEM as soon as practical (GT 800 rpm).
Standard:	Transfer RFW-SC-601A to MDEM GT 800 rpm.
Comment: SAT / UNSAT	

Critical Step: NO	
Performance Step: 8	2.9 – Ensure RFW-V-112A and RFW-V-112B are fully closed.
Standard:	Verifies RFW-V-112A and RFW-V-112B are fully closed.
Comment: SAT / UNSAT	

Critical Step: YES*	
Performance Step: 9	2.10 – Ensure feedwater system lineup appropriate for plant conditions: • Open RFW-V-118* • Ensure RFW-V-117A and RFW-V-117B are open*. • Place RFW-LIC-620, Startup level control, in AUTOMATIC @36 inches.
Standard:	Verify feedwater system lineup appropriate for plant conditions as above.
NOTE: This step is covered in PPM 2.2.4B. **The critical portion of this step is to ensure the valve lineup allows for feedwater injection through RFW-LIC-620. Control is either manual or automatic with automatic preferred**	
Comment: SAT / UNSAT	

Critical Step: YES	
Performance Step: 10	2.11 – Increase turbine speed to raise RFP discharge pressure, as necessary, to control reactor level +13 inches to +54 inches.
Standard:	Maintain RFP discharge pressure greater than reactor pressure to ensure injection with reactor level controlled in the band from +13 inches to +54 inches.
Comment: SAT / UNSAT	

THE EXAMINEE SHOULD ANNOUNCE THE TERMINATION POINT OF THE JPM AT THIS POINT.

JPM TERMINATION TIME: JPM START TIME: - JPM COMPLETION TIME:

VERIFICATION OF COMPLETION

JPM Number: B.1.a   00JPM1R2

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

JPM INFORMATION CARD

HAND THE STUDENT INFORMATION CARD TO THE EXAMINEE

READ TO THE EXAMINEE:
I will explain the initial conditions, which steps to simulate or discuss, and provide initiation cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

Task Standard:	One feed pump started and maintaining reactor level in the normal operating band.
Required Materials:	PPM 2.2.4A and 2.2.4B on the hard card at BD A
Safety Equipment:	N/A
General References:	PPM 2.2.4A, rev 1 and PPM 2.2.4B, rev0
Time Critical Task:	NO
Initial Conditions:	A manual reactor scram has been inserted as part of a normal shutdown early in core life. RPV level increased to greater than +54.5 inches and both feed pumps have tripped.

INITIATING CUE

You have been directed by the CRS to perform a Quick restart of RFW-P-1A. Inform the CRS when reactor level is being controlled +13 inches to +54 inches per the hard card at BD A.

INFORMATION BELOW THIS LINE <u>NOT SHARED WITH EXAMINEE</u>

Task Number: RO-0371-N-RFW   Validation Time: 16 minutes
NUREG 1123 Reference: 259001A4.02   Time Critical: NO
(3.9/3.7)
Location: Simulator   Performance Method: Perform
Prepared/Revised by: S Hutchison   Revision Date: 5/1/00

STUDENT INFORMATION

Initial Conditions: A manual reactor scram has been inserted as part of a normal shutdown early in core life. RPV level increased to greater than +54.5 inches and both feed pumps have tripped.

INITIATING CUE

You have been directed by the CRS to perform a Quick restart of RFW-P-1A. Inform the CRS when reactor level is being controlled +13 inches to +54 inches per the hard card at BD A.

Facility: WNP-2	Task No: RO-0327-N-TG
Task Title: Generator Capability Curve Interpretation – Faulted JPM – Respond to loss of H$_2$ in Main Generator	Job Performance Measure No: B.1.b 00JPM2R3
K/A Reference: 245000K1.01 (3.1/3.3) 245000A4.05 (2.7/2.7)	
Examinee:	NRC Examiner:
Facility Evaluator:	Date:

Method of testing:

Actual Performance - Simulator

JPM SETUP INFORMATION

Initial Conditions: Reactor power is 97%. The Plant is operating normally.

Task Standard: Respond to the loss of H_2 by reducing Main Generator output to less than the capability curve.

Required Materials: PPM 4.820.B3 drop 2-3, PPM 2.5.7 att. 6.6

General References: PPM 4.820.B3 drop 2-3, PPM 2.5.7 att. 6.6

Initiating Cue: The CRS has directed you to increase reactor power to 100% with Recirculation Flow at the rate of 5 MWe/min. Notify the CRS when Reactor Power is 100%.

Time Critical Task: NO

Validation Time: 10 minutes

Simulator ICs: 77

Malfunctions/Remote Triggers: 100 cfm H_2 leak in the generator.

Overrides: N/A

Special Setup Instructions: Initialize the simulator in IC-77. Insert the H2 leak when power increase is started. Stop the leak at 70# H2 pressure indicated on the computer panel drawing. This gives an indication of 68# on the simulator panel.

PERFORMANCE INFORMATION

START TIME:

Critical Step: NO	
Performance Step: 1	Increase reactor power as directed to 100% power.
Standard:	Increase reactor power with recirc flow as directed
NOTE: When the CRO starts to increase power, insert the H$_2$ leak causing H$_2$ pressure to decrease. Stop the leak when H$_2$ pressure is 70 psig on the computer panel. It takes about 2 ½ minutes for the leak to cause the **GEN H2 PRESS LOW** annunciator. **CUE: The candidate will have to be cued that this alarm is his.**	
Comment: SAT / UNSAT	

Critical Step: YES	
Performance Step: 2	At H13-P620 (BD B) check hydrogen pressure on H$_2$-PI-1.
Standard:	CRO checks pressure as directed and verifies pressure less than 72 psig.
Comment: SAT / UNSAT	

00jpm2r3

Critical Step: NO	
Performance Step: 3	CRO dispatches an operator to check hydrogen pressure at the Generator H_2 Control Station on H2-PI-3.
Standard:	CRO either dispatches or asks CRS to dispatch operator as directed by the procedure.
CUE: If asked by the CRO to dispatch an operator, acknowledge the operator has been dispatched.	
Comment: SAT / UNSAT	

NOTE: It is possible to reduce reactive load by the use of the voltage regulator to maintain the generator within the capability curve. If needed use the following cue to direct reduction of generator load by the reduction of Recirculation Flow.

CUE: Reduce generator output with Recirc Flow to maintain operation of the generator within the capability curve.

NOTE: STOP THE H2 LEAK AT 70# INDICATED ON THE COMPUTER PANEL.

Critical Step: YES	
Performance Step: 4	Maintain the Main Generator within the limits of the Generator Capability Curve in PPM 2.5.4 H_2 /CO_2 System.
Standard:	Reduce Main Generator load by recirculation flow to less than the value in the table in att. 6.6 of 2.5.7. 1162 MW for 68 psig hydrogen pressure.
CUE: If directed by the CRO to add H_2 to the generator, cue that there is no hydrogen available. A truck is on the way but will not be on site for at least 4 hours.	
Comment: SAT / UNSAT	

TERMINATION CUE: When generator load has been reduced to a value at least as low as the value in the table, announce to the CRO, "THE TERMINATION POINT OF THIS JPM HAS BEEN REACHED."

JPM TERMINATION TIME:
JPM START TIME: - _____
JPM COMPLETION TIME:

VERIFICATION OF COMPLETION

JPM Number: B.1.b   00JPM2r3

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

JPM INFORMATION CARD

HAND THE STUDENT INFORMATION CARD TO THE EXAMINEE

READ TO THE EXAMINEE:
I will explain the initial conditions, which steps to simulate or discuss, and provide initiation cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

Task Standard:	Respond to the loss of H_2 by reducing Main Generator output to less than the capability curve.
Required Materials:	PPM 4.820.B3 drop 2-3, PPM 2.5.7 att. 6.6
Safety Equipment:	NA
General References:	PPM 4.820.B3 drop 2-3, PPM 2.5.7 att. 6.6
Time Critical Task:	NO
Initial Conditions:	Reactor power is 97%. The Plant is operating normally.

INITIATING CUE

The CRS has directed you to increase reactor power to 100% with Recirculation Flow at the rate of 5 MWe/min. Notify the CRS when Reactor Power is 100%.

INFORMATION BELOW THIS LINE NOT SHARED WITH EXAMINEE

Task Number: RO-0327-N-TG	Validation Time: 10 minutes
NUREG 1123 Reference: 245000K1.01	Time Critical: NO
(3.1/3.3)	
245000A4.05 (2.7/2.7)	
Location: Simulator	Performance Method: Perform
Prepared/Revised by: S Hutchison	Revision Date: 8/3/00

STUDENT INFORMATION

Initial Conditions: Reactor power is 97%. The Plant is operating normally.

INITIATING CUE

The CRS has directed you to increase reactor power to 100% with Recirculation Flow at the rate of 5 MWe/min. Notify the CRS when Reactor Power is 100%.

Facility: WNP-2	Task No: RO-0048-A-RCC
Task Title: Change RCC Pumps – Alternate Path JPM – Respond to loss of RCC Pump at Power	Job Performance Measure No: B.1.c 00JPM3R4
K/A Reference: 400000K1.02 (3.2/3.4)	
Examinee:	NRC Examiner:
Facility Evaluator:	Date:

Method of testing:

Actual Performance - Simulator

JPM SETUP INFORMATION

Initial Conditions: The reactor is operating at 97% power. All equipment is normal. Maintenance needs to tag out RCC-P-1A for breaker maintenance.

Task Standard: Respond the loss of an RCC pump at power and the subsequent closure of RCC-V-6 in accordance with PPM 4.8.3.2.

Required Materials: NA

General References: PPM 2.8.3, PPM 4.8.3.2, and PPM 4.820.B1 drop 4-1

Initiating Cue: The CRS has directed you change RCC Pumps per PPM 2.8.3, section 5.4 Reactor and Radwaste Building Close Cooling Water System. Notify the CRS when RCC-P-1A is in PTL and RCC-P-1C is in operation with all system parameters normal.

Time Critical Task: NO

Validation Time: 10 minutes

Simulator ICs: 77

Malfunctions/Remote Triggers: RCC-P1C Breaker trip
Override RCC-P-1C in the PTL position
Malfunction to fail the Overcurrent Trip annunciator for RCC-P-1C

Overrides: N/A

Special Setup Instructions: Initialize to IC-77. All malfunctions/overrides are set to trigger on RCC-P-1A PTL control switch position.

PERFORMANCE INFORMATION

START TIME:

Critical Step: NO	
Performance Step: 1 Ensure suction valve is open for RCC-P-1C.	
Standard:	Verifies suction valve is open for RCC-P-1C.
CUE: Suction valve for RCC-P-1C is open.	
Comment: SAT / UNSAT	

Critical Step: YES	
Performance Step: 2 Ensure discharge valve is open for RCC-P-1C.	
Standard:	Verifies discharge valve is open for RCC-P-1C.
CUE: Discharge valve for RCC-P-1C is open.	
Comment: SAT / UNSAT	

Critical Step: YES	
Performance Step: 3 Start RCC-P-1C.	
Standard:	Place the control switch for RCC-P-1C in start and releases when the pump starts.
NOTE: May announce the start of RCC-P-1C.	
Comment: SAT / UNSAT	

Critical Step: YES	
Performance Step: 4	Stop RCC-P-1A and place the control switch in PTL.
Standard:	Stops RCC-P-1A and places the control switch in PTL.
NOTE: When the control switch for RCC-P-1A is placed in the PTL position, RCC-P-1C trips. **CUE: IF CALLED AS OPS2, VERIFY THE DISCHARGE CHECK VALVE IS CLOSED**	
Comment: SAT / UNSAT	

Critical Step: NO	
Performance Step: 5	Refers to PPM 4.820.B1 drop 4-1, RCC PUMP C MOTOR OL TRIP. May attempt to restart RCC-P-1A. Refers to ABN-RCC Loss of RCC
Standard:	As stated above.
CUE: If needed cue operator to respond to the BD N annunciator indication on BD S.	
Comment: SAT / UNSAT	

Critical Step: NO	
Performance Step: 6	Verifies RCC-V-6 has closed.
Standard:	At BD N, verifies RCC-V-6 has closed.
Comment: SAT / UNSAT	

Critical Step: YES*	
Performance Step: 7	Trip RWCU-P-1A (1B) Close RWCU-V-4*
Standard:	Trips RWCU-P-1A (1B) Closes RWCU-V-4
Comment: SAT / UNSAT	

TERMINATION CUE: THE TERMINATION POINT OF THIS JPM HAS BEEN REACHED.

JPM TERMINATION TIME: JPM START TIME: -   _____ JPM COMPLETION TIME:

VERIFICATION OF COMPLETION

JPM Number: B.1.c   00JPM3R4

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

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JPM INFORMATION CARD

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HAND THE STUDENT INFORMATION CARD TO THE EXAMINEE

READ TO THE EXAMINEE:
I will explain the initial conditions, which steps to simulate or discuss, and provide initiation cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

Task Standard:	Respond the loss of an RCC pump at power and the subsequent closure of RCC-V-6 in accordance with ABN-RCC.
Required Materials:	NA
Safety Equipment:	NA
General References:	PPM 2.8.3, ABN-RCC, and PPM 4.820.B1 drop 4-1
Time Critical Task:	NO
Initial Conditions:	The reactor is operating at 97% power. All equipment is normal. Maintenance needs to tag out RCC-P-1A for breaker maintenance.

INITIATING CUE

The CRS has directed you change RCC Pumps per PPM 2.8.3, section 5.4 Reactor and Radwaste Building Close Cooling Water System. Notify the CRS when RCC-P-1A is in PTL and RCC-P-1C is in operation with all system parameters normal.

INFORMATION BELOW THIS LINE <u>NOT SHARED WITH EXAMINEE</u>

Task Number: RO-0048-A-RCC   Validation Time: 10 minutes
NUREG 1123 Reference: : 400000K1.02   Time Critical: NO
(3.2/3.4)
Location: Simulator   Performance Method: Perform
Prepared/Revised by: S Hutchison   Revision Date: 5/1/00

STUDENT INFORMATION

Initial Conditions: The reactor is operating at 97% power. All equipment is normal. Maintenance needs to tag out RCC-P-1A for breaker maintenance.

INITIATING CUE

The CRS has directed you change RCC Pumps per PPM 2.8.3, section 5.4 Reactor and Radwaste Building Close Cooling Water System. Notify the CRS when RCC-P-1A is in PTL and RCC-P-1C is in operation with all system parameters normal.

Facility: WNP-2	Task No: RO-0134-N-RSCS
Task Title: Bypass Control Rods on the RSCS	Job Performance Measure No: B.1.d 00JPM4R3
K/A Reference: 201004A4.01 3.4/3.5	
Examinee:	NRC Examiner:
Facility Evaluator:	Date:

Method of testing:

Actual Performance - Simulator

JPM SETUP INFORMATION

Initial Conditions: Control Rod 26-27 must be bypassed in the RSCS. The CRS has
                        verified bypassing rod 26-27 is in compliance with all Tech
                        Specs. The Shift Manager has given permission to bypass this
                        control rod.

Task Standard: Control rod 26-27 is bypass in the RSCS correctly in accordance
                        with plant procedures.

Required Materials: Key #81 or #82

General References: PPM 2.1.5 rev 10, section 5.2 Bypassing Control Rods and ATT
                        6.1/6.2/6.3

Initiating Cue: You have been directed by the CRS to bypass control rod 26-27
                        in the RSCS cabinet per PPM 2.1.5, section 5.2, step 2. Notify the
                        CRS when you have verified the Control rod is bypassed in the
                        RSCS on P603

Time Critical Task: NO

Validation Time: 9 minutes

Simulator ICs: 76 – can be run in any IC for 2000 ILC JPM exam.

Malfunctions/Remote   N/A
Triggers:

Overrides: N/A

Special Setup   No control rods are bypassed in the RSCS in IC-76.
Instructions:

PERFORMANCE INFORMATION

START TIME:

Critical Step: NO	
Performance Step: 1	Step 2) Depress the "RED DISPLAY CONTROL" Pushbutton on the RSCS Panel on P603 to illuminate the "BYPASS LIGHT" Verify that no other control rods currently bypassed.
Standard:	Verifies no other control rods bypassed.
Comment: SAT / UNSAT	

Critical Step: YES*	
Performance Step: 2	Step 3) *Unlock the bypassed rod identifier cabinet Verifies no other control rods bypassed.
Standard:	Unlocks cabinet and verifies no other rods bypassed.
NOTE: THIS STEP CAN BE PERFORMED OUT OF SEQUENCE TO ALLOW VERIFICATION OF CORRECT SWITCH SETTINGS	
Comment: SAT / UNSAT	

00jpm4r3

Critical Step: NO	

Performance Step: 3	Step 4)
	  a. Circle control rod 26-27 on ATT 6.2/6.3
	  b. N/A
	  c. Record and initial above verifications in Control Room Log.

CUE: Verifications and initials have been recorded in the CR Log,	
Standard:	
NOTE: There is only going to be one control rod bypassed, so step 4 b. is N/A	
Comment: SAT / UNSAT	

Critical Step: YES	
Performance Step: 4	Step 5) Determine the RSCS binary equivalent X and Y coordinates from ATT 6.1, Control Rod Location Equivalents
Standard:	X,Y coordinates correctly determined – 26 (X) = 01000 27 (Y) = 01000
Comment: SAT / UNSAT	

Critical Step: NO	
Performance Step: 5	Step 6) Ensure the Bypassed/Not Bypassed toggle switch at the top of the card to be used is in the NOT BYPASSED position Ensure the red light below the switch is NOT illuminated
Standard:	Bypass switch in the NOT BYPASSED position Red light below the switch is not illuminated.

Critical Step: YES	
Performance Step: 6	Step 7) On the same card place the X_4 through X_0 (01000) and the Y_4 through Y_1 (01000) in the position consistent with the binary equivalent from ATT 6.1
Standard:	Code set: $X_4 - X_1 = 01000$ $Y_4 - Y_1 = 01000$
Comment: SAT / UNSAT	

Critical Step: NO	
Performance Step: 7	Step 8) Obtain independent verification of toggle switch positions from second licensed operator or technically qualified individual.
CUE: Switch position verified either correct or incorrect. **NOTE: IF SWITCH POSITION NOT CORRECT, RETURN TO PROCEDURE STEP 5.**	
Standard:	Switches placed in the correct position to bypass control rod 26-27
Comment: SAT / UNSAT	

00jpm4r3

Critical Step: YES*	
Performance Step: 8	Step 9) *Place the BYPASSED/NOT BYPASSED Toggle Switch at the top of the care in the BYPASSED position. Ensure the red light just under the switch is illuminated.
Standard:	Switch in BYPASSED Red light illuminated
Comment: SAT / UNSAT	

Critical Step: NO	
Performance Step: 9	Step 10) Ensure the rod bypassed indicates on the RSCS Panel on P603 Ensure the correct rod is bypassed.
Standard:	Ensure the rod bypassed indicates on the RSCS Panel on P603 Ensure the correct rod is bypassed.
Comment: SAT / UNSAT	

THE EXAMINEE SHOULD ANNOUNCE THE TERMINATION POINT OF THE JPM
AT THIS POINT.

JPM TERMINATION TIME: JPM START TIME: -   _____ JPM COMPLETION TIME:

VERIFICATION OF COMPLETION

JPM Number: B.1.d   00JPM4R3

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

JPM INFORMATION CARD

HAND THE STUDENT INFORMATION CARD TO THE EXAMINEE

READ TO THE EXAMINEE:
I will explain the initial conditions, which steps to simulate or discuss, and provide initiation cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

Task Standard:	Control rod 26-27 is bypass in the RSCS correctly in accordance with plant procedures.
Required Materials:	Key #81 or #82
Safety Equipment:	NONE
General References:	PPM 2.1.5 rev 10, section 5.2 Bypassing Control Rods and ATT 6.1/6.2/6.3
Time Critical Task:	NO
Initial Conditions:	Control Rod 26-27 must be bypassed in the RSCS. The CRS has verified bypassing rod 26-27 is in compliance with all Tech Specs. The Shift Manager has given permission to bypass this control rod.

INITIATING CUE

You have been directed by the CRS to bypass control rod 26-27 in the RSCS cabinet per PPM 2.1.5, section 5.2, step 2. Notify the CRS when you have verified the Control rod is bypassed in the RSCS on P603

INFORMATION BELOW THIS LINE <u>NOT SHARED WITH EXAMINEE</u>

Task Number: RO-0134-N-RSCS   Validation Time: 9 minutes
NUREG 1123 Reference: 201004A4.01   Time Critical: NO
3.4/3.5
Location: Simulator   Performance Method: Perform
Prepared/Revised by: S Hutchison   Revision Date: 8/3/00

STUDENT INFORMATION

Initial Conditions: Control Rod 26-27 must be bypassed in the RSCS. The CRS has verified bypassing rod 26-27 is in compliance with all Tech Specs. The Shift Manager has given permission to bypass this control rod.

INITIATING CUE

You have been directed by the CRS to bypass control rod 26-27 in the RSCS cabinet per PPM 2.1.5, section 5.2, step 2. Notify the CRS when you have verified the Control rod is bypassed in the RSCS on P603

Facility: WNP-2	Task No: RO-0672-E-RWCU
Task Title: Override RWCU Isolation Interlocks	Job Performance Measure No: B.1.g 00JPM5R2
K/A Reference: 223002K4.08 3.3/3.7	
Examinee:	NRC Examiner:
Facility Evaluator:	Date:

Method of testing:

Control Room - Simulate

<div style="border:1px solid black; padding:1em; text-align:center;">

JPM SETUP INFORMATION

</div>

Initial Conditions: An event has occurred that caused PPM 5.1.1 to be entered.

Task Standard: The simulated bypass of the RWCU Isolation Interlocks is performed in accordance with PPM 5.5.4.

Required Materials: Jumpers and contact boots for PPM 5.5.4

General References: PPM 5.5.4 rev 3

Initiating Cue: The CRS has directed you to bypass the RWCU Isolation Interlocks per PPM 5.5.4. Notify the CRS when you have finished **SIMULATING** the bypass of these interlocks.

                                 CONTROL MANIPULATIONS WILL <u>NOT</u> BE PERFORMED. ALL ACTIONS AND STEPS WILL BE SIMULATED.

Time Critical Task: NO

Validation Time: 8 minutes

Simulator ICs: N/A

Malfunctions/Remote   N/A
Triggers:

Overrides: N/A

Special Setup   N/A
Instructions:

00jpm05r2

PERFORMANCE INFORMATION

START TIME:

Critical Step: YES	
Performance Step: 1	Step 1) Install one jumper across contact terminal studs 7 and 8 for each of the below listed relays: H13-P622 MS-RLY-K26 RWCU-V-1 H13-P623 MS-RLY-K27 RWCU-V-4
CUE: JUMPERS INSTALLED CORRECTLY.	
Standard:	Terminal studs 7 and 8 correctly identified on each relay.
Comment: SAT / UNSAT	

Critical Step: YES	
Performance Step: 2	Step 1) Install one contact boot on contact 3-4 for each of the below listed relays: H13-P622 MS-RLY- K26 RWCU-V-1 H13-P623 MS-RLY-K27 RWCU-V-4
CUE: CONTACT BOOTS CORRECTLY INSTALLED.	
Standard:	Contacts 3-4 correctly identified on both relays.
Comment: SAT / UNSAT	

00jpm05r2

THE EXAMINEE SHOULD ANNOUNCE THE TERMINATION POINT OF THE JPM AT THIS POINT.

JPM TERMINATION TIME: JPM START TIME: -   _____ JPM COMPLETION TIME:

00jpm05r2

VERIFICATION OF COMPLETION

JPM Number: B.1.g   00JPM5R2

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

00jpm05r2

JPM INFORMATION CARD

HAND THE STUDENT INFORMATION CARD TO THE EXAMINEE

READ TO THE EXAMINEE:
I will explain the initial conditions, which steps to simulate or discuss, and provide initiation cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

Task Standard:	The simulated bypass of the RWCU Isolation Interlocks is performed in accordance with PPM 5.5.4.
Required Materials:	Jumpers and contact boots for PPM 5.5.4
Safety Equipment:	N/A
General References:	PPM 5.5.4 rev 3
Time Critical Task:	N/A
Initial Conditions:	An event has occurred that caused PPM 5.1.1 to be entered.

INITIATING CUE

The CRS has directed you to bypass the RWCU Isolation Interlocks per PPM 5.5.4. Notify the CRS when you have finished **SIMULATING** the bypass of these interlocks.

CONTROL MANIPULATIONS WILL <u>NOT</u> BE PERFORMED. ALL ACTIONS AND STEPS WILL BE SIMULATED.

INFORMATION BELOW THIS LINE <u>NOT SHARED WITH EXAMINEE</u>

Task Number: RO-0672-E-RWCU   Validation Time: 6 minutes
NUREG 1123 Reference: 223002K4.08   Time Critical: NO
3.3/3.7
Location: Control Room   Performance Method: **SIMULATE**
Prepared/Revised by: S Hutchison   Revision Date: 6/12/00

STUDENT INFORMATION

Initial Conditions: An event has occurred that caused PPM 5.1.1 to be entered.

INITIATING CUE

The CRS has directed you to bypass the RWCU Isolation Interlocks per PPM 5.5.4. Notify the CRS when you have finished **SIMULATING** the bypass of these interlocks.

CONTROL MANIPULATIONS WILL <u>NOT</u> BE PERFORMED. ALL ACTIONS AND STEPS WILL BE SIMULATED.

Facility: WNP-2	Task No: RO-0390-N-AC
Task Title: Transfer 480V Bus Power Supply From Normal to Alternate – Alternate Path.	Job Performance Measure No: B.1.e 00JPM6R2
K/A Reference: 262001A4.04 3.6/3.7	
Examinee:	NRC Examiner:
Facility Evaluator:	Date:

Method of testing:

Simulator – Actual Performance

JPM SETUP INFORMATION

Initial Conditions: Bus SL-11 is currently powered from the normal power supply
                         through circuit SM-1.

Task Standard: Bus SL-11 is transferred from the normal power supply to the
                         alternate power supply, in accordance with plant procedures.

Required Materials: N/A

General References: PPM 2.7.1B rev 12, section 5.0

Initiating Cue: The CRS has directed you to transfer the SL-11 power source
                         from the normal source, CB 11-1, to the alternate source, CB 21-
                         11, per PPM 2.7.1B.
                         Inform the CRS when the transfer of SL-11 to SL-21 is completed.

Time Critical Task: NO

Validation Time: 5 minutes

Simulator ICs: 75

Malfunctions/Remote   N/A
Triggers:

Overrides: N/A

Special Setup   Ensure malfunction to prevent auto transfer of CB 11-1 is
Instructions: activated.

PERFORMANCE INFORMATION

START TIME:

Critical Step: YES	
Performance Step: 1	5.1.1) Ensure the CB-21/11 green tripped light is illuminated and the green position flag is being displayed in the CB-21/11 control switch window.
Standard:	Verifies green tripped light is illuminated and the green position flag is displayed in the window.
Comment: SAT / UNSAT	

Critical Step: YES	
Performance Step: 2	5.1.2) Place the BUS 11, 21, and 31 Trip Permissive selector switch in the TRIP CB-11/1 position.
Standard:	Trip switch place in the TRIP CB-11/1 position.
Comment: SAT / UNSAT	

Critical Step: YES	
Performance Step: 3	5.1.3) Place the CB-21/11control switch to the CLOSE position.
Standard:	CB-21/11 control switch in CLOSE.
Comment: SAT / UNSAT	

Appendix C	Job Performance Measure	Form ES-C-1
	Worksheet JPM B.1.e rev 2	

Critical Step: NO	
Performance Step: 4	5.1.4) Ensure the CB-21/11 green tripped light extinguishes and red closed light illuminates.
Standard:	Place the CS for CB-11/1 in the close position.
Comment: SAT / UNSAT	

Critical Step: YES*	
Performance Step: 5	5.1.5/5.1.6) a) Ensure CB11/1 auto trips and the green tripped light illuminates at the time of breaker CB-21/11 closure. b) *Manually trip CB-11/1 c) Verify CB-11/1 is tripped by the green tripped light and the green flag is displayed in the control switch window.
Standard:	Verifies indications and *trips CB-21/11.
NOTE: Candidate may announce the action to the CRS	
Comment: SAT / UNSAT	

00jpm6r2

Critical Step: NO	
Performance Step: 5	5.1.7) Place the BUS11, 21, and 31 Trip Permissive Selector switch in an off position.
Standard:	Place the switch in an off position.
Comment: SAT / UNSAT	

THE EXAMINEE SHOULD ANNOUNCE THE TERMINATION POINT OF THE JPM AT THIS POINT.

JPM TERMINATION TIME: JPM START TIME: - JPM COMPLETION TIME:

VERIFICATION OF COMPLETION

JPM Number: b.1.E   00JPM6R2

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

JPM INFORMATION CARD

HAND THE STUDENT INFORMATION CARD TO THE EXAMINEE

READ TO THE EXAMINEE:
I will explain the initial conditions, which steps to simulate or discuss, and provide initiation cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

Task Standard: Bus SL-11 is transferred from the normal power supply to the alternate power supply, in accordance with plant procedures.

Required Materials: N/A

Safety Equipment: N/A

General References: PPM 2.7.1B rev 12, section 5.1

Time Critical Task: NO

Initial Conditions: Bus SL-11 is currently powered from the normal power supply through circuit SM-1.

INITIATING CUE

The CRS has directed you to transfer the SL-11 power source from the normal source, CB 11-1, to the alternate source, CB 21-11, per PPM 2.7.1B.
Inform the CRS when the transfer of SL-11 to SL-21 is completed.

INFORMATION BELOW THIS LINE NOT SHARED WITH EXAMINEE

Task Number: RO-0390-N-AC   Validation Time: 5 minutes
NUREG 1123 Reference: 262001A4.04   Time Critical: NO
3.6/3.7
Location: Simulator   Performance Method: Perform
Prepared/Revised by: S Hutchison   Revision Date: 5/12/00

STUDENT INFORMATION

Initial Conditions: Bus SL-11 is currently powered from the normal power supply
through circuit SM-1.

INITIATING CUE

The CRS has directed you to transfer the SL-11 power source from the normal source, CB
11-1, to the alternate source, CB 21-11, per PPM 2.7.1B.
Inform the CRS when the transfer of SL-11 to SL-21 is completed.

Facility: WNP-2	Task No: RO-0156-N-RMCS
Task Title: Operate the CRD System to Bring the Reactor Critical – Alternate Path – Drifting Control Rods – Manual Scram	Job Performance Measure No: B.1.f 00JPM7R2
K/A Reference: 201002A1.04 3.6/3.5	
Examinee:	NRC Examiner:
Facility Evaluator:	Date:

Method of testing:

Actual Performance - Simulator

JPM SETUP INFORMATION

Initial Conditions: A startup from cold conditions is in progress. Control rods have been withdrawn by the previous crew in preparation to bring the reactor critical. The reactor is subcritical. The SRM and IRM recorders are in fast speed and criticality is expected to occur between RWM Group 12 Step 9, rod 58-31 positon 04 and RWM Group 12 Step 13, rod 26-33 positon 20.

Task Standard: The reactor is made critical per plant procedures resulting in a stable positive period longer than 60 seconds. Respond 2 drifting in control rods and scram the reactor. Take immediate scram actions in accordance with PPM 3.3.1.

Required Materials: Control Rod Pull Sheet and marking pen.

General References: PPM 3.1.2 rev 51, section 5.2.5, PPM 4.1.1 rev 12, step 4.2

Initiating Cue: The CRS has directed you to continue the control rod withdrawal per the control rod pull sheet (sequence sheet), step 12-9 to make the reactor critical per PPM 3.1.2 step 5.2.5.
Notify the CRS when all critical data has been taken and a stable positive period of longer than 60 seconds has been established.

Time Critical Task: NO

Validation Time: 9 minutes

Simulator ICs: 75

Malfunctions/Remote Triggers: Malfunction for a drifting control rod 58-31 and 10-39

Overrides: N/A

Special Setup Instructions: N/A

PERFORMANCE INFORMATION

START TIME:

Critical Step: NO	
Performance Step: 1	5.2.5) Withdraw control rods as directed by the rod withdrawal sequence sheets to achieve criticality as follows: a) For initial rod movement prior to criticality, mark sequence sheet table 1 with a Y when movement causes a discernible flux change, or with a N when movement does not cause a discernible flux change. b) For each rod fully withdrawn, check coupling integrity by attempting to pull the rod to the overtravel position and verifying the ROD OVERTRAVEL annunciator 4.603.A7.1-8 does not alarm and initial the sequence sheet. c) For each rod fully withdrawn, ensure position 48 corresponds to the full out indicating light and initial the sequence sheet.
CUE: NOTIFY THE EXAMINEE THAT YOU ARE THE SECOND QUALIFIED INDIVIDUAL	
Standard:	Control rods are withdrawn as above in accordance with the procedure.
CUE: Drift the first control rod 58-31 when the operator selects and moves the second rod.	
Comment: SAT / UNSAT	

00jpm7r3

Critical Step: YES	
Performance Step: 2	Respond to rod drift alarm: a) Terminate control rod movement. b) Refer to PPM 4.1.1.1 c) Select the drifting in control rod and drive it the full in position by depressing the CONTINOUS INSERT Pushbutton d) Reset the Rod Drift annunciator using the ROD DRIFT RESET pushbutton on H13-P603
MALFUNCTION: WHEN THE EXAMINEE HAS RESET THE FIRST ROD DRIFT ANNUNCIATOR, DRIFT THE SECOND ROD 10-39	
Standard:	Respond the drifting rod in accordance with plant procedures as above.
Comment: SAT / UNSAT	

Critical Step: YES	
Performance Step: 3	Upon receipt of the second drifting rod, manually scram the reactor and take the immediate scram actions from memory: a) Place the Mode Switch in SHUTDOWN b) Monitor reactor power, level, and pressure c) Verify all control rods have fully inserted.
Standard:	Take scram actions from memory as above.
CUE: WHEN THE IMMEDIATE SCRAM ACTIONS HAVE BEEN COMPLETED, ANNONCE THE TERMINATION POINT OF THE JPM	
Comment: SAT / UNSAT	

JPM TERMINATION TIME:
JPM START TIME: -   _____
JPM COMPLETION TIME:

VERIFICATION OF COMPLETION

JPM Number: B.1.f   00JPM7R3

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

JPM INFORMATION CARD

HAND THE STUDENT INFORMATION CARD TO THE EXAMINEE

READ TO THE EXAMINEE:
I will explain the initial conditions, which steps to simulate or discuss, and provide initiation cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

Task Standard: The reactor is made critical per plant procedures resulting in a stable positive period longer than 60 seconds. Respond 2 drifting in control rods and scram the reactor. Take immediate scram actions in accordance with PPM 3.3.1.

Required Materials: Control Rod Pull Sheet and marking pen.

Safety Equipment: NONE

General References: PPM 3.1.2 rev 50, section 5.2.5, PPM 4.1.1 rev 12, step 4.2

Time Critical Task: NO

Initial Conditions: A startup from cold conditions is in progress. Control rods have been withdrawn by the previous crew in preparation to bring the reactor critical. The reactor is subcritical. The SRM and IRM recorders are in fast speed and criticality is expected to occur between RWM Group 12 Step 9, rod 58-31 positon 04 and RWM Group 12 Step 13, rod 26-33 positon 20.

INITIATING CUE

The CRS has directed you to continue the control rod withdrawal per the control rod pull sheet (sequence sheet), step 12-9 to make the reactor critical per PPM 3.1.2 step 5.2.5. Notify the CRS when all critical data has been taken and a stable positive period of longer than 60 seconds has been established.

INFORMATION BELOW THIS LINE NOT SHARED WITH EXAMINEE

Task Number: RO-0156-N-RMCS   Validation Time: 9 minutes
NUREG 1123 Reference: 201002A1.04   Time Critical: NO
3.6/3.5
Location: Simulator   Performance Method: Perform
Prepared/Revised by: S Hutchison   Revision Date: 5/12/00

STUDENT INFORMATION

Initial Conditions: A startup from cold conditions is in progress. Control rods have been withdrawn by the previous crew in preparation to bring the reactor critical. The reactor is subcritical. The SRM and IRM recorders are in fast speed and criticality is expected to occur between RWM Group 12 Step 9, rod 58-31 positon 04 and RWM Group 12 Step 13, rod 26-33 positon 20.

INITIATING CUE

The CRS has directed you to continue the control rod withdrawal per the control rod pull sheet (sequence sheet), step 12-9 to make the reactor critical per PPM 3.1.2 step 5.2.5. Notify the CRS when all critical data has been taken and a stable positive period of longer than 60 seconds has been established.

Facility: WNP-2	Task No: SRO-0251-A-RSP RO-0117-A-RSP
Task Title: Establish Suppression Pool Cooling from Alt Rem Shutdown Panel	Job Performance Measure No: B.2.a 0JPM08R1
K/A Reference: 295016AA2.04 3.9/4.1	
Examinee:	NRC Examiner:
Facility Evaluator:	Date:

Method of testing:

Simulate - Plant

JPM SETUP INFORMATION

Initial Conditions: The control room has been evacuated due to a fire. The Remote
Shutdown Panel is manned with all equipment operable. RPV
level is 35 inches, SW-P-1A, SW-P-1B, and RCIC were started
from the control room prior to evacuation. Suppression Pool
temperature is 114°F. RHR-P-2A is not in operation.

Task Standard: All actions to place RHR-P-2A in Suppression Pool Cooling will
be **SIMULATED** in accordance with the procedure.

Required Materials: N/A

General References: PPM 4.12.1.1 rev 38, sections 5.8 and 5.9

Initiating Cue: The CRS has directed you to place RHR-A in suppression pool
cooling at the Alternate Remote Shutdown Panel using PPM
4.12.1.1 Section 5.9. Inform the CRS when you have established
a suppression pool cooling flow rate of 7000 to 7500 gpm.

**CONTROL MANIPULATIONS WILL <u>NOT</u> BE
PERFORMED. ALL ACTIONS AND STEPS WILL BE
SIMULATED.**

Time Critical Task: NO

Validation Time: 12 minutes

Simulator ICs: N/A

Malfunctions/Remote   N/A
Triggers:

Overrides: N/A

Special Setup   N/A
Instructions:

PERFORMANCE INFORMATION

START TIME:

Critical Step: YES	
Performance Step: 1 **CUE: As the examinee points to each valve and states the position of the switch/indicating light, cue that the valve is positioned as per the procedure.**	5.9.1.a) To ensure RHR-P-2A is running, perform the following: 5.8.1 – At E-CP-ARS, ensure correct switch alignment for RHR-A as follows: • RHR-P-2A - Stop • RHR-V-24A - NORM (closed) • RHR-V-27A - Closed • RHR-V-6A - Closed • RHR-V-8 - Closed • RHR-V-16A – Closed • RHR-V-42A – Closed • RHR-V-64A – Closed • RHR-V-4A – Open • RHR-V-53A – NORM (CLOSED) • RHR-V-48A – NORM (OPEN) • RHR-V-3A - NORM (OPEN) 5.8.2 – Place the following power transfer switches to the EMERG position: • RHR-V-24A - POWER TRANSFER • RHR-V-27A - POWER TRANSFER • RHR-V-6A - POWER TRANSFER • RHR-V-8 - POWER TRANSFER • RHR-V-16A - POWER TRANSFER • RHR-V-42A - POWER TRANSFER • RHR-V-64A - POWER TRANSFER • RHR-V-4A - POWER TRANSFER • RHR-V-53A - POWER TRANSFER • RHR-V-48A - POWER TRANSFER • RHR-V-3A - POWER TRANSFER • RHR-P-2A – POWER TRANSFER 5.8.3 – Start RHR-P-2A by placing RHR-P-2A Control Switch to START and opens RHR-FCV-64A.

Standard:	All steps **SIMULATED** IAW the procedure.
Comment: SAT / UNSAT	

Critical Step: NO	
Performance Step: 2 **CUE: The valve is closed.**	5.9.1.b) Ensure RHR-V-42A is closed
Standard:	RHR-V-42A is simulated closed.
Comment: SAT / UNSAT	

Critical Step: NO	
Performance Step: 3 **CUE: The valve is open.**	5.9.1.c) Ensure RHR-FCV-64A is open
Standard:	RHR-FCV-64A is simulated open.
Comment: SAT / UNSAT	

Critical Step: YES	
Performance Step: 4 **CUE: The valve is open with 2000 gpm flowrate.**	5.9.1.d) Throttle open RHR-V-24A to establish approximately 2000 gpm flow rate.
Standard:	RHR-V-24A is open with 2000 gpm flow.
Comment: SAT / UNSAT	

00jpm8r1

Critical Step: NO	
Performance Step: 5 **CUE: The valve is closed.**	5.9.1.e) Close RHR-FCV-64A
Standard:	RHR-FCV-64A is simulated closed.
Comment: SAT / UNSAT	

Critical Step: YES	
Performance Step: 6 **CUE: The valve is open with required flow.**	5.9.1.f) Throttle open RHR-V-24A to establish between 7000 to 7500 gpm flow rate.
Standard:	RHR-V-24A is simulated open with 7000 to 7500 gpm flow.
Comment: SAT / UNSAT	

THE EXAMINEE SHOULD ANNOUNCE THE TERMINATION POINT OF THE JPM AT THIS POINT.

JPM TERMINATION TIME: JPM START TIME: - JPM COMPLETION TIME:

VERIFICATION OF COMPLETION

JPM Number: B.2.a   00JPM8R1

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

JPM INFORMATION CARD

HAND THE STUDENT INFORMATION CARD TO THE EXAMINEE

READ TO THE EXAMINEE:
I will explain the initial conditions, which steps to simulate or discuss, and provide initiation cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

Task Standard:	All actions to place RHR-P-2A in Suppression Pool Cooling will be **SIMULATED** in accordance with the procedure.
Required Materials:	
Safety Equipment:	
General References:	PPM 4.12.1.1 rev 38, sections 5.8 and 5.9
Time Critical Task:	NO
Initial Conditions:	The control room has been evacuated due to a fire. The Remote Shutdown Panel is manned with all equipment operable. RPV level is 35 inches, SW-P-1A, SW-P-1B, and RCIC were started from the control room prior to evacuation. Suppression Pool temperature is 114°F. RHR-P-2A is not in operation.

INITIATING CUE

The CRS has directed you to place RHR-A in suppression pool cooling at the Alternate Remote Shutdown Panel using PPM 4.12.1.1 Section 5.9. Inform the CRS when you have established a suppression pool cooling flow rate of 7000 to 7500 gpm.

CONTROL MANIPULATIONS WILL <u>NOT</u> BE PERFORMED. ALL ACTIONS AND STEPS WILL BE SIMULATED.

INFORMATION BELOW THIS LINE <u>NOT SHARED WITH EXAMINEE</u>

Task Number: SRO-0251-A-RSP   RO-0117-A-RSP

Validation Time: 12

NUREG 1123 Reference: 295016AA2.04 3.9/4.1

Time Critical: NO

Location: Plant

Performance Method: Simulate

Prepared/Revised by: S Hutchison

Revision Date: 5/18/00

STUDENT INFORMATION

Initial Conditions: The control room has been evacuated due to a fire. The Remote Shutdown Panel is manned with all equipment operable. RPV level is 35 inches, SW-P-1A, SW-P-1B, and RCIC were started from the control room prior to evacuation. Suppression Pool temperature is 114°F. RHR-P-2A is not in operation.

INITIATING CUE

The CRS has directed you to place RHR-A in suppression pool cooling at the Alternate Remote Shutdown Panel using PPM 4.12.1.1 Section 5.9. Inform the CRS when you have established a suppression pool cooling flow rate of 7000 to 7500 gpm.

CONTROL MANIPULATIONS WILL <u>NOT</u> BE PERFORMED. ALL ACTIONS AND STEPS WILL BE SIMULATED.

Facility: WNP-2	Task No: RO-0050-A-CAS EO-1863-A-CAS
Task Title: Open CN-V-65 with a Gas Bottle	Job Performance Measure No: B.2.b 00JPM9R1
K/A Reference: 300000K3.02 3.3/3.4	
Examinee:	NRC Examiner:
Facility Evaluator:	Date:

Method of testing:

Simulate – Plant

JPM SETUP INFORMATION

Initial Conditions: The Control Air System has been depressurized.

Task Standard: Actions to place a Nitrogen bottle and open CN-V-65 are taken in accordance with the procedure.

Required Materials: NONE

General References: PPM 2.8.2 rev 17, section 5.8

Initiating Cue: You have been directed by the CRS to place a nitrogen bottle on CN-V-65 and open CN-V-65 per PPM 2.8.2 section 5.8. Inform the CRS when CN-V-65 is open.

   MANIPULATIONS WILL <u>NOT</u> BE PERFORMED. ALL ACTIONS AND STEPS WILL BE SIMULATED.

Time Critical Task: NO

Validation Time: 7 minutes

Simulator ICs: N/A

Malfunctions/Remote Triggers: N/A

Overrides: N/A

Special Setup Instructions: N/A

| PERFORMANCE INFORMATION |

START TIME:

Critical Step: YES	
Performance Step: 1	5.8.1) Obtain a nitrogen bottle and regulator and bottle stand from the EOP toolbox on the RB 522 west wall.
CUE: Bottle and regulator are obtained.	
Standard:	Obtains bottle and regulator from EOP toolbox.
Comment: SAT / UNSAT	

Critical Step: YES	
Performance Step: 2	5.8.2) Close CN-V-765A (CN-SPV-65 bypass)
CUE: CN-V-765A is closed	
Standard:	Close CN-V-765A (CN-SPV-65 bypass)
Comment: SAT / UNSAT	

Critical Step: YES	
Performance Step: 3	5.8.3) Close CN-V-765B (CN-SPV-65 outlet)
CUE: CN-V-765B is closed	
Standard:	Close CN-V-765B (CN-SPV-65 outlet)
Comment: SAT / UNSAT	

Critical Step: YES	
Performance Step: 4	5.8.4) Connect gas bottle and regulator to CN-V-765C (Gas Bottle Connection)
CUE: Gas bottle and regulator are connected to CN-V-765C	
Standard:	Connect gas bottle and regulator to CN-V-765C (Gas Bottle Connection)
Comment: SAT / UNSAT	

00jpm9r1

Critical Step: YES	
Performance Step: 5 5.8.5)	
Adjust gas bottle regulator to 50-70 psig.	
CUE: Regulator set at	
50-70 psig.	
Standard:	Adjust gas bottle regulator to 50-70 psig.
Comment:	
SAT / UNSAT	

Critical Step: Yes	
Performance Step: 6 5.8.6)	
Open CN-V-765C (Gas Bottle Connection)	
CUE: CN-V-765C is	
open	
Standard:	Open CN-V-765C (Gas Bottle Connection)
Comment:	
SAT / UNSAT	

Critical Step: NO	
Performance Step: 7 5.8.7)	
Ensure CN-V-65 opens.	
CUE: CN-V-65 opens.	
Standard:	Ensure CN-V-65 opens.
Comment:	
SAT / UNSAT	

THE EXAMINEE SHOULD ANNOUNCE THE TERMINATION POINT OF THE JPM
AT THIS POINT.

JPM TERMINATION
TIME:
JPM START TIME: -
JPM COMPLETION TIME:

VERIFICATION OF COMPLETION

JPM Number: B.2.b   00JPM9R1

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

JPM INFORMATION CARD

HAND THE STUDENT INFORMATION CARD TO THE EXAMINEE

READ TO THE EXAMINEE:
I will explain the initial conditions, which steps to simulate or discuss, and provide initiation cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

Task Standard:	Actions to place a Nitrogen bottle and open CN-V-65 are taken in accordance with the procedure.
Required Materials:	N/A
Safety Equipment:	N/A
General References:	PPM 2.8.2 rev 16, section 5.8
Time Critical Task:	NO
Initial Conditions:	The Control Air System has been depressurized.

INITIATING CUE

You have been directed by the CRS to place a nitrogen bottle on CN-V-65 and open CN-V-65 per PPM 2.8.2 section 5.8. Inform the CRS when CN-V-65 is open.

MANIPULATIONS WILL <u>NOT</u> BE PERFORMED. ALL ACTIONS AND STEPS WILL BE SIMULATED.

INFORMATION BELOW THIS LINE <u>NOT SHARED WITH EXAMINEE</u>

Task Number: RO-0050-A-CAS EO-1863-A-CAS	Validation Time: 7 minutes
NUREG 1123 Reference: 300000K3.02 3.3/3.4	Time Critical: NO
Location: Plant	Performance Method: Simulate
Prepared/Revised by: S Hutchison	Revision Date: 5/18/00

STUDENT INFORMATION

Initial Conditions: The Control Air System has been depressurized.

INITIATING CUE

You have been directed by the CRS to place a nitrogen bottle on CN-V-65 and open CN-V-65 per PPM 2.8.2 section 5.8. Inform the CRS when CN-V-65 is open.

MANIPULATIONS WILL <u>NOT</u> BE PERFORMED. ALL ACTIONS AND STEPS WILL BE SIMULATED.

Facility: WNP-2	Task No: RO-0680 EO-1957
Task Title: Inserting Control Rods by Venting Scram Air Header	Job Performance Measure No: B.2.c 00JPM10R1
K/A Reference: 295037EA1.05 3.9/4.0	
Examinee:	NRC Examiner:
Facility Evaluator:	Date:

Method of testing:

Simulate - Plant

JPM SETUP INFORMATION

Initial Conditions: A scram has been initiated and all blue lights are extinguished on P603. Reactor pressure is stable at 930 psig.

Task Standard: All steps to vent the scram air header will be SIMULATED in accordance with PPM 5.5.11.

Required Materials: Pre-staged EOP Tools

General References: PPM 5.5.11 rev 4, tab D

Initiating Cue: The CRS has directed you to insert control rods by venting the scram air header per PPM 5.5.11, tab D. Notify the CRS when actions have been completed to vent the Scram Air Header.

MANIPULATIONS WILL <u>NOT</u> BE PERFORMED. ALL ACTIONS AND STEPS WILL BE SIMULATED.

Time Critical Task: NO

Validation Time: 5 minutes

Simulator ICs: N/A

Malfunctions/Remote Triggers: N/A

Overrides: N/A

Special Setup Instructions: N/A

PERFORMANCE INFORMATION

START TIME:

Critical Step: NO	
Performance Step: 1	5.5.11, Q-1) Check Rod Density.
CUE: Rod density is 71%.	
Standard:	Verify Rod density prior to venting scram air header.
Comment: SAT / UNSAT	

Critical Step: YES	
Performance Step: 2	5.5.11, Q-2) Close CRD-V-95, Scram Air Header Isolation Close CRD-V-729, CRD-PI-13 isolation
CUE: **CRD-V-95 CLOSED** **CRD-V-729 CLOSED**	
Standard:	Actions simulated to close CRD-V-95 and 729 in accordance with procedure.
Comment: SAT / UNSAT	

00jpm10r1

Critical Step: YES	
Performance Step: 3	5.5.11, Q-3) Remove instrument drain plug for CRD-PI-13
CUE: Drain plug removed.	
Standard:	Simulate removal of the drain plug as per PPM 5.5.11
Comment: SAT / UNSAT	

Critical Step: YES*	
Performance Step: 4	5.5.11, Q-4) *Open CRD-V-729, CRD-PI-13 isolation Notify the CRS of the results
CUE: CRD-V-729 is open and air is venting.	
Standard:	Simulate the opening of CRD-V-729 as per 5.5.11.
Comment: SAT / UNSAT	

THE EXAMINEE SHOULD ANNOUNCE THE TERMINATION POINT OF THE JPM AT THIS POINT.

JPM TERMINATION TIME:
JPM START TIME: -   _____
JPM COMPLETION TIME:

VERIFICATION OF COMPLETION

JPM Number: B.2.c   00JPM10R1

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

JPM INFORMATION CARD

HAND THE STUDENT INFORMATION CARD TO THE EXAMINEE

READ TO THE EXAMINEE:
I will explain the initial conditions, which steps to simulate or discuss, and provide initiation cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

Task Standard:	All steps to vent the scram air header will be SIMULATED in accordance with PPM 5.5.11.
Required Materials:	Pre-staged EOP Tools
Safety Equipment:	N/A
General References:	PPM 5.5.11 rev 4, tab D
Time Critical Task:	NO
Initial Conditions:	A scram has been initiated and all blue lights are extinguished on P603. Reactor pressure is stable at 930 psig.

INITIATING CUE

The CRS has directed you to insert control rods by venting the scram air header per PPM 5.5.11, tab D. Notify the CRS when actions have been completed to vent the Scram Air Header.

MANIPULATIONS WILL <u>NOT</u> BE PERFORMED. ALL ACTIONS AND STEPS WILL BE SIMULATED.

INFORMATION BELOW THIS LINE <u>NOT SHARED WITH EXAMINEE</u>

Task Number: RO-0680 EO-1957   Validation Time: 5 minutes
NUREG 1123 Reference: 295037EA1.05   Time Critical: NO
3.9/4.0
Location: Plant   Performance Method: Simulate
Prepared/Revised by: S Hutchison   Revision Date: 5/18/00

STUDENT INFORMATION

Initial Conditions: A scram has been initiated and all blue lights are extinguished on P603. Reactor pressure is stable at 930 psig.

INITIATING CUE

The CRS has directed you to insert control rods by venting the scram air header per PPM 5.5.11, tab D. Notify the CRS when actions have been completed to vent the Scram Air Header.

MANIPULATIONS WILL <u>NOT</u> BE PERFORMED. ALL ACTIONS AND STEPS WILL BE SIMULATED.

Facility: WNP-2	Task No: RO-0308-N-MS
Task Title: Startup the Inboard MSLC System	Job Performance Measure No: JPM Spare 1 00JPM11R2
K/A Reference: 239003A4.01 3.2/3.2	
Examinee:	NRC Examiner:
Facility Evaluator:	Date:

Method of testing:

Simulator - Perform

JPM SETUP INFORMATION

Initial Conditions: RPV pressure is 25 psig.
RPV level is normal.
SGT System is in operation.
The mezzanine area above the TIP room has been evacuated.
All prerequisites for the inboard MSLC System start have been met.

Task Standard: All steps to start the Inboard MSLC System are performed in accordance with the procedure.

Required Materials: N/A

General References: PPM 2.2.6 rev 28, section 5.3

Initiating Cue: The CRS has directed you to start the Inboard MSLC System per PPM 2.2.6 step 5.3.3. Notify the CRS when the Inboard MSLC System is in operation and all automatic actions have taken place.

Time Critical Task: NO

Validation Time: 7 minutes

Simulator ICs: 76

Malfunctions/Remote   N/A
Triggers:

Overrides: N/A

Special Setup   IC 76 has been snapped with the MSIVs closed, reactor pressure
Instructions: at ≈25 psig, and SGT in operation.

PERFORMANCE INFORMATION

START TIME:

Critical Step: YES	
Performance Step: 1	5.3.3) Place the control switch for the MSLC Inboard System (Div. 1) to the on position.
Standard:	MSLC Inboard System (Div. 1) control switch to the on position.
Comment: SAT / UNSAT	

Critical Step: NO	

Performance Step: 2	5.3.4)
	Ensure the following automatic actions occur:
	a) the following valves open
	  • MSLC-V-2A
	  • MSLC-V-2B
	  • MSLC-V-2C
	  • MSLC-V-2D
	  • MSLC-V-3A
	  • MSLC-V-3B
	  • MSLC-V-3C
	  • MSLC-V-3D
	
	b) the following valves open for 120 seconds (bypass to the TIP Room)
	  • MSLC-V-1A
	  • MSLC-V-1B
	  • MSLC-V-1C
	  • MSLC-V-1D
	
	c) MSLC-FN-1 auto starts.

Standard:	All automatic actions are verified as per the procedure. Timing for MSLC-V-1A-1D does not have to be verified, just that they open.
Comment: SAT / UNSAT	

Critical Step: NO	
Performance Step: 3	5.3.5)
	Ensure a dilution flow rate of at least 30 cfm to the low pressure manifold. (MSLC-FI-11)
Standard:	Dilution flow verified on MSLC-FI-11.
Comment: SAT / UNSAT	

Critical Step: NO	
Performance Step: 4	5.3.6) Ensure heater temperatures (HT-TI-MSLC/1A, B, C, and D) are maintained between 260°F and 280°F.
Standard:	Verifies temperatures in the band as per the procedure.
Comment: SAT / UNSAT	

Critical Step: NO	
Performance Step: 5	5.3.7) Ensure the following valves close after 120 seconds: • MSLC-V-1A • MSLC-V-1B • MSLC-V-1C • MSLC-V-1D
Standard:	Verify the above valves close. Timing is not required.
Comment: SAT / UNSAT	

THE EXAMINEE SHOULD ANNOUNCE THE TERMINATION POINT OF THE JPM AT THIS POINT.

JPM TERMINATION TIME: JPM START TIME: - JPM COMPLETION TIME:

VERIFICATION OF COMPLETION

JPM Number: JPM   00JPM11R2
Spare 1

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

JPM INFORMATION CARD

HAND THE STUDENT INFORMATION CARD TO THE EXAMINEE

READ TO THE EXAMINEE:
I will explain the initial conditions, which steps to simulate or discuss, and provide initiation cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

Task Standard:	All steps to start the Inboard MSLC System are performed in accordance with the procedure.
Required Materials:	N/A
Safety Equipment:	N/A
General References:	PPM 2.2.6 rev 28, section 5.3
Time Critical Task:	NO
Initial Conditions:	RPV pressure is 25 psig. RPV level is normal. SGT System is in operation. The mezzanine area above the TIP room has been evacuated. All prerequisites for the inboard MSLC System start have been met.

INITIATING CUE

The CRS has directed you to start the Inboard MSLC System per PPM 2.2.6 step 5.3.3. Notify the CRS when the Inboard MSLC System is in operation and all automatic actions have taken place.

INFORMATION BELOW THIS LINE NOT SHARED WITH EXAMINEE

Task Number: RO-0308-N-MS   Validation Time: 7 minutes
NUREG 1123 Reference: 239003A4.01   Time Critical: no
3.2/3.2
Location: Simulator   Performance Method: Perform
Prepared/Revised by: S Hutchison   Revision Date: 8/3/00

STUDENT INFORMATION

Initial Conditions: RPV pressure is 25 psig.
RPV level is normal.
SGT System is in operation.
The mezzanine area above the TIP room has been evacuated.
All prerequisites for the inboard MSLC System start have been met.

INITIATING CUE

The CRS has directed you to start the Inboard MSLC System per PPM 2.2.6 step 5.3.3. Notify the CRS when the Inboard MSLC System is in operation and all automatic actions have taken place.

Facility: WNP-2	Task No: RO-0308-N-MS
Task Title: Startup the Inboard MSLC System	Job Performance Measure No: JPM Spare 1 00JPM11R2
K/A Reference: 239003A4.01 3.2/3.2	
Examinee:	NRC Examiner:
Facility Evaluator:	Date:

Method of testing:

Simulator - Perform

JPM SETUP INFORMATION

Initial Conditions: RPV pressure is 25 psig.
                        RPV level is normal.
                        SGT System is in operation.
                        The mezzanine area above the TIP room has been evacuated.
                        All prerequisites for the inboard MSLC System start have been
                        met.

Task Standard: All steps to start the Inboard MSLC System are performed in
                        accordance with the procedure.

Required Materials: N/A

General References: PPM 2.2.6 rev 28, section 5.3

Initiating Cue: The CRS has directed you to start the Inboard MSLC System per
                        PPM 2.2.6 step 5.3.3. Notify the CRS when the Inboard MSLC
                        System is in operation and all automatic actions have taken place.

Time Critical Task: NO

Validation Time: 7 minutes

Simulator ICs: 76

Malfunctions/Remote   N/A
Triggers:

Overrides: N/A

Special Setup   IC 76 has been snapped with the MSIVs closed, reactor pressure
Instructions: at ≈25 psig, and SGT in operation.

PERFORMANCE INFORMATION

START TIME:

Critical Step: YES	
Performance Step: 1	5.3.3) Place the control switch for the MSLC Inboard System (Div. 1) to the on position.
Standard:	MSLC Inboard System (Div. 1) control switch to the on position.
Comment: SAT / UNSAT	

Critical Step: NO	

Performance Step: 2	5.3.4)
	Ensure the following automatic actions occur:
	a) the following valves open
	    • MSLC-V-2A
	    • MSLC-V-2B
	    • MSLC-V-2C
	    • MSLC-V-2D
	    • MSLC-V-3A
	    • MSLC-V-3B
	    • MSLC-V-3C
	    • MSLC-V-3D
	
	b) the following valves open for 120 seconds (bypass to the TIP Room)
	    • MSLC-V-1A
	    • MSLC-V-1B
	    • MSLC-V-1C
	    • MSLC-V-1D
	
	c) MSLC-FN-1 auto starts.

Standard:	All automatic actions are verified as per the procedure. Timing for MSLC-V-1A-1D does not have to be verified, just that they open.
Comment: SAT / UNSAT	

00jpm11r2

Critical Step: NO	
Performance Step: 3	5.3.5)
	Ensure a dilution flow rate of at least 30 cfm to the low pressure manifold. (MSLC-FI-11)
Standard:	Dilution flow verified on MSLC-FI-11.
Comment: SAT / UNSAT	

Critical Step: NO	
Performance Step: 4	5.3.6) Ensure heater temperatures (HT-TI-MSLC/1A, B, C, and D) are maintained between 260°F and 280°F.
Standard:	Verifies temperatures in the band as per the procedure.
Comment: SAT / UNSAT	

00jpm11r2

Critical Step: NO	
Performance Step: 5	5.3.7) Ensure the following valves close after 120 seconds: • MSLC-V-1A • MSLC-V-1B • MSLC-V-1C • MSLC-V-1D
Standard:	Verify the above valves close. Timing is not required.
Comment: SAT / UNSAT	

THE EXAMINEE SHOULD ANNOUNCE THE TERMINATION POINT OF THE JPM AT THIS POINT.

JPM TERMINATION TIME:
JPM START TIME: -   _____
JPM COMPLETION TIME:

VERIFICATION OF COMPLETION

JPM Number: JPM   00JPM11R2
Spare 1

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

JPM INFORMATION CARD

HAND THE STUDENT INFORMATION CARD TO THE EXAMINEE

READ TO THE EXAMINEE:
I will explain the initial conditions, which steps to simulate or discuss, and provide initiation cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

Task Standard: All steps to start the Inboard MSLC System are performed in accordance with the procedure.

Required Materials: N/A

Safety Equipment: N/A

General References: PPM 2.2.6 rev 28, section 5.3

Time Critical Task: NO

Initial Conditions: RPV pressure is 25 psig.
                        RPV level is normal.
                        SGT System is in operation.
                        The mezzanine area above the TIP room has been evacuated.
                        All prerequisites for the inboard MSLC System start have been met.

INITIATING CUE

The CRS has directed you to start the Inboard MSLC System per PPM 2.2.6 step 5.3.3. Notify the CRS when the Inboard MSLC System is in operation and all automatic actions have taken place.

INFORMATION BELOW THIS LINE NOT SHARED WITH EXAMINEE

Task Number: RO-0308-N-MS   Validation Time: 7 minutes
NUREG 1123 Reference: 239003A4.01   Time Critical: no
3.2/3.2
Location: Simulator   Performance Method: Perform
Prepared/Revised by: S Hutchison   Revision Date: 8/3/00

STUDENT INFORMATION

Initial Conditions: RPV pressure is 25 psig.
RPV level is normal.
SGT System is in operation.
The mezzanine area above the TIP room has been evacuated.
All prerequisites for the inboard MSLC System start have been met.

INITIATING CUE

The CRS has directed you to start the Inboard MSLC System per PPM 2.2.6 step 5.3.3. Notify the CRS when the Inboard MSLC System is in operation and all automatic actions have taken place.

Facility: WNP-2	Task No: RO-0433-N-DG
Task Title: Perform Manual Start of Div 2 Diesel Generator from Local Panel	Job Performance Measure No: JPM Spare 2 00JPM12R1
K/A Reference: 264000A4.04 3.7/3.7	
Examinee:	NRC Examiner:
Facility Evaluator:	Date:

Method of testing:

Plant - Simulate

JPM SETUP INFORMATION

Initial Conditions: The plant is in a non-emergency condition with SM-1 powered from TR-S and SW-P-1A is in service. A manual start of DG-1 is in progress and PPM 2.7.2A has been completed through step 5.5.15

Task Standard: All actions simulated as required per PPM 2.7.2A, sec 5.5.

Required Materials: N/A

General References: PPM2.7.2.A rev 25, sec 5.5

Initiating Cue: You have been directed to continue with the slow start of DG-1 at the local panel. PPM 2.7.2.A is complete through step 5.5.14. Notify the CRS when the diesel is operating at 900 rpm.

CONTROL MANIPULATIONS WILL <u>NOT </u>BE PERFORMED. ALL ACTIONS AND STEPS WILL BE SIMULATED.

Time Critical Task: NO

Validation Time: 21 minutes

Simulator ICs: N/A

Malfunctions/Remote Triggers: N/A

Overrides: N/A

Special Setup Instructions: N/A

PERFORMANCE INFORMATION

START TIME:

Critical Step: YES	
Performance Step: 1	5.5.15) At E-CP-DG/RP1 place the Engine Speed Selector Switch to the IDLE position.
CUE: Switch in IDLE	
Standard:	Engine Speed Selector Switch to the IDLE position.
Comment: SAT / UNSAT	

Critical Step: YES	
Performance Step: 2	5.5.16) At E-CP-DG/RP1, place the Diesel Engine Control Selector switch to LOCAL.
CUE: Switch in LOCAL	
Standard:	Diesel Engine Control Selector switch to LOCAL.
Comment: SAT / UNSAT	

Critical Step: NO	
Performance Step: 3	5.5.17) At E-CP-DG/CP1, ensure annunciator alarms are clear.
CUE: Alarms are clear.	
Standard:	Ensure annunciator alarms are clear.
Comment: SAT / UNSAT	

Critical Step: YES	
Performance Step: 4	5.5.18 and 19) • Ensure SW-P-1A is running • Verify SW flow to DG-1 is 1650-1950 gpm
CUE: SW-P-1A is running and SW flow to DG-1 is 1800gpm	
Standard:	Ensure SW-P-1A is running Verify SW flow to DG-1 is 1650-1950 gpm
Comment: SAT / UNSAT	

Critical Step: NO	
Performance Step: 5	5.5.20) Call control room and verify DG-1 annunciators are extinguished on H13-P800 BD C (except P800-C1-10.1)
CUE: Annunciators are extinguished.	
Standard:	Verify DG-1 annunciators are extinguished on H13-P800 BD C.
Comment: SAT / UNSAT	

Critical Step: YES	
Performance Step: 6	5.5.21) At E-CP-DG/RP1, depress the Diesel Engine1A1/1A2 Start Pushbutton.
CUE: Pushbutton is depressed	
Standard:	Depress the Diesel Engine1A1/1A2 Start Pushbutton.
Comment: SAT / UNSAT	

Critical Step: NO	
Performance Step: 7	5.5.22) Check Diesel Generator speed on DG-SI-DG1 375-425 RPM.
CUE: DG speed 410 RPM.	
Standard:	Verify Diesel Generator speed on DG-SI-DG1 375-425 RPM.
Comment: SAT / UNSAT	

Critical Step: NO	
Performance Step: 8	5.5.23, 24, 25, 26, 27, 28, 29, 30) Verify the following: a) Air start motors disengaged b) Air in-line lubricators have adequate oil c) CRS classify and log diesel start d) DSA-DPI-1A less than 10 psid e) DSA-PI-3A2 and DSA-PI-4A2 less than 206 psig f) Governor oil levels greater than ¼ of sightglass w/no leaks g) Eng 1A1 and 1A2 sump level sat. h) ENG 1 LUBE OIL LEVEL LOW extinguished i) Operate DG at IDLE for at least 10 minutes.
CUE: All of these steps are sat. **DG has operated at IDLE for 10 minutes.**	
Standard:	Verify each step as above.
Comment: SAT / UNSAT	

jpm12r1

Critical Step: YES*		
Performance Step: 9	5.5.32) At E-CP-DG/RP1: • *Place the Engine Speed Selector Switch to RATED position • Verify DG-1 speed ≈900 rpm (60 hz) on DG-SI-DG1	
CUE: Switch to RATED position. Speed 900 rpm.		
Standard:	Place the Engine Speed Selector Switch to RATED position Verify DG-1 speed ≈900 rpm (60 hz) on DG-SI-DG1	
Comment: SAT / UNSAT		

THE EXAMINEE SHOULD ANNOUNCE THE TERMINATION POINT OF THE JPM AT THIS POINT.

JPM TERMINATION TIME: JPM START TIME: - JPM COMPLETION TIME:

VERIFICATION OF COMPLETION

JPM Number: JPM   00JPM12R1
Spare 2

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

jpm12r1

JPM INFORMATION CARD

HAND THE STUDENT INFORMATION CARD TO THE EXAMINEE

READ TO THE EXAMINEE:
I will explain the initial conditions, which steps to simulate or discuss, and provide initiation cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

Task Standard: All actions simulated as required per PPM 2.7.2A sec 5.5.

Required Materials: N/A

Safety Equipment: N/A

General References: PPM2.7.2.A rev 25, sec 5.5

Time Critical Task: NO

Initial Conditions: The plant is in a non-emergency condition with SM-1 powered from TR-S and SW-P-1A is in service. A manual start of DG-1 is in progress and PPM 2.7.2A has been completed through step 5.5.15

INITIATING CUE

You have been directed to continue with the slow start of DG-1 at the local panel. PPM 2.7.2.A is complete through step 5.5.14. Notify the CRS when the diesel is operating at 900 rpm.

CONTROL MANIPULATIONS WILL <u>NOT </u>BE PERFORMED. ALL ACTIONS AND STEPS WILL BE SIMULATED.

INFORMATION BELOW THIS LINE <u>NOT SHARED WITH EXAMINEE</u>

Task Number: RO-0433-N-DG   Validation Time: 21
NUREG 1123 Reference: Time Critical: N/A
Location: 264000A4.04 3.7/3.7   Performance Method: Plant - Simulate
Prepared/Revised by: S Hutchison   Revision Date: 5/18/00

STUDENT INFORMATION

Initial Conditions: The plant is in a non-emergency condition with SM-1 powered from TR-S and SW-P-1A is in service. A manual start of DG-1 is in progress and PPM 2.7.2A has been completed through step 5.5.15

INITIATING CUE

You have been directed to continue with the slow start of DG-1 at the local panel. PPM 2.7.2.A is complete through step 5.5.14. Notify the CRS when the diesel is operating at 900 rpm.

CONTROL MANIPULATIONS WILL <u>NOT</u> BE PERFORMED. ALL ACTIONS AND STEPS WILL BE SIMULATED.

jpm12r1

Facility: WNP-2 **Scenario No.** 1 **Op-Test No.:** 1

Examiners: _____ **Operators:** _____

  _____ _____

  _____ _____

Initial conditions: IC-85. The reactor is critical, heating up, and at 400 psig on a Beginning-of-life core.

Turnover: A reactor startup is in progress following a 3-day maintenance outage. The reactor is critical and in the heating range. Control rod sequence is at step 22-1, rod 30-03 at notch 12. One hour ago, RC-1 HALF TRIP (P601-A12-4-3) annunciated. Initial investigation shows that relay 3AY and 8AY on RC-1 are de-energized. The work team is investigating the cause. CW-P-1B is out of service while the motor is being re-wound in Spokane. It is expected to be re-installed in 2 weeks. All pre-job briefs are complete.

Event No.	Malf. No.	Event Type*	Event Description
1.		R(RO)	RO pulls control rods to maintain heat-up rate
2.	Trigger 2	I(RO)	IRM B fails erratically causing rod block and half scram
3.	Trigger 3	C(BOP)	Power supply for Channel A of the Rx. Bldg. Exhaust Vent Rad Monitor fails, resulting in RC-1 relay 3AX to pick-up and start WMA-FN-54A (control room emergency filtration train fan).
4.	Trigger 4	I(ALL)	A minimum seismic earthquake results in an RPV instrument line break causing a loss of instrumentation due to excess flow check valve, EFC-X114, closure.
5.	Trigger 5	M(ALL)	An operating basis earthquake causes a large LOCA (recirc pump suction) and feedwater leak (feed pump suction).
6.	Trigger 6	C(RO/BOP)	RHR-P-2A experiences an overcurrent lockout and faults SM-7
7.	Trigger 7	C(BOP)	RHR-P-2C shaft shears

* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor

Event No. 1		
Description: RO pulls control rods to maintain heat-up rate.		
This event initiated by the turnover sheet		

Time	Position	Applicants Actions or Behavior
	SRO	Directs RO to continue the heatup by pulling control rods.

	RO	Withdraws control rods to continue heatup (PPM 3.1.2):
		- closely monitors flux levels during rod withdrawal
		- maintains heatup rate LE 80°F
		- verifies prior to each rod withdrawal:
		  • correct rod selected
		  • correct start/stop position
		- for each rod that is fully withdrawn:
		  • checks coupling integrity - initials sequence sheet (PPM 9.3.9)
		  • ensures position 48 corresponds to FULL OUT light

	BOP	Increases DEH pressure setpoint while coordinating with the RO to maintain bypass valves at ≈20% with a reference of 600# at 6# per minute rate. Monitors plant conditions. Monitors and adjusts RWCU blowdown flow as necessary.

COMMENTS:
1) PPM 1.3.1 allows pressure increase simultaneous with pulling control rods
2) An examiner or WNP-2 staff may be used to role-play the "second person" for simultaneous verification of rod movement (PPM 1.3.1)

Event No. 2		
Description: IRM B fails erratically causing rod block and half scram *This event is initiated with **TRIGGER 2** after RPV pressure has increased by »30# with BPVs maintained at »20% or upon direction of Lead Examiner.*		
Time	**Position**	**Applicants Actions or Behavior**
	RO	Reports indication of IRM B failure and receipt of a half-scram and rod block. References ARP for INOP IRM. (PPM 4.603.A8)
	SRO	Directs RO to bypass IRM B and reset the half scram IAW with ARP. May make plant announcement to suspend all maintenance and surveillance testing associated with RPS 'A'.
	RO	Bypasses IRM B and resets the half scram (PPM 4.603.A8)
	SRO	Refers to Tech Spec 3.3.1.1 and LCS 1.3.2.1 & 1.3.3.1 for required actions • no actions required since minimum number of IRMs is met. Contacts the maintenance team Briefs the crew
	RO	Continues heatup with control rods
COMMENTS:		

Event No. 3

Description: Power supply for Channel A of the Rx. Bldg. Exhaust Vent Rad Monitor fails, resulting in RC-1 relay 3AX to de-energize and start WMA-FN-54A (control room emergency filtration train fan).

*This event is initiated with **TRIGGER 3** after the SRO has completed his Tech Spec determination for the failed IRM or upon direction of Lead Examiner.*

Time	Position	Applicants Actions or Behavior
	RO	Reports reactor building exhaust rad hi-hi (EOP entry condition); reactor building exhaust rad monitors downscale; off-gas vault rad high; off-gas vault rad monitors downscale. Refers to associated ARPs.
	BOP	Reports Div 1 control room HVAC trouble and goes to panel P to investigate
	SRO	Directs RO/BOP to investigate cause of RAD annunciators.
	RO	Verifies RB exhaust plenum radiation levels on REA-RR-603 on P600. Reports rad levels are normal.
	BOP	Reports that the power-supply, REA-E/S-613A, has failed. Reports that WMA-FN-54A has started.
	SRO	May request master data sheet for the effected instrumentation. References Tech Specs – • 3.3.6.1 – primary containment isolation instrumentation • 3.3.6.2 – secondary containment isolation instrumentation • 3.3.7.1 – control room emergency filtration • determines we have a 24-hour trip requirement from all three specs Briefs the crew
		CUE: As I&C report that a blown fuse has been found in REA-E/S-609A. Role-play as system engineer to provide allowance for fuse replacement and direction for restoration of HVAC to normal alignment.
	SRO	May direct replacement of fuse based on allowance in PPM 1.3.47, or may request system engineer concurrence. Once fuse has been replaced, should direct restoration IAW with FAZ recovery procedure, PPM 3.3.1.

TIME COMPRESSION: Once maintenance has been contacted to look at REA-E/S, compress time and provide information that a fuse was found blown in the power supply and is in the process of being replaced.

COMMENTS:

Event No. 4		
Description: A small earthquake causes a small break in an RPV pressure tap resulting in a loss of instrumentation due to EFC-X114 closure. *This event is initiated with **TRIGGER 4** after FAZ recovery is made in event 3 or upon direction of Lead Examiner.*		
Time	**Position**	**Applicants Actions or Behavior**
SEISMIC SIM: Preset Seismic CD player on track 4 with a volume level of –10. Start CD player approx. 3 seconds before initiating TRIGGER 4. Allow CD to play approx. 20 seconds before securing.		
	SRO/RO/BOP	Recognize/report "Minimum Seismic Earthquake Exceeded" alarm (P851S1 2-5)
CUE: As OPS-1, call in on radio to report seismic activity felt in the reactor building		
	BOP	Checks the seismic response lights on board L and reports that 15 amber lights and no red lights are illuminated.
	RO	Stops rod movement activities if in progress Reports instrument failures and multiple alarms. • RPV Level-Narrow Range "A" is upscale • Level 8 trip on single channel for RFW turbine and Main Turbine • RFW/Turbine Hi Level Trip alarm Transfers Reactor Vessel Level Control channel to "B" to restore narrow range level indication to RFW-LR-608
	RO/BOP	Reports instrument failures and multiple alarms. • RPV Level-Wide Range "A" (LR623A on P601)is upscale • HPCS Hi level alarm – P601 Places DEH in HOLD
	SRO/RO/BOP	Determines the cause of multiple alarms and level indications to be an instrument line break downstream of EFC-X114. References ABN-HELB to determine the effects of EFC-X114 closure.
	SRO	Briefs crew on instrumentation loss. Contacts SSS and Work Team to investigate line break in Reactor Bldg. Directs plant walkdown to determine earthquake damage.

COMMENTS:

Event No. 5

Description: A large earthquake causes a large LOCA inside containment and a large feedwater leak in the turbine building.

*This event is initiated with **TRIGGER 5** upon direction of the Lead Examiner.*

Time	Position	Applicants Actions or Behavior
SEISMIC SIM: Preset Seismic CD player on track 4 with a volume level of 0. Start CD player approx. 3 seconds before initiating TRIGGER 5. Allow CD to play approx. 40 seconds before securing. After securing, set volume level to –10 and randomly run 10-15 second aftershocks over the remainder of the scenario.		
	SRO/RO/BOP	Recognize/report "Operating Basis Earthquake Exceeded" alarm
	BOP	Checks the seismic response lights on board L and reports that all amber lights and multiple red lights are illuminated.
CUE: As OPS-1, call in on radio to report seismic activity felt in the turbine building.		
	RO	Monitors plant indications for response to earthquake.
	BOP	Reports increasing drywell pressure, then high drywell pressure trip.
	SRO	May elect to scram prior to high drywell pressure trip. Directs RO to perform scram actions
	RO	Performs immediate scram actions: • Makes scram report • Places mode switch to shutdown • Monitors/reports Power, Level, Pressure • Verifies all control rods inserted; Manual scram & ARI if rods out. • Inserts SRMs/IRMs.
	SRO	Enters EOP 5.1.1 on low RPV level (LT +13") and EOP 5.2.1 on increasing drywell pressure (GT 1.68 psig) • Directs RO to enter PPM 3.3.1. • Directs RO/BOP to maintain RPV level between +13" and +54" using HPCS and LP ECCS pumps. • *Directs RO/BOP to spray wetwell before wetwell pressure reaches 12 psig. • Directs RO/BOP to confirm RRC pumps are stopped and stop drywell cooling fans (in prep for drywell spray) • *Directs RO/BOP to spray the drywell when wetwell pressure exceeds 12 psig • *Directs RO/BOP to secure wetwell and drywell spray when LT 1.68

		psig in each area.
		*CRITICAL TASK
CUE: OPS-1 reports large amount of water flowing into the 441' elevation of the turbine building.		
	RO	Reports that even though the RFW-V-10 valves are open and the feedpumps are operating, there is no feed flow to the vessel indicated
	SRO	May direct the shutdown of the feed and condensate system if he determines that there is a feedwater leak.
	RO/BOP	Performs EOP actions as directed by SRO - Restores and maintains RPV level between +13" and +54" using HPCS and LP ECCS pumps *Sprays wetwell before wetwell pressure reaches 12 psig - Confirms RRC pumps are stopped and stops drywell cooling fans (in prep for drywell spray) *Sprays the drywell when wetwell pressure exceeds 12 psig. *Secures wetwell and drywell spray if/when LT 1.68 psig in each area. - Injects with available ECCS to recover RPV level ***CRITICAL TASK**

COMMENTS:

Terminate the scenario when containment has been sprayed and RPV level has been restored to +13" to +54".

Event No. 6

Description: RHR-P-2A O/C lockout and faults SM-7

*This event is initiated with **TRIGGER 6** when the BOP begins to align RHR for wetwell spray or by direction of the lead examiner. This event occurs within Event 5 and should be completed prior to scenario termination.*

Time	Position	Applicants Actions or Behavior
	BOP	Reports overcurrent condition (without protective trip action) on RHR-P-2A. Attempts to manually trip RHR-P-2A. Reports that manual trip attempt was unsuccessful.
	SRO	May direct SM-7 de-energization.
	BOP	If directed, trips supply breakers for SM-7 and reports completion to SRO
	SRO	Directs RO/BOP to carry out actions of PPM 4.7.1.8, Loss of SM-7
	BOP	Carries out actions of PPM 4.7.1.8 • *Notifies SRO that DG-1 is running without service water • Ensures RCC-P-1B & 1C are running ***CRITICAL TASK**
	SRO	Directs BOP to trip DG-1due to lack of engine cooling
	BOP	Trips DG-1 from Board C **CRITICAL TASK**
	SRO	May direct the racking out of the RHR-P-2A breaker and the re-energization of SM-7
	BOP	If directed, has the breaker for RHR-P-2A racked out and performs actions to re-energize SM-7

COMMENTS:
1. Depending on how soon the overcurrent situation is noticed, SM-7 may trip on overcurrent prior to any operator action

Event No. 7		
Description: RHR-P-2C shaft shears *This event is initiated at the beginning of the scenario, but will not be detected until RHR-P-2C is started. This event occurs within Event 5 and should be completed prior to scenario termination.*		

Time	Position	Applicants Actions or Behavior
	RO/BOP	Reports abnormal indications for RHR-P-2C • No flow • Low run amps Stops RHR-P-2C as directed by SRO
	SRO	Directs BOP to stop RHR-P-2C (if he hasn't already done it) Directs OPS2 to investigate RHR-P-2C problem.

COMMENTS:

SRO TURNOVER INFORMATION

A reactor startup is in progress following a 3-day maintenance outage. The reactor is critical and in the heating range. Control rod sequence is at step 22-1, rod 30-03 at notch 12.

The control-rod-movement pre-job brief has been completed. PPM 3.1.2 has been completed up to step 5.5.1.

One hour ago, RC-1 HALF TRIP (P601-A12-4-3) annunciated. Initial investigation shows that relay 3AY and 8AY on RC-1 are de-energized. The work team is investigating the cause.

CW-P-1B is out of service. The motor is being re-wound in Spokane. It is expected to be re-installed in 2 weeks

Facility: WNP-2   **Scenario No.:** 2   **Op-Test No.:** 1

Examiners: _____   **Operators:** _____

             _____   _____

             _____   _____

Initial conditions: IC-81. The reactor is at 14% power on a beginning-of-life core. The feedwater system is in the Startup Level Control mode. The backup transformer, TRB, is under clearance.

Turnover: The plant is starting up. The reactor is currently at 14% reactor power on its way to 100%. The control rod sequence is at step 29-13, control rod 14-47 at notch 08. PPM 3.1.2 is complete through section 5.6. TRB failed 1 hour ago and is under clearance so that BPA can work on it.

Event	Malf. No.	Event Type*	Event Description
1.		R(RO)	Increase Reactor Power with control rods
2.	Trigger 2	C(RO)	RWM failure results in loss of ability to move control rods
3.	Trigger 3	C(BOP)	Outboard MSIV on 'A' steam line fast closes due to failure of its 4-way air control valve. *(WNP-2 PER 200-0803)*
4.	Trigger 4	I(RO)	CRD flow controller auto mode fails requiring transfer to manual and manual adjustment of CRD flow.
5.		N(BOP)	Transfer Feedwater lineup from Startup level control valves, RFW-FCV-10A/B, to RFPT speed control.
6.	Trigger 6	I(BOP)	Automatic operation of reactor feed pump min-flow controller becomes erratic resulting in reactor water level swings and requiring manual control of minimum flow.
7.	Trigger 7	C(BOP)	Failure of REA-FN-1B causing entry into EOP 5.3.1 on high secondary containment pressure.
8.	Trigger 8	M(ALL)	Loss of offsite power
9.		C(BOP)	Failure of DG-2 output breaker to close. Requires BOP manual action to attempt closure. Manual attempt will also fail.
10.		C(RO/BOP)	HPCS SW pump shaft seizure *(LER 12-20-94)* requiring trip of HPCS DG.

* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor

Event No. 1		
Description: Increase Reactor Power with control rods		
This event is initiated by the turnover sheet.		
Time	**Position**	**Applicants Actions or Behavior**
	SRO	Directs RO to continue rod withdrawal

	RO	Withdraws control rods
		• Verifies prior to each rod withdrawal
		  – Correct rod selected
		  – Correct start/stop position
		• for each rod that is fully withdrawn:
		  - checks coupling integrity - initials sequence sheet (PPM 9.3.9)
		  - ensures position 48 corresponds to FULL OUT light

	BOP	Monitors plant conditions

COMMENTS:
1. An examiner or WNP2 staff may be used to role-play the "second person" for simultaneous verification of rod movement (per PPM 1.3.1)
2. This event may be performed simultaneously with events 2-6.

Event No. 2

Description: RWM failure results in loss of ability to move control rods

*This event is initiated with **TRIGGER 2** after a significant reactivity change has occurred in event 1 or by direction of the lead examiner.*

Time	Position	Applicants Actions or Behavior
	RO	Reports INSERT and WITHDRAWAL blocks are instated with no activity at P603
	SRO	Directs RO/BOP to confirm cause of rod blocks References ABN-RWM, Rod Worth Minimizer Failure
	BOP	Reports RWM OPER led is off (P616, RDCS Analyzer Panel)indicating RWM is inop *NOTE: Immediate operator action for a failed RWM is to stop all rod movement except by scram. This action is already covered by the fact that both insert and withdrawal blocks are instated.*
	SRO	Directs subsequent actions of ABN-RWM • Attempt to re-initialize RWM (this failure will prevent re-initialization) • Manually bypasses RWM IAW PPM 2.1.4 Refers to Tech Spec 3.3.2.1, Condition C, and determines that rod motion can occur as long as required action steps C.2.1.1 or C.2.1.2 have been verified and movement is verified per C.2.2. *CUE: If asked as STA to administratively verify that a startup with the RWM inop has not been performed in the last calendar year, report back that the current startup is the only startup performed this calendar year.* • Directs RO to manually bypass the RWM per PPM 2.1.4 • Assigns a second licensed operator or qualified member of the tech staff to act as second verifier for compliance with the BPWS • Directs continuation of startup
	RO	Bypasses RWM when directed Continues pulling rods

COMMENTS:
1. This event should be performed during event #1, as it is a silent failure and will most likely be caught while attempting to move rods.

Event No. 3

Description: Outboard MSIV on 'A' steam line fast closes due to failure of its 4-way air control valve.

*This event is initiated with **TRIGGER 3** after the RWM has been bypassed and the RO is pulling rods.*

Time	Position	Applicants Actions or Behavior
	RO/BOP	Reports that MS-V-28A is closed May Report the steam flow in MSL "A" indicates 0 Mlbm/hr.
	SRO	Briefs crew Contacts Work Control to initiate investigation and repair plan. Contacts plant manager. *CUE: As upper management, express to the CRS that you want to continue with the plant startup while the work team investigates the cause.*

COMMENTS:

Event No. 4
Description: CRD flow controller auto mode fails requiring transfer to manual and manual adjustment of CRD flow.
*This event is initiated with **TRIGGER 4** after the MSIV closure has occurred or by direction of the Lead Examiner.*

Time	Position	Applicants Actions or Behavior
	RO	Reports that drive water pressure is very low
		May report the inability to move control rods
		Reports that the CRD flow controller is not operating properly in automatic.
	SRO	Directs the RO to take manual control of the flow controller and adjust flow and pressure
	RO	Takes manual control of the CRD flow controller and adjust cooling water flow to ≈60 gpm and drive water pressure to ≈260 psig
	SRO	Contacts work control to have them investigate and prepare repair plan .
COMMENTS: It is probable that this event will remain unnoticed until rod movement is attempted.		

Event No. 5

Description: Transfer Feedwater lineup from Startup level control valves, RFW-FCV-10A/B, to RFP speed control.

This event is initiated by the SRO as the team continues with the plant startup per PPM 3.2.5

Time	Position	Applicants Actions or Behavior
	SRO	Directs the BOP to transfer FWLC from the 10 valves to RFP speed control.
	BOP	Transfers FWLC from 10 valves to RFP speed control per PPM 2.2.4, sect. 5.7 • Ensures Rx Vessel Level Control switch is in 1-ELEMENT • Ensures RFW-LIC-600 (RPV Level Master Control)is in manual and adjusted so that RFW-SC-601A(B) DEV signal is ±0.8% from 0% • Places RFW-SC-601A(B) in auto • Ensures level setpoint on RFW-LIC-600 matches level setpoint of RFW-LIC-620 • Places RFW-LIC-620 in manual and then immediately places RFW-LIC-600 in auto • Observes RFW-LIC-600 automatically maintains desired RPV level by controlling RFP speed • Slowly opens RFW-FCV-10A(B) using RFW-LIC-620 in manual to achieve LE 20 psid across 10 valve. Observes RFP speed decreases to maintain RPV level at desired setpoint. • When RPV level is stable, opens RFW-V-112A and observes RFP speed adjusts to maintain level • Opens RFW-V-112B • Using RFW-LIC-620 in manual, slowly closes RFW-FCXV-10A(B) • Closes RFW-V-118
	RO	Monitors plant conditions

COMMENTS:
This event may occur anytime within the scenario, based on the crew's performance of the startup procedure.

Event No. 6
Description: Automatic operation of reactor feed pump min-flow controller is erratic resulting in reactor water level swings and requiring manual operation of min. flow.
*This event is initiated with **TRIGGER 6** after the BOP has placed the RFP controller to automatic.*

Time	Position	Applicants Actions or Behavior
	BOP	Reports that reactor water level is cycling
		Reports "RFP Pump A Discharge Flow Low" annunciator
		Refers to ARP 4.840.A1: • Ensures that RFW-FIC-2A is throttling open • Checks FW flow LE 4950 gpm on digital feedwater system computer (P612) • *Because RFW-FIC-2A is not throttling open adequately when RFW flow decreases below 4000 gpm, places the min flow controller to manual and adjusts output to ≈80% • Checks that RPV level stabilizes . ***CRITICAL TASK**
	SRO	Directs manual control of min flow controller set at 80% IAW ARP
	RO	Monitors plant
COMMENTS:		

Event No. 7

Description: Failure of REA-FN-1B causing entry into EOP 5.3.1 on high secondary containment pressure.

*This event is initiated with **TRIGGER 7** after the BOP completes the transfer of the feed system to feedpump speed control or by direction of the lead examiner.*

Time	Position	Applicants Actions or Behavior
	BOP	Reports Bus 83 ground annunciator Investigates loads on bus 83 Determines REA-FN-1B has tripped
	RO	Reports "Sec Press ΔP High" annunciator and states that it is a possible EOP entry condition.
	SRO	Enters EOP 5.3.1 based on high secondary containment pressure Refers to PPM 4.10.1.1., Rx Bldg Vent Failure – no action required if HVAC ARPs take care of problem.
	BOP	Performs actions of PPM 4.812.R2: • Checks fan tripped • Attempts to start the other Rx Bldg inlet fan • *If neither fan can be started, immediately secures building exhaust fans, closes ROA-V-1, ROA-V-2, REA-V-1, and REA-V-2, and starts a train of SGT to maintain negative pressure in Rx Bldg. • Notifies chemistry to monitor Rx Bldg ventilation • Informs SRO that the ARP has a reference to ODCM 6.1.2.1 for all modes of operation. • Restores Rx Bldg HVAC system to normal per PPM 2.10.1 as soon as possible • Refers to PPM 4.10.1.1, Rx Bldg Vent Failure – no action required ***CRITICAL TASK**
	SRO	Upon restoration of negative Rx Bldg pressure, requests SM's permission to exit EOP 5.3.1

COMMENTS:

Event No. 8		
Description: Loss of offsite power *This event is initiated by **TRIGGER 8** after BOP restores negative pressure in the Rx Bldg or by direction of the lead examiner.*		

Time	Position	Applicants Actions or Behavior
	BOP	Determines/reports loss of electrical power • Loss of 230KV startup power • Backup power previously out of service • DG #1 and #2 have started • DG #2 failed to tie to the bus (see event #9)
	SRO	Directs RO to perform scram actions.
	RO	Performs immediate scram actions: • Mode switch to shutdown • Reports power/level/pressure • Inserts SRMs/IRMs • Reports all rods are in
	SRO	Enters EOP 5.1.1 based on low RPV level. • Gives a level band of -161" to +54" (or band between these values) • Gives a pressure band
	SRO/RO/BOP	Directs/performs actions for loss of offsite power per ABN-ELEC-LOOP: • If HPCS-P-2 fails to start, have HPCS DG tripped locally (see event 10) ***CUE: If requested as OPS-2 to trip DG-3 locally, wait 3 minutes and then initiate TRIGGER 20 to locally trip DG-3**.* • *Initiate RCIC and/or HPCS (HPCS is unavailable due to its failed service water pump <event 10>) to maintain RPV level • If SW pumps fail to auto start after 20 seconds, trip the associated DG at P800 • If Diesel Fire Pumps are not running, ensure fire protection headers are pressurized via diesel fire pumps. • If Rx Bldg DP has increased to 0 in H20, refer to EOP 5.3.1 and ensure SGT trains are operating per PPM 2.3.5 • If selected standby TSW pump has not started, then start it • Ensure automatic actions have occurred • Refer to PPM 13.1.1 to classify the emergency

| | | If no CAS compressors running, start CAS-C-1A(B) and ensure CJW is running per PPM 2.8.1. Ensure DC lube oil pumps associated with turbines have started. Restore RPS with available RPS MG sets and ensure neutron monitoring systems and process radiation monitoring systems are returned to service. When RPS has been restored and plant conditions warrant, restore primary containment and BOP isolations per ABN-FAZ. Restore CRD per PPM 2.1.1 *CUE: As the Monroe Control Center dispatcher, inform the WNP2 control room that the 230KV off site supply has been restored.*

Restores off-site power and re-energizes SM-1, SM-2, SM-3, SH-5, and SH-6 IAW PPM 2.7.1B |

COMMENTS:

Terminate the scenario when power has been restored to SM-1, SM-2, SM-3, SH-5 and SH-6 (or any combination as directed by lead examiner)

Event No. 9
Description: Failure of DG-2 output breaker to close. Requires BOP manual action to attempt closure. Manual attempt will also fail.
This event is initiated at the beginning of the scenario, but is not detected until DG-2 attempts to tie to SM-7. This event occurs within event 8 and should be completed before scenario termination.

Time	Position	Applicants Actions or Behavior
	BOP	Reports that DG-2 output breaker has failed to close Attempts to close DG-2 breaker to complete an expected automatic operation. • Verifies CB-8/1 is open • Verifies CB-B8 is open • Places CB-DG1/8 synch switch in MAN CHECK • Places CG-DG1/8 control switch to CLOSE Reports that DG-2 output breaker will not close manually.
	SRO	If BOP fails to take manual action, SRO directs BOP to shut DG-2 output breaker. *After manual closure attempt fails, directs BOP to emergency trip DG-2 due to no Service Water flow to the DG. May declare an Alert after 15 minutes with only one emergency bus supply available. . ***CRITICAL TASK**
	BOP	Emergency trips DG-2 **CRITICAL TASK**
COMMENTS:		

Event No. 10		
Description: HPCS SW pump shaft seizure requiring trip of HPCS Diesel Generator.		
This event is initiated at the beginning of the scenario but is undetected until the HPCS DG receives a start signal. This event occurs within event 8 and should be completed before scenario termination.		
Time	**Position**	**Applicants Actions or Behavior**
	BOP	*Reports that the HPCS SW pump trip has tripped.
		Reports that DG 3 is operating without SW flow
		Recommends tripping DG-3
		*CRITICAL TASK
	SRO	Directs trip of DG 3 per ABN-ELEC-LOOP
		CRITICAL TASK
	BOP	Contacts OPS2 via radio and directs him to trip DG 3 locally
		CUE: TRIGGER 20 trips DG 3 locally.
		Reports that DG-3 is tripped and that HPCS is secured
COMMENTS:		

SRO TURNOVER INFORMATION

The plant is starting up. The reactor is currently at 14% reactor power on its way to 100%.

 The control rod sequence is at step 2913, control rod 14-47 at notch 08.

PPM 3.1.2 is complete through section 5.6.

TRB failed 1 hour ago and is under clearance so that BPA can work on it.

Your crew is to continue the startup with the RO pulling rods and the BOP transferring the feed system from "10 valve control" to "feedpump speed control."

Facility: WNP-2		**Scenario No.** 3	**Op-Test No:** 1

Examiners: _____   **Operators:** _____

_____   _____

_____   _____

Initial conditions: IC-84. The reactor is at 100% power with APRM B in bypass for maintenance.
                           The core is near end-of-life.

Turnover: The plant is at 100% rated thermal power. The plant is scheduled to shut down in
                           63 days for a refueling outage. BPA has scheduled an economic dispatch to 90% to
                           commence at the beginning on your shift. The previous shift has completed PPM
                           3.2.5 to step 5.1.5. The "B" APRM is in bypass while the work team troubleshoots
                           a problem in the COUNT circuit. BPA has also requested that PCB 4888 be opened
                           at the beginning of your shift to allow for ASHE substation maintenance. All pre-
                           job briefs are complete

Event No.	Malf. No.	Event Type*	Event Description
1.		R(RO)	Reduce power to 90% for economic dispatch
2.	Trigger 2	I(RO)	APRM C fails upscale during power reduction
3.		N(BOP)	BPA requests that WNP-2 open PCB 4888 for switchyard maintenance.
4.	Trigger 4	C(BOP)	Running DEH pump trips, standby DEH pump fails to auto start. BOP manually starts the standby pump.
5.	Trigger 5	I(BOP)	DEH analog amplifier for BPVs output fails high causing all BPVs to go full open requiring BOP to take manual control of BPVs to shut them.
6.	Trigger 6	C(ALL)	Loss of SM-1 due to overcurrent lockout. Results in loss of feedwater
7.		M(ALL)	Low RPV level reactor SCRAM with a 3 rod ATWS.
8.		I(RO/BOP)	RCIC flow controller output fails with no signal output rendering RCIC unusable.
9.		C(BOP)	PCB 4885 fails to open when the turbine trips resulting in motoring of main turbine generator.
10.	auto triggers when Rx pressure is LT 650#	C(RO/BOP)	RFW-V-10A&B fail open resulting in RPV overfeed.

* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor

Event No. 1		
Description: Reduce power to 90% for economic dispatch *This event is initiated by the turnover sheet.*		
Time	**Position**	**Applicants Actions or Behavior**
	SRO	Directs power reduction with recirc flow. Notifies Chemistry, Health Physics, and Radwaste Control Room of pending power change.
	RO	Reduces reactor power with recirc flow (AUTO or MANUAL) and monitors plant response.
	BOP	Monitors plant: • Recovers from Governor Valve Optimization per PPM 2.5.7 • Verifies that COND-V-144 and RFW-V-109 are closed.
COMMENTS:		

Event No. 2		
Description: APRM C fails upscale during power reduction. *This event is initiated with* **TRIGGER 2** *after power has been reduced by ~5% or by the direction of the lead examiner.*		

Time	Position	Applicants Actions or Behavior
	SRO/RO/BOP	Recognizes indications of a ½ scram • Multiple RPS annunciators on panel P603 A7 • Div 1 Scram Group lights extinguished • No rod motion • May announce on plant page to "stop all surveillance's" (or similar)
	SRO	Directs RO/BOP to determine cause of ½ scram
	RO	Monitors P603 indications • Confirms/reports that no individual rods have scrammed • Reports that APRM C indicates up-scale • Refers to ½ scram and APRM upscale ARPs (4.603.A7)
	SRO	Directs RO to bypass APRM C and then reset the ½ scram.
	RO	Bypasses APRM C and resets the ½ scram
	SRO	Refers to Tech Specs 3.3.1.1 (RPS Instrumentation) and LCS 1.3.2.1 (Rod Blocks) and LCS 1.3.3.1 (Post Accident Monitoring) • Determines only 2 of the 3 APRM channels are required per trip system
	SRO	Contacts work team for troubleshooting/repair of APRM C

COMMENTS:

Event No. 3	
Description: BPA requests PCB 4888 be opened to allow BPA to perform switchyard maintenance.	

This event is initiated by phone call after the SRO has completed his Tech Spec call on the failed APRM or by direction of the lead examiner.

Time	Position	Applicants Actions or Behavior
CUE: Call control room on BPA ringdown line as ASHE sub-station and request that the control room manually open PCB 4888 in preparation for maintenance.		
	SRO	Directs BOP to manually open PCB 4888 IAW PPM 2.5.7, section 5.16.
	BOP	Manually opens PCB 4888 - Places ASHE BKR #2 Synch Selector Switch in MANUAL. - Places ASHE BKR #2 BPA BKR 4888 Switch in TRIP - Verify breaker opens - Places ASHE BKR #2 Synch Selector Switch in OFF. - Informs ASHE sub-station/Dittmer that BKR 4888 is open.
	RO	Monitors plant
COMMENTS:		

Event No. 4

Description: DEH-P-1A trips. DEH-P-1B fails to auto-start.

*This even is initiated with **TRIGGER 4** after the BOP completes the opening of the 4888 breaker.*

Time	Position	Applicants Actions or Behavior
	BOP	Reports Bus-11 Ground annunciator • Investigates Bus-11 loads • Finds DEH-P-1A tripped • Reports that DEH-P-1B failed to start automatically on low system pressure
	SRO	Directs the manual start of DEH-P-1B based on failure of automatic action
	BOP	*Manually starts DEH-P-1B Verifies normal starting parameters and return of system pressure ***CRITICAL TASK**
	RO	Monitors plant
	SRO	Directs OPS3 to investigate loss of DEH-P-1A and check out ground fault indication panel. Contacts Work Team to troubleshoot/repair DEH-P-1A and pressure switch DEH-PS-5
COMMENTS:		

Event No. 5
Description: Loss of SM-1 on overcurrent resulting in a loss of Feedwater. *This event is initiated with **TRIGGER 5** after the crew has completed restoring DEH or by direction of the lead examiner.*

Time	Position	Applicants Actions or Behavior
	SRO/RO/BOP	Determines/reports loss of electrical power • Loss of SM-1 Verifies automatic actions occur IAW ABN-ELEC-AC • Emergency diesel #1 starts • SM-1 bus breakers open • CB-B7 closes after time delay to power up SM-7 from backup xfmr. • DG #1 supplies power to SM-7 if backup supply fails. Verifies Service Water for DG #1 is operating Restores power to MC-7C and MC-7E
	RO	Reports lowering trend in reactor water level Reports loss of running CRD pump due to momentary loss of SM-7
	SRO	Directs re-start of CRD pump IAW ABN-ELEC-AC
	BOP	Restarts CRD pump: • Closes CRD-FCV-2A with CRD-FC-600 • Starts or restarts CRD pump
	SRO/RO/BOP	Determines that low Reactor Water Level is being caused by inadequate condensate and feed flow.
	SRO	Directs RO to manually scram reactor if water level approaches the scram setpoint.

COMMENTS: This event leads into event 6.

Event No. 6		
Description: Reactor scram with a 3 rod ATWS.		
This event is initiated by the actions in Event 5		
Time	**Position**	**Applicants Actions or Behavior**
	RO	Carries out immediate actions for reactor scram • Mode switch to shutdown • Reports power/level/pressure • Inserts SRM's/IRM's • Reports that 3 control rods did not insert • Depresses manual scram buttons • Initiates ARI
	SRO	Enters 5.1.1 on low reactor water level Exits 5.1.1 and enters 5.1.2 based on incomplete scram • Directs RO/BOP to inhibit ADS and take manual control of HPCS • Directs verification of expected isolations and initiations • Directs bypass of MSIV isolations per PPM 5.5.6 • Directs RPV level band between –192" and +54" using outside shroud injection systems • Directs a pressure band below 1060 psig with BPVs • When it becomes evident that adequate high-pressure injection sources are not available, directs a pressure band (typically 500-600 psig) to allow injection with the condensate booster pumps. • Directs RRC pumps taken to minimum flow (should be there due to loss of feedwater) • Directs alternate modes of rod movement via PPM 5.5.10 and 5.5.11
	RO/BOP	*Inhibits ADS *Takes manual control of HPCS • Manually initiates HPCS with ARM and DEPRESS • Secures HPCS pump and/or shuts HPCS-V-4 Verifies +13" isolations Bypasses MSIV isolations using PPM 5.5.6 • Obtains procedure package and keys from EOP drawer • At P609, places MS-RMS-S84 to BYPASS position • At P611, places MS-RMS-S85 to BYPASS position • Reports completion of PPM 5.5.6 to the SRO

| | | Maintains water level using RCIC with suction from CST (RCIC will not operate correctly <event 7>)

Reports that the only high-pressure system injecting is CRD.

*When directed, lowers reactor pressure to band allowing injection with condensate booster pumps.

Maintains water level in band using condensate booster pumps via RFW-V-10A & 10B (see event 9)

Overrides ARI logic using PPM 5.5.10:
- Obtains procedure package and fuse pullers from EOP drawer
- At P650, pulls one of the following fuses on TB1:
  - F01; F02; F03; F04
- At P650, pulls one of the following fuses on TB2:
  - F01; F02; F03; F04
- Reports to SRO that PPM 5.5.10 is complete
Performs actions of PPM 5.5.11:
- Obtains procedure package and tools from EOP drawer
- Determines that the appropriate sections of the procedure for the existing conditions are Tabs B and F.

- TAB B:
  - Places SDV HIGH LEVEL TRIP control switch to BYPASS
  - Overrides RPS trip signals:
    - Installs jumper between terminal stud 2 on RPS-RLY-K9B and terminal stud 4 on PRS-RLY-K12F in P611
    - Installs jumper between terminal stud 2 on RPS-RLY-K9D and terminal stud 4 on PRS-RLY-K12H in P611
    - Installs jumper between terminal stud 2 on RPS-RLY-K9A and terminal stud 4 on PRS-RLY-K12E in P609
    - Installs jumper between terminal stud 2 on RPS-RLY-K9C and terminal stud 4 on PRS-RLY-K12G in P609
  - Resets the scram on P603
  - When SDV has drained for more than 2 minutes, checks rod density and initiates a manual scram
  - Reports any rod movement, or lack thereof, to the SRO

- TAB F:
  - Starts second CRD pump if available
  - Places SDV HIGH LEVEL TRIP control switch to BYPASS
  - Resets scram if possible
  - Bypasses all RSCS rod blocks: |

		- Installs a jumper from terminal 7 to terminal 8 on the following two Bailey Alarm Cards on P613 - AHH (MS-PS-654A) - AGG (MS-PS-654B) - Places RWM bypass switch to BYPASS - Manually drives rods and informs SRO of results ***CRITICAL TASK**

COMMENTS:
NOTE: STA will not be available to make determination of reactor shutdown with rods out.

Terminate the scenario when RPV level is +13" to +54" and all rods have been driven in.

Event No. 7		
Description: RCIC flow controller output fails *This event is initiated at the beginning of the scenario but is not detectable until RCIC is running.* *This event occurs within Event 6 and should be completed prior to scenario termination.*		

Time	Position	Applicants Actions or Behavior
	RO/BOP	Reports that RCIC is running at a very low speed and that the controller is not responding.
	SRO	Directs RCIC shutdown due to improper operation.
	RO/BOP	Trips RCIC

COMMENTS:		

Event No. 8		
Description: PCB 4885 fails to open when the turbine trips. *This event is initiated at the beginning of the scenario but is not detectable until after the turbine trips. This event occurs within Event 6 and should be completed prior to scenario termination.*		
Time	**Position**	**Applicants Actions or Behavior**
	BOP	Reports that PCB 4885 failed to open automatically upon turbine trip. Opens PCB 4885 to manually complete expected automatic action.
COMMENTS:		

Event No. 9
Description: RFW-V-10A&B fail open resulting in RPV overfeed *This event is automatically initiated when reactor pressure drops below 650 psig. This event occurs within Event 6 and should be completed prior to scenario termination.*

Time	Position	Applicants Actions or Behavior
	BOP	Reports that water level is returning to normal band but that the Startup Level Control valves are not responding by throttling down.
	SRO	May direct operation of COND-V-118 to stop vessel overfill May direct shutdown of Condensate Booster Pumps/Condensate Pumps to minimize level increase.
	BOP	Performs actions directed by SRO to mitigate overfill of reactor vessel **CRITICAL TASK**
COMMENTS:		

SRO TURNOVER INFORMATION

The plant is at 100% rated thermal power. The plant is scheduled to shut down in 63 days for a refueling outage.

BPA has scheduled an economic dispatch to 90% to commence at the beginning on your shift.

The previous shift has completed PPM 3.2.5 to step 5.1.5.

The "B" APRM is in bypass while the work team troubleshoots a problem in the COUNT circuit.

BPA has also requested that PCB 4888 be opened at the beginning of your shift to allow for ASHE substation maintenance.

All pre-job briefs are complete

Facility: WNP-2   **Scenario No.:** 1   **Op-Test No.:** 2

Examiners: _____   **Operators:** _____

_____   _____

_____   _____

Initial conditions: IC-86. Reactor power is at 17%. The main generator is ready for synch with the grid.

Turnover: A plant startup is in progress. The reactor is at 17% power. PPM 3.1.2 is at step 5.7.20. Rod pull is at step 32-12, control rod 02-19 at notch 08. The main generator is at 1800 RPM and ready to synch to the grid. All pre-job briefs are complete.

Event No.	Malf. No.	Event Type*	Event Description
1.		N(BOP)	Complete synchronization of the Main Generator with the Grid.
2.		C(BOP)	Main Generator auto synchronization circuit fails requiring manual synchronization of the main generator with the grid.
3.		R(RO)	Continue power increase by pulling control rods.
4.		I(RO)	Control Rod 02-19 position 10 reed switch fails requiring substitute rod position entry.
5.	Trigger 5	I(BOP)	TSW-TE-8 instrument output fails low causing a loss of main turbine lube oil temperature indication and causing TSW-TCV-8 to go closed (due to sensed low temperature input) causing an increase in Main Turbine Bearing Oil temperature with a resultant requirement to decrease generator load and trip the main turbine.
6.		C(RO)	Stuck control rod (58-19). The RO will be able to withdraw the control rod by increasing control rod drive pressure. *(Columbia PER 299-2360)*
7.	Trigger 7	M(ALL)	Rupture in DEH causes loss of pressure in DEH resulting in the closure of all bypass valves and a high RPV pressure condition.
8.		M(ALL)	Reactor fails to scram on high RPV pressure due to Hydraulic ATWS.
9.	Trigger 9 to pull SRV fuses	M(ALL)	MS-RV-1B tailpipe failure above suppression pool level.
10.	auto triggered on scram	C(RO)	Operating CRD pump trips on low suction pressure following the scram *(Columbia PER 299-1342)*
11.		C(RO/BOP)	RHR-P-2A shaft shears requiring all containment spray functions off RHR B loop.

(N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor

Event No. 1		
Description: Complete synchronization of the Main Generator with the Grid. *This event is initiated by the turnover sheet*		
Time	**Position**	**Applicants Actions or Behavior**
	SRO	Directs the synchronization of the main generator to the grid IAW PPM 2.5.7. starting at step 5.4.6
	BOP	Performs actions of PPM 2.5.7, Main Generator Synch to Grid: - Closes Exciter field breaker - Checks generator voltage - Adjusts generator voltage - Places voltage regulator to test and runs voltage up and down and then nulls out the meter - Places voltage regulator in ON - Notifies BPA of pending synchronization to the grid. ***CUE: As BPA inform WNP-2 that breaker PCB-4885 will be the generator breaker to synchronize across.*** - Adjusts turbine speed to 1802-1804 with DEH - places ASHE Breaker No. 1 Sync Selector switch to AUTO and observes synch scope and voltmeter operation - if necessary, adjust turbine speed again to obtain synch scope rotation slow in the fast direction. - using the Main Generator Exciter Voltage Adjuster, adjusts synch voltage to bus voltage - On DEH, depresses Load Rate MW/Min button and enters a load rate of 200 MWe/min and depresses ENTER. - When the synch scope rotates slowly in the fast direction and the pointer passes the 11 o'clock position, takes the generator breaker control switch to the CLOSE position. **NOTE: The selected breaker will not close – see event #2** Reports that the generator breaker will not close
COMMENTS:		

Event No. 2

Description: Main Generator auto synchronization circuit fails requiring manual synchronization of the main generator with the grid.

This event is initiated at the beginning of the scenario but is not evident until closure of the breaker is attempted.

Time	Position	Applicants Actions or Behavior
	SRO	May call system engineer for recommendations May request Shift Manager input ***CUE: As system engineer, recommend that operations continue the synchronization in Manual. As plant management/shift manager, inform the CRS that permission is given to complete the synchronization in the MANUAL mode.*** Directs BOP to synchronize the generator in MANUAL mode.
	BOP	Performs actions to synchronize the generator in MANUAL mode: • takes the synch selector switch for breaker to MANUAL • speed and voltage should already be in range from previous attempt to AUTO close the breaker • using the Master Close Switch, closes the breaker when synch scope is going slow in the fast direction and has just passed the 11 o'clock position • at DEH, depresses the LOAD RATE MW/MIN pushbutton and enters a load rate of 200 MWe/min and depresses the ENTER button. • at DEH, depresses REFERENCE pushbutton and enters a load setpoint of 300 MWe and depresses the ENTER button • at DEH, depresses the GO button • verifies that TG Motoring alarm clears and then depresses the HOLD button • takes synch selector switch to OFF • places voltage stabilizer to ON • loads main generator Reports completion of task to CRS

COMMENTS:

Event No. 3

Description: Continue power increase by pulling control rods.

This event is initiated by the turnover sheet. It may be commenced prior to main generator synchronization, but must be put on hold during the synchronization.

Time	Position	Applicants Actions or Behavior
	SRO	Directs RO to continue rod withdrawal

	RO	Withdraws control rods
		• Verifies prior to each rod withdrawal
		  – Correct rod selected
		  – Correct start/stop position
		• for each rod that is fully withdrawn:
		  - checks coupling integrity - initials sequence sheet (PPM 9.3.9)
		  - ensures position 48 corresponds to FULL OUT light

	BOP	Monitors plant conditions

COMMENTS:

Event No. 4
Description: Control Rod 02-19 position 10 reed switch fails requiring substitute rod position entry.
This event is initiated at the beginning of the scenario but is not evident until the rod is moved to this position.

Time	Position	Applicants Actions or Behavior
	RO	Reports that the RPIS is not registering rod position at notch 10
	SRO	Refers to and directs actions of PPM 4.1.1.6, Loss of Control Rod Position Indication
	RO	Performs actions of PPM 4.1.1.6: • inserts substitute value for rod 02-19, notch 10, in RSCS and RWM • continues rod pull

COMMENTS:
NOTE: Trigger 5 for event 5 should be initiated during this event to allow temperature to rise without long delays between events.

Event No. 5		

Description: TSW-TE-8 instrument output fails low causing a loss of main turbine lube oil temperature indication and causing TSW-TCV-8 to go closed (due to sensed low temperature input) causing an increase in Main Turbine Bearing Oil temperature with a resultant requirement to decrease generator load and trip the main turbine.

*This event is initiated with **TRIGGER 5** during event 4 to allow temperatures to rise without a long delay time between events.*

Time	Position	Applicants Actions or Behavior
	BOP	Reports high temperature condition for main turbine bearing oil Refers to ARP • checks bearing oil drain temps on point 1-15 on TG-TR-48 • recommends decrease of generator load when temperature reaches 170 °F (DEH will prevent this reduction because of the minimal amount of load on the generator) • checks for proper operation of TSW-TCV-8 (sends equipment operator) *CUE: If requested as EO, report that TCV-8 is full closed.* • if necessary, has EO bypass TCV-8 with TSW-V-21. *CUE: If this is requested early in the event, as EO, report that V-21 will not open and report that you've requested assistance from the SSS.*
	SRO	Directs trip of main turbine as bearing oil drain temps approach or reach 180°F
	BOP	Trips main turbine when temperature reaches 180°F or as directed
	SRO	Briefs crew
	RO	Monitors plant and reports Rx Power, Pressure, and Level following transient caused by turbine trip.

COMMENTS:		

Event No. 6

Description: One stuck control rod (52-19). RO is able to withdraw control rod by increasing control rod drive pressure.

This event is initiated at the beginning of the scenario but is not evident until this rod is selected and movement attempted.

Time	Position	Applicants Actions or Behavior
	RO	Reports that control rod 52-19 did not move during attempted withdrawal. Verifies normal CRD system parameters on P603
	SRO	Refers to PPM 2.1.1, CRD System: • Directs increase of CRD drive water pressure to 300 psid • Directs rod movement attempt
	RO	Increases CRD drive water pressure and attempts rod movement Reports no movement of selected rod
	SRO	Directs increase of CRD drive water pressure to 350 psid Directs rod movement attempt Refers to Tech Spec 3.1.3 • determines that the stuck control rod meets separation criteria • determines that the associated CRD must be disarmed within 2 hours
	RO	Increases CRD drive water pressure and attempts rod movement Reports movement of selected rod
	SRO	Directs return of CRD pressure to 260 psid
	RO	Returns CRD pressure to 260 psid
	SRO	May notify system engineer to inform of problems with movement of rod 52-19

COMMENTS:
When CRD drive water pressure reaches 350 psid, select the stuck rod malfunction on the SUMMARY
  page and delete it to allow for rod movement.

Event No. 7
Description: Rupture in DEH causes loss of pressure in DEH resulting in the closure of all bypass valves and a high RPV pressure condition. *This event is initiated with **TRIGGER 7** after the stuck control rod event (Event 6)*

Time	Position	Applicants Actions or Behavior
	ALL	Report high reactor pressure condition
	BOP	Reports that bypass valves have failed shut. Determines that DEH has lost pressure.
	SRO	Directs manual reactor scram due to impending high pressure scram **CRITICAL TASK**
	RO	Inserts manual reactor scram (if automatic scram has not occurred) and carries out immediate operator actions for reactor scram • takes mode switch to shutdown • reports power/level/pressure • Due to ATWS (see event 8), depresses manual scram pushbuttons and initiates ARI. **CRITICAL TASK**
COMMENTS:		

Event No. 8

Description: Reactor fails to scram on high RPV pressure due to a partial Hydraulic ATWS. Rods will slowly drift in following the scram.

This event is initiated at the beginning of the scenario but is not evident until the plant is scrammed in event 7.

Time	Position	Applicants Actions or Behavior
	RO	reports ATWS condition, all rods NOT in, APRMs NOT downscale
	SRO	Enters PPM 5.1.2 due to ATWS condition • *directs BOP to inhibit ADS and take manual control of HPCS • *directs RO to trip both RRC pumps and initiate SLC • directs RO/BOP to ensure isolations and auto initiations have occurred. • directs BOP to bypass MSIV isolations per PPM 5.5.6 • *directs RO to stop and prevent FW injection and maintain RPV level –65" to –192" (or some band in between) • directs BOP to maintain RPV pressure 800-1000 psig using SRV's • *directs RO/BOP to attempt to insert control rods using PPM 5.5.10 and 5.5.11. ***CRITICAL TASK**
	RO/BOP	*Inhibits ADS *Takes manual control of HPCS • Manually initiates HPCS with ARM and DEPRESS • Secures HPCS pump and/or shuts HPCS-V-4 *Trips RRC pumps and initiates SLC Verifies +13" isolations Bypasses MSIV isolations using PPM 5.5.6 • Obtains procedure package and keys from EOP drawer • At P609, places MS-RMS-S84 to BYPASS position • At P611, places MS-RMS-S85 to BYPASS position • Reports completion of PPM 5.5.6 to the SRO *Maintains water level using FW system Reports that control rods appear to be drifting into the core. *Overrides ARI logic using PPM 5.5.10:

| | | • Obtains procedure package and fuse pullers from EOP drawer
• At P650, pulls one of the following fuses on TB1:
  • F01; F02; F03; F04
• At P650, pulls one of the following fuses on TB2:
  • F01; F02; F03; F04
• Reports to SRO that PPM 5.5.10 is complete

*Performs actions of PPM 5.5.11:
• Obtains procedure package and tools from EOP drawer
• Determines that the appropriate sections of the procedure for the existing conditions are Tabs B and F.

• TAB B:
  • Places SDV HIGH LEVEL TRIP control switch to BYPASS
  • Overrides RPS trip signals:
    • Installs jumper between terminal stud 2 on RPS-RLY-K9B and terminal stud 4 on PRS-RLY-K12F in P611
    • Installs jumper between terminal stud 2 on RPS-RLY-K9D and terminal stud 4 on PRS-RLY-K12H in P611
    • Installs jumper between terminal stud 2 on RPS-RLY-K9A and terminal stud 4 on PRS-RLY-K12E in P609
    • Installs jumper between terminal stud 2 on RPS-RLY-K9C and terminal stud 4 on PRS-RLY-K12G in P609
  • Resets the scram on P603
  • When SDV has drained for more than 2 minutes, checks rod density and initiates a manual scram
  • Reports any rod movement, or lack thereof, to the SRO

• TAB F:
  • Starts second CRD pump if available
  • Places SDV HIGH LEVEL TRIP control switch to BYPASS
  • Resets scram if possible
  • Bypasses all RSCS rod blocks:
    • Installs a jumper from terminal 7 to terminal 8 on the following two Bailey Alarm Cards on P613
      • AHH (MS-PS-654A)
      • AGG (MS-PS-654B)
  • Places RWM bypass switch to BYPASS

Manually drives rods and informs SRO of results

                                           *CRITICAL TASK |
| | RO | Reports when all rods are in |

	SRO	Exits PPM 5.1.2 and re-enters 5.1.1 • directs RO to stop SLC and restore RPV level to +13" to +54" • may direct BOP to remove RPS jumpers
COMMENTS:		

Event No. 9

Description: MS-RV-1B tail pipe failure above suppression pool level
This event is initiated at the beginning of the scenario but is not evident until the high-pressure condition occurs in the RPV. The associated SRV sticks open to drive containment towards PSP.

Time	Position	Applicants Actions or Behavior
	BOP	Reports rapidly increasing drywell and wetwell pressure Reports that MS-RV-1B is stuck open May report possible tail pipe failure based on DW/WW pressure response
	SRO	Directs actions of ABN-SRV • directs BOP to verify SRV open using MS-TR-614, or rising suppression pool level • directs BOP to place SRV control switch to OFF on P601 • *directs RO/BOP to place a loop of RHR (B preferred) in suppression pool cooling • *directs BOP to remove the SRV's fuses (fuse BB-F27 and F28 in P628) ***CRITICAL TASK**
	BOP	Verifies SRV is open by checking associated point on MS-TR-614 Takes SRV control switch to OFF *Places a loop of RHR in suppression pool cooling Removes fuses for SRV *CUE: When operator goes to P628, explain to him that you will perform the fuse removal (fuses are not physically modeled in the simulator). Initiate TRIGGER 9 to give the effect of pulling fuses. The SRV P601 position indication will extinguish, but the valve will remain open.* ***CRITICAL TASK**
	SRO	Enters PPM 5.2.1 on high PC pressure

		• directs initiation of WW sprays • when WW pressure is GT 12 psig, and within DSIL, directs shutdown of RRC pumps and DW cooling fans and initiation of DW sprays • directs PC sprays shutdown at 1.68 psig • when PC pressure cannot be maintained less than PSP, enters PPM 5.1.3, Emergency RPV Depressurization **CRITICAL TASK**
	RO/BOP	*When directed, initiates WW sprays Secures DW coolers (RRC pumps secured earlier due to initial ATWS condition) *When directed, initiates DW sprays ***CRITICAL TASK**
	SRO	Determines that DW pressure cannot be maintained LT PSP *Directs BOP/RO to emergency depressurize the RPV by placing 7 ADS valves to OPEN ***CRITICAL TASK**
	RO/BOP	Places 7 ADS valves to OPEN **CRITICAL TASK**
COMMENTS: **Terminate the scenario when all rods are in and the RPV has been emergency depressurized.**		

Event No. 10		
Description: Operating CRD pump trips on low suction pressure following the scram *This event is initiated automatically after the reactor scram. This event occurs within event 8 and should be completed prior to termination of the scenario.*		
Time	**Position**	**Applicants Actions or Behavior**
	RO	Reports that the running CRD pump has tripped Refers to ARPs Attempts start of standby pump or previously running pump: • places CRD-FC-600, CRD Flow Controller, in manual and reduce the manual output to zero • attempts restart of CRD pump • if restart fails, attempts start of other CRD pump Reports that pumps start but trip again Reports suction filter hi DP when pump is running
	SRO	Directs placement of standby suction and discharge filters into service
	RO	Notifies OPS2 to align standby suction and discharge filters for the CRD pumps. When filters are aligned, restarts the CRD system: • ensures CRD Flow Controller is at zero • restarts CRD pump • restores CRD system to normal lineup
COMMENTS:		

Event No. 11
Description: RHR-P-2A shaft shears requiring all containment spray functions off RHR B loop.
This event is initiated at the beginning of the scenario but is not evident until the pump is started. This event occurs within event 8 and should be completed prior to termination of the scenario.

Time	Position	Applicants Actions or Behavior
	RO	Reports that RHR-P-2A is not pumping. Reports no flow and low pump amps.
	SRO	Directs the shutdown of RHR-P-2A. Directs all containment spray functions performed with RHR-P-2B
	RO	Secures RHR-P-2A

COMMENTS:

SRO TURNOVER INFORMATION

A plant startup is in progress. The reactor is at 17% power.

PPM 3.1.2 is at step 5.7.20.

Rod pull is at step 32-12, control rod 02-19 at notch 08.

The main generator is at 1800 RPM and ready to synch to the grid.

All pre-job briefs are complete.

Facility: WNP-2	**Scenario No.:** 2	**Op-Test No.:** 2

Examiners: _____   **Operators:** _____

                _____   _____

                _____   _____

Initial conditions: IC-82. Reactor power is at 91% on an end-of-life core.

Turnover: The plant is at 91% rated thermal power and is in the process of being returned to 100% at a rate of 10 MWe/min. You are currently at step 5.2.20 of PPM 3.2.5. The plant will be shutting down in 48 days for a refueling outage. The DG-2 Monthly Operability Surveillance, OSP-ELEC-M702, is in progress and has been completed through step 7.5.36 (DG has been running in idle for 10 minutes). SW-P-1B is running to support the DG surveillance. All pre-job briefs are complete.

Event No.	Malf. No.	Event Type*	Event Description
1.		N(BOP)	Parallel DG-2 to the bus.
2.	Trigger 2	C(BOP)	DG-2 voltage regulator failure causes MVARs to go upscale requiring the DG to be tripped. *(WNP-2 LER 98-014-00)*
3.	Trigger 3	C(BOP)	Hotwell level controller (LIC-2) power supply fails while hotwell level is on an upward trend requiring BOP to transfer control to LIC-1 and manually restore level in hotwell.
4.		R(RO)	Continue power increase with reactor recirc flow.
5.	Trigger 5	I(RO)	APRM INOP trip during power increase
6.	Trigger 6	I(BOP)	Reactor Building DP controller, REA-DPIC-1B, auto feature fails causing high positive pressure in secondary containment and requiring BOP to take manual control of DP or start SGT to restore negative pressure.
7.	Trigger 7	C(RO)	Small earthquake causes a small LOCA and an automatic shutdown of RWCU due to demin blockage. RO will initiate quick restart of RWCU system.
8.	Trigger 8	M(ALL)	Large earthquake causes a large LOCA and scram
9.		C(RO/BOP)	Loss of condensate and feedwater system
10.		C(ALL)	SM-3 startup breaker automatic closure fails requiring manual closure by BOP
11.		C(BOP)	HPCS-V-4, HPCS injection valve, fails closed rendering HPCS unusable.

(N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor

Event No. 1
Description: Parallel DG-2 to the bus.

This event is initiated by the turnover sheet.

Time	Position	Applicants Actions or Behavior
	SRO	Directs BOP to continue DG-2 Surveillance
	BOP	Continues DG-2 Surveillance: • Directs Ops-2 to place the Engine Speed Selector switch to the RATED position • Verifies voltage and frequency are within spec once steady state conditions are reached. • Places CB-DG2/8 Sync Selector to MAN CHECK • Raises or lowers frequency with DG-2 governor control switch until synchronizing scope is running slow in the fast direction. • Raises or lowers output voltage using DG-2 voltage regulator control switch, until generator Kilovolts is slightly higher than bus Kilovolts • At 5 min. to 12, places and holds CB-DG2/8 control switch in the CLOSE position until breaker closes and then immediately picks up load using the governor control switch. • Reports to CRS that DG-2 is tied to SM-8

COMMENTS:

Event No. 2		
Description: DG-2 voltage regulator failure causes MVARs to peg upscale requiring the DG to be tripped. *This event is automatically initiated when the DG output breaker is closed.*		
Time	**Position**	**Applicants Actions or Behavior**
	BOP	Reports that MVARs pegged upscale after paralleling the DG Emergency trips the DG (based on precaution in the surveillance procedure)
	SRO	Directs DG-2 emergency trip if not already accomplished Directs BOP to back out of surveillance procedure Calls work control for investigation and correction of DG regulator problem Refers to tech spec 3.8.1: • determines that SR 3.8.1.1 must be performed on OPERABLE offsite circuits within 1 hour and once per 8 hours thereafter • determines that no redundant features are inoperable • determines that either OPERABLE DGs are not inop due to common cause failure OR performs SR 3.8.1.2 for OPERABLE DGs within 24 hours • determines that DG-2 must be restored to OPERABLE status within 72 hours Calls plant management to inform them of DG-2 problem *CUE: As plant management, direct the SRO to back out of the surveillance procedure and restore the electric plant to a normal lineup*
	BOP	Backs out of surveillance procedure Restores SM-3 to TRN: • Ensures that the white LOCKOUT CKT AVAIL light and green tripped light are illuminated. • Ensures the green position flag is being displayed in the CB-N1/3 control switch window. • Ensures the CB-S3 whit LOCKOUT CIRCUIT AVAIL light and red closed light are illuminated

		• Places the CB-N1/3 Sync Selector switch is in the MANUAL position
		• Checks voltage present on both incoming and running buses (not required to be matched)
		• Places the CB-N1/3 control switch to the CLOSE position
		• Ensures CB-N1/3 closes.
		• Ensures CB-S3 auto trips at time of breaker CB-N1/3 closure. Manually trips CB-S3 if it does not auto trip.
		• Places the CB-S3 control switch to the TRIP position and ensures a green flag is displayed in the CB-S3 control switch window.
		• Places the CB-N1/3 Sync Selector switch in the OFF position.

COMMENTS:

Event No. 3

Description: Hotwell level controller (LIC-2) power supply fails while hotwell level is on an upward trend requiring BOP to transfer control to LIC-1 and manually restore level in hotwell.

*This event is initiated with **TRIGGER 3** while the electric plant is being restored to normal.*

Time	Position	Applicants Actions or Behavior
	BOP	Reports Main Condenser Hotwell Level Hi annunciator Reports that LIC-2 has no power Refers to PPM 4.840.A3 6-4 for high hotwell level
	SRO	Directs actions of PPM 4.6.5.2, Main Condenser High Water Level
	BOP	Performs actions of PPM 4.6.5.2 • sends OPS3 to check positions of LCVs 1A, 1B, and 1C *CUE: If requested as OPS3 to verify valve positions, wait 3 minutes and report that COND-LCV-1B and 1C are closed and that COND-LCV-1A is not opening* • verifies that COND –V-17 is open on P840 • shifts hotwell control to LIC-1 • verifies, via equipment operator, that LCVs are responding to LIC-1 *CUE: If requested as OPS3 to verify valve positions again, report that COND-LCV-1B and 1C are closed and that COND-LCV-1A is opening now.*

COMMENTS:
This event takes approximately 5 minutes from the initiation point to annunciation of the problem. During that time, the hotwell level controller display flickers off and on several times to give the appearance of probable instrument/power supply problems

Event No. 4		
Description: Continue power increase with reactor recirc flow. *This event is initiated by the turnover sheet and can be carried out anytime that the RO's attention is not elsewhere.*		
Time	**Position**	**Applicants Actions or Behavior**
	SRO	Directs RO to continue power increase with recirc flow.
	RO	Increases recirc flow IAW PPM 3.2.5 while monitoring reactor power: • using master flow controller, increases recirc flow at a rate not to exceed 1000 gpm increase/minute • monitors RPV level and feed system operation Informs SRO when plant is at 100% RTP
COMMENTS:		

Event No. 5
Description: APRM 'B' INOP trip during power increase
*This event is initiated with **TRIGGER 5** when power is approximately 95% or when directed by the lead examiner.*

Time	Position	Applicants Actions or Behavior
	RO	Observes/reports that APRM 'B' has failed INOP and resulted in a half scram Refers to ARP Checks full core display for individual control rods that may have scrammed during the half scram transient.
	SRO	Directs RO to bypass the failed APRM and reset the half scram per ARP 4.603.A8 Refers to Tech. Spec. 3.3.1.1 • no action required – still have required number of channels Refers to LCS 1.3.2.1 & 1.3.3.1 • no action required – still have required number of channels
	RO	Bypasses APRM and resets the half scram as directed Verifies that scram group solenoid lights are energized Verifies that backup scram lights have extinguished

COMMENTS:

Event No. 6

Description: Reactor Building DP controller, REA-DPIC-1A, auto feature fails causing high positive pressure in secondary containment and requiring BOP to take manual control of DP or start SGT to restore negative pressure.

*This event is initiated with **TRIGGER 6** after the half scram has been reset or when directed by the lead examiner.*

Time	Position	Applicants Actions or Behavior
	RO/BOP	Reports Secondary Containment Pressure ΔP annunciator Refers to PPM 4.602.A5
	BOP	Goes to panel 812 to determine RB HVAC problem Reports failure of REA-DPIC-1A controller Refers to PPM 4.812.R2 & 4.812.R2 • checks DP on REA-DPR-1B • if RB DP is at or above 0.0" H2O, reports entry condition for PPM 5.3.1 • checks RB fan ROA-FN-1A(1B) running • checks RB exh fan REA-FN-1A(1B) running • refers to ABN-HVAC • *starts SGT to maintain negative pressure in RB • closes ROA-V-1&2, REA-V-1&2 • if REA fans are running, secures them • restores RB HVAC to service as soon as possible May take manual control of faulty DPIC by allowance of PPM 1.3.1 vice starting SGT. ***CRITICAL TASK**
	SRO	Enters PPM 5.3.1 due to high reactor building pressure References ABN-HVAC and determines that ARP actions preclude entry into ABN-HVAC

COMMENTS:

Event No. 7		
Description: Small earthquake causes a small LOCA and an automatic shutdown of RWCU due to demin blockage. RO will initiate quick restart of RWCU system. *This event is initiated with* **TRIGGER 7** *after reactor building negative pressure has been restored*		
Time	**Position**	**Applicants Actions or Behavior**
SEISMIC SIM: Preset Seismic CD player on track 4 with a volume level of –10. Start CD player approx. 3 seconds before initiating TRIGGER 7. Allow CD to play approx. 20 seconds before securing.		
CUE: As OPS1, report that you felt seismic activity in the turbine building		

	SRO/RO/BOP	Recognize/report "Minimum Seismic Earthquake Exceeded" alarm
		
		Directs/Performs actions of ARP:
		• Checks the seismic response lights on board L and reports that some amber lights and no red lights are illuminated
		• Monitors control room instrumentation for evidence of increases in:
		   • Drywell leakage
		   • Drywell pressure
		   • Drywell gaseous or particulate activity
		   • Leak detection temperature changes
		• Announces seismic activity detected
		• Directs a walk-down of the plant by equipment operators to determine damage caused by the seismic activity.

	RO/BOP	Monitors control room instrumentation for evidence of system leakage
	RO	Reports shutdown of running RWCU pump Refers to PPM 4.602.A5 • monitors pump suction flow • monitors filter demin flow *CUE: Call as the Radwaste Control Room Operator and inform the control room that both RWCU demins isolated on high DP following the earthquake.*
	SRO	*CUE: This component failure is assigned to the RO. You may need to cue the SRO to direct the quick restart to the RO position.* Directs the quick restart of the RWCU pump

	RO	Restarts the RWCU pump in accordance with PPM 2.2.3, step 5.1.7: • opens RWCU-V-1 & 4 • ensures RWCU-V-104 is closed Note: the next two steps must be done simultaneously • place the control switch for RWCU-P-1B in START and hold it in this position • open RWCU-V-44 until the reactor water cleanup pump flow low alarm clears (approx. 70 gpm) • let the RWCU-P-1B control switch spring return to AUTO position • contacts the Radwaste control room and requests that they call the control room when demins are ready to be place back in service.
	RO/BOP	Reports Leak Detection drywell floor drain flow high annunciator Checks floor drain flow on P632 Reports floor drain flow is ~5 gpm and rising slowly Refers to ARP
	SRO	References/directs actions of ABN-LEAKAGE: • Directs the start of a temporary log for Rx Bldg floor drain sump flow integrator • Directs the monitoring of containment rad monitors at RAD board 22 and 23 • Directs the monitoring of drywell temp and press • Refers to Tech Spec 3.4.5 • Directs chemistry to perform an isotopic analysis of the drywell atmosphere for radioactivity.
	RO/BOP	Reports rising trend in drywell pressure and temperature Reports rising trend on containment rad monitors
	SRO	Briefs crew on pending scram due to rising DW pressure *Gives direction as to what pressure the crew will initiate a manual scram ***CRITICAL TASK**
	RO	Initiates a manual scram at the pre-described DW pressure or as directed by the SRO. **CRITICAL TASK**

COMMENTS:
NOTE: A very small drywell leak develops and begins to propagate 5 minutes into this event. This allows time for the RO to take action with the RWCU pump. Actual annunciation of the leakage problem occurs approximately 14 minutes into this event.

Event No. 8
Description: Large earthquake causes a LOCA and scram *This event is initiated by **TRIGGER 8** when SRO gives direction to manual scram the reactor based on increasing DW pressure.*

Time	Position	Applicants Actions or Behavior
		SEISMIC SIM: Preset Seismic CD player on track 4 with a volume level of 0. Start CD player approx. 3 seconds before initiating TRIGGER 8. Allow CD to play approx. 40 seconds before securing. After securing, set volume level to –10 and randomly run 10-15 second aftershocks over the remainder of the scenario.
		CUE: As OPS1, report that you felt seismic activity in the radwaste building; much worse than the last tremor. There is a lot of dust in the air.

	SRO/RO/BOP	Recognize/report "Operating Basis Earthquake Exceeded" alarm
		
		Directs/performs actions of ARP:
		• verifies alarm on Board L, numerous red indicators are illuminated
		• initiates a reactor shutdown
		• announces OBE
		• Monitors control room instrumentation for evidence of increases in:
		   • Drywell leakage
		   • Drywell pressure
		   • Drywell gaseous or particulate activity
		   • Leak detection temperature changes
		• Directs a walk-down of the plant by equipment operators to determine damage caused by the seismic activity.

	RO	Initiates manual reactor scram (if auto scram has not already occurred) Performs immediate scram actions • Places mode switch to shutdown • Reports power/pressure/level • Reports all rods in

		• Inserts SRMs/IRMs Lines up the feedwater system for RFW-V-10 valve control with the 10 valve controller in automatic
CUE: As Radwaste Control Room Operator, when RPV level drops below –50", report that the condensate filter demineralizers are all isolating on high DP. (event 9)		
	SRO	Enters PPM 5.1.1 on low RPV level and 5.2.1 on high DW pressure: • Directs RO/BOP to verify isolation, initiations, and DG starts • *Directs RO to maintain RPV level between –161" and +54" (will give a band within these limits) with Table 1 systems. • *Directs RO/BOP spray of WW before reaching 12 psig in the WW • Directs RO/BOP to confirm RRC pumps are stopped and stop DW cooling fans in prep for DW spray • *Directs RO/BOP to spray DW when WW press exceeds 12 psig and within DSIL • *Directs the securing of containment sprays when pressure drops LE 1.68 psig in respective area. • At –50" RPV level, directs verification of expected isolations and initiations • *At –129", if ADS timer has started, direct inhibition of ADS • *At TAF, determines that LP ECCS is available and that current trend will drop level below –192"; determines Emergency RPV depressurization is required; enters PPM 5.1.3, Emerg. RPV Depress. • *Directs RO/BOP to open 7 SRVs, ADS preferred. ***CRITICAL TASK**
	RO/BOP	Reports that expected initiations, isolations, and DG starts have occurred except that HPCS-V-4 has failed closed (see event 11). *Uses RCIC and FW systems to maintain RPV level *Sprays the WW when directed Confirms that RCC pumps and DW fans have been secured *Sprays the DW when directed *Secures WW/DW sprays when if or when LT 1.68 psig in each area *Opens 7 SRVs (ADS preferred) to emergency depressurize the RPV. ***CRITICAL TASK**
	SRO	Directs restoration of RPV level to band of +13" to +54"

	RO/BOP	Controls injection systems to restore RPV level to new band.

COMMENTS:

Terminate the scenario after the RPV has been depressurized and water level is in the +13" to +54" band.

Event No. 9
Description: Loss of condensate and feedwater system *This event is automatically initiated after the reactor scram. Each of the condensate filter demineralizers isolate on a time line (due to large crud bursts caused by earthquake) to give a gradual loss of feedwater. This event occurs within event 8 and should be completed prior to scenario termination.*

Time	Position	Applicants Actions or Behavior
	RO	Reports that even though the FW system is aligned for 10 valve control, there is no flow from the feedwater system Recognizes/reports that the condensate booster pumps have all tripped.
COMMENTS:		

Event No. 10
Description: SM-3 startup breaker automatic closure fails requiring manual closure by BOP *This event is initiated at the beginning of the scenario but is not evident until the auto transfer of power supplies for SM-3 occurs following the main turbine trip. This event occurs within event 8 and should be completed prior to scenario termination.*

Time	Position	Applicants Actions or Behavior
	BOP	Reports that breaker CB-S3 did not auto-close on auto-transfer following turbine trip Closes CB-S3 • ensures that CB-N1/3 is open and switch is green flagged • takes CB-S3 synch selector switch to MAN CHECK • takes CB-S3 control switch to CLOSE • verifies breaker closure
	SRO	If BOP does not close CB-S3 after report, direct closure of CB-S3
COMMENTS: This event occurs within Event 9		

Event No. 11

Description: HPCS-V-4, HPCS injection valve, fails closed rendering HPCS unusable.
This event is initiated at the beginning of the scenario but is not evident until HPCS is initiated. This event occurs within event 8 and should be completed prior to scenario termination.

Time	Position	Applicants Actions or Behavior
	RO	Reports that HPCS-V-4 did not open upon system initiation Attempts to open HPCS-V-4 (does not open) Reports that HPCS is unavailable

COMMENTS: This event occurs within Event 9.

SRO TURNOVER INFORMATION

The plant is at 91% rated thermal power and is in the process of being returned to 100% at a rate of 10 MWe/min.

You are currently at step 5.2.20 of PPM 3.2.5.

The plant will be shutting down in 48 days for a refueling outage.

The DG-2 Monthly Operability Surveillance, OSP-ELEC-M702, is in progress and has been completed through step 7.5.36 (DG has been running in idle for 10 minutes).

SW-P-1B is running to support the DG surveillance.

All pre-job briefs are complete.

Facility: WNP-2   **Scenario No.:** spare #1   **Op-Test No.:** na

Examiners: _____   **Operators:** _____

        _____   _____

        _____   _____

Initial conditions: IC-83. The reactor is at 50% power on a beginning of life core.

Turnover: The plant is in the process of a startup following refueling. The reactor is currently at 50% rated thermal power. Your shift will be continuing the power increase. The rod pull sequence is at step 39-6. PPM 3.1.2 is complete through step 5.9.14. Startup of RFP 'A' is complete through step 5.10.10 of PPM 2.2.4. Recirc flow unit 'A' is INOP and in Bypass due to a bad circuit card. I&C are procuring a new card and expect to have it installed in approximately 2 hours.

Event No.	Malf. No.	Event Type*	Event Description
1.		R(RO)	Increase power from 50% by pulling rods
2.	Trigger 2	I(RO)	Recirc Flow Unit 'B' fails upscale resulting in a rod block
3.		N(BOP)	Place the second feed pump in service
4.	Trigger 4	C(BOP)	The running TSW pump trips with a failure of the standby pump to auto-start. The standby pump is manually started.
5.	Trigger 5	C(BOP)	Inadvertent actuation of MS-RV-1A requiring fuse removal to close the SRV.
6.	Trigger 6	M(ALL)	Spurious fire alarm causes a fire pump start and a rupture in the reactor building fire header. Flooding occurs in RHR C and LPCS rooms. *(WNP-2 LER 98-011-00)*
7.		M(ALL)	Reactor shutdown commenced per PPM 5.3.1
8.	Trigger 8	I(RO/BOP)	RCIC high steam flow instrument fails upscale resulting in a RCIC isolation signal and RCIC turbine trip**.** *(WNP-2 LER 84-082-02)* RCIC will fail to automatically isolate.

(N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor

Event No. 1		
Description: Increase power from 50% by pulling rods		
This event is initiated by the turnover sheet.		
Time	**Position**	**Applicants Actions or Behavior**
	SRO	Directs RO to continue control rod withdrawal

	RO	Withdraws control rods:
		• Verifies prior to each rod withdrawal
		   − Correct rod selected
		   − Correct start/stop position
		• for each rod that is fully withdrawn:
		   - checks coupling integrity - initials sequence sheet (PPM 9.3.9)
		   - ensures position 48 corresponds to FULL OUT light

COMMENTS:
1. An NRC examiner or WNP-2 staff should be used as the second checker during rod movement.
2. Permit the RO to withdraw 5 control rods prior to activating Event 2.

Event No. 2		

Description: Recirc Flow Unit 'B' fails upscale resulting in a rod block *This event is initiated by **TRIGGER 2** after 5 control rods have been pulled by the RO*		

Time	Position	Applicants Actions or Behavior
	RO	Reports Rod Block and Flow Reference Off Normal annunciation Refers to ARPs: • determines flow comparator channel causing alarm by checking lights on P603 apron – reports 'B' flow unit is Upscale/Inop • informs SRO that the ARP considers bypassing the failed channel • informs SRO that the ARP references LCS 1.3.2.1
	SRO	Directs RO to bypass 'B' flow unit Refers to LCS 1.3.2.1 • requires 2 channels per function – 2 channels are available for the rod block function – no action required Contacts the work team to investigate/repair the flow unit.
	RO	Bypasses the 'B' flow unit Verifies that Rod Block clears
COMMENTS:		

Event No. 3		
Description: Place the second feed pump in service *This event is initiated by the turnover sheet.*		
Time	**Position**	**Applicants Actions or Behavior**
	SRO	Directs BOP to complete placement of the second feed pump in service per PPM 2.2.4
	BOP	Obtains copy of PPM 2.2.4 (turned over from the previous crew as completed through stem 5.10.10) Continues feed pump startup: • using RFW-SC-601A, slowly increases and holds turbine speed at ~2500 RPM • ensures MS-V-142A, BS-V-44a and BS-V-45A auto close when turbine first stage pressure reaches ~10 psig • continues to slowly raise feedwater turbine 'A' speed using RFW-SC-601A • monitors DP across RFW-V-102A (pump disch) – when discharge pressure is 20 to 30 psi LT the in service RFW pump discharge pressure, open RFW-V-102A • slowly raises the speed of feedwater turbine 'A' and ensures a corresponding decrease in feedwater turbine 'B', until the speeds of both feedwater turbines are approximately matched • when RFW-SC-601A DEV signal is ±0.8% from 0% (±3 light bars), places RFW-SC-601A in AUTO • using RFW-SC-601A and or B increase/decrease buttons, place a small bias in the controllers such that either feedwater turbine leads by ~100RPM, as directed by the SRO Notifies SRO upon completion of this procedure section.
COMMENTS:		

Event No. 4
Description: The running TSW pump trips with a failure of the standby pump to auto-start. The standby pump is manually started. *This event is initiated with **TRIGGER 4** after the second feed pump is in service.*

Time	Position	Applicants Actions or Behavior
	BOP	Reports TSW PMP B MOTOR TRIP and TSW HEADER PRESS LOW annunciators Reports that the standby TSW pump did not auto start Refers to ARP: • *Starts TSW-P-1A and ensures that TSW-V-53A opens • ensures TSW-V-53B closes • checks TSW discharge header pressure increases • notifies SRO that sluice gates may need to be aligned to maintain component temperatures and DW pressure within limits (will not be necessary in this scenario) ***CRITICAL TASK**
	SRO	Announces start of TSW-P-1A Directs RO/BOP to monitor component temperatures and DW pressure following the cooling system transient

COMMENTS:

Event No. 5		
Description: Inadvertent actuation of MS-RV-2B requiring fuse removal to close the SRV. *This event is initiated with **TRIGGER 5** after the TSW system is restored*		
Time	**Position**	**Applicants Actions or Behavior**

	RO/BOP	Reports SRV Open annunciator
		
		Reports that MS-RV-2B is open
		
		Refers to ARP:
		• confirms SRV open
		• monitors suppression pool temperature
		• takes SRV's control switch to OFF
		• *with SRO concurrence, places a loop of RHR (B preferred) in suppression pool cooling
		• *if SRV remains open, with SRO concurrence, pulls fuses for SRV solenoid in P628
		     • BB-F29
		     • BB-F30
		
		CUE: If RO/BOP go to P628 to pull fuses, inform them that you will pull the fuses for them (this is not mechanically modeled in the simulator). Initiate Trigger 15 to simulate fuse removal for this solenoid.
		
		• reports that SRV is closed
		• notifies SRO that OSP-CVP/IST-M701 is required to be completed within 12 hours of SRV actuation
		
		                                                        *CRITICAL TASK

	SRO	Directs MS-RV-1A control switch placed to OFF Directs BOP to place a loop of RHR in suppression pool cooling Directs BOP to pull fuses for MS-RV-1A Directs RO/BOP to monitor primary containment and reactor variables for EOP entry conditions (per ARP) If WW temperature is GE 110°F, enters PPM 5.2.1 and 5.1.1 concurrently and directs RO to place the mode switch to shutdown

COMMENTS:	
It is not the intent of this event, but, if the crew is slow at getting the point of pulling fuses, they may reach 110°F in the wetwell requiring them to scram the reactor. If this occurs, wait to initiate the next event until after the crew has performed immediate scram actions and the plant has stabilized.	

Event No. 6	
Description: Spurious fire alarm causes a fire pump start and a rupture in the reactor building fire header. Flooding occurs in RHR C and LPCS rooms. *(WNP-2 LER 98-011-00)*	
*This event is initiated with **TRIGGER 6** after the SRV fuses are pulled OR, if the crew allows WW temperature to reach 110 °F and scrams the reactor, wait until the scram immediate actions have been completed and the plant has stabilized.*	

Time	Position	Applicants Actions or Behavior
	RO/BOP	Reports active ultraviolet fire alarm on Rx Bldg 606 elevation Reports fire pump starts Reports fire main pressure low
	SRO	Dispatches fire brigade to 606 elevation ***CUE: As Fire Brigade leader, report to the control room that there is no apparent fire in the refuel floor area. Request the fire protection engineer be sent to the refuel floor.***
	RO/BOP	Reports Rx Bldg floor sump R-4 level hi-hi annunciator Reports RHR C pump room water level high annunciator and BISI
	SRO	Dispatches OPS1/2 to RHR C room to determine if actual flooding ***CUE: As OPS1 or 2, wait 2 minutes and then report that the stairwell outside of the RHR C pump room has approximately 4 feet of water and the submarine hatch to the RHR C room is open. It appears that the water is coming from the fire-main. Water level is rising at a rate of about 3"/min***
	SRO	Enters PPM 5.3.1 based on RB area water level above alarm level • Directs OPS1/4 to isolate fire-main standpipe for RHR C stairwell Briefs crew on pending Rx shutdown based on increasing water levels in two areas. (if not previously shutdown in event 5)

	RO/BOP	Reports Rx Bldg floor sump R-1 level hi-hi annunciator
		Reports LPCS pump room water level high annunciator and BISI
	SRO	Directs OPS1 to coordinate PPM 5.5.27 to determine actual water levels in the RHR C and LPCS rooms
		CUE: When requested as OPS1 to determine actual water levels in pump rooms, wait 8 minutes and report that actual level in RHR C room is 80", wait another 3 minutes and report that actual level in LPCS room is 60"
		See event 7

COMMENTS:

Event No. 7
Description: Reactor shutdown per PPM 5.3.1 *This event is initiated by the EOPs when Max Safe levels are reached in two different equipment rooms if plant is not already shutdown in Event 5. If reactor was scrammed in Event 5, skip to Event 8.*

Time	Position	Applicants Actions or Behavior
	SRO	Determines that water level exceeds its max safe operating value in 2 areas. *Directs a Reactor shutdown IAW PPM 3.2.1 *CUE: Report as OPS2 that the fire-main standpipe for the RHR C stairwell is isolated.* May call work team to evaluate methods for water removal Notifies plant management of shutdown requirement Briefs crew on PPM 3.2.1 ***CRITICAL TASK**
	RO	Commences rod insertion to attain 50% rod line per step 5.1.17 of PPM 3.2.1
COMMENTS:		

Event No. 8

Description: RCIC high steam flow instrument fails upscale resulting in a RCIC isolation signal and RCIC turbine trip. *(WNP-2 LER 84-082-02)* RCIC will fail to automatically isolate.

This event is initiated by TRIGGER 8 after rod insertion begins, or, if Rx was scrammed in event 5, wait until water level is reported at max safe levels.

Time	Position	Applicants Actions or Behavior
	BOP	Reports RCIC Steam Line Integrity DP high annunciator Reports Div 1 Isolation signal sealed in but no movement of RCIC-V-8
	SRO	Directs RCIC-V-8 be closed manually (if not already accomplished by BOP)
	BOP	*Manually closes RCIC-V-8 Reports valve closure success to SRO ***CRITICAL TASK**

COMMENTS:
Terminate the scenario when RCIC-V-8 has closed.

SRO TURNOVER INFORMATION

The plant is in the process of a startup following a refueling. The reactor is currently at 50% rated thermal power. Your shift will be continuing the power increase. The rod pull sequence is at step 39-6.

PPM 3.1.2 is complete through step 5.9.14. Startup of RFP 'A' is complete through step 5.10.2 of PPM 2.2.4.

Recirc flow unit 'A' is INOP and in Bypass due to a bad circuit card. I&C are procuring a new card and expect to have it installed in approximately 2 hours.

All pre-job briefs are complete.

Comments/TTD:

Facility: WNP-2   **Scenario No.:** spare #2   **Op-Test No.:** na

Examiners: _____   **Operators:** _____

            _____   _____

            _____   _____

Initial conditions: IC-14. The plant is at 100% power on a beginning-of-life core.

Turnover: The plant is operating at 100% power. OSP-ELEC-M703, HPCS DG Monthly
Operability Surveillance, is in progress and completed through step 7.5.39, the diesel
has been idling for greater than 10 minutes. All pre-job briefs are complete.

Event No.	Malf. No.	Event Type*	Event Description
1.		N(BOP)	Start HPCS DG for surveillance testing.
2.		C(BOP)	HPCS SW pump trips. *(LaSalle LER 12-20-94)*
3.		I(RO)	Rod Block Monitor Channel 'B' fails upscale resulting in a rod block.
4.		C(BOP)	RCC pump 1B shaft coupling break
5.		C(RO)	TSW to RFPT "B" oil cooler isolates resulting in high oil temperatures, vibration problems, and eventual RFPT trip.
6.		M(ALL)	Recirc runback resulting in Region A entry and resultant manual scram *(WNP-2 97-004)*
7.		C(ALL)	RFP turbine "A" governor fails low requiring level control with Condensate by lowering RPV pressure.

- (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor

Event No. 1		
Description: Start HPCS DG for surveillance testing. *This event is initiated by the turnover sheet.*		
Time	**Position**	**Applicants Actions or Behavior**
	SRO	Directs the continuation of OSP-ELEC-M703 from step 7.5.39
	BOP	Continues DG-3 surveillance: • contacts OPS2 and has him raise engine speed to 925 RPM • has OPS2 transfer DG3 control to control room • enters DG3 in the plant logging system and log as available • places the HPCS power supply voltmeter selector switch in the GEN position • once steady state conditions are reached, verifies DG maintains voltage GE 3740 volts and LE 4400 volts, GE 58.8 Hz and LE 61.2 Hz • places CB-4DG3 synch selector switch to D.GEN/BUS • adjusts voltage output until incoming voltage is slightly higher than running voltage • adjust frequency until synch scope is running slow in the fast direction • closes CB-4DG3 at about 5 minutes before 12 o'clock position and immediately loads the DG to GE 100 KW using the diesel engine governor control switch • loads DG-3 to approximately 1300 KW • adjusts reactive load to approximately 325 KVAR out See event 2
COMMENTS:		

Event No. 2		
Description: HPCS SW pump trips. *(LaSalle LER 12-20-94)*		
*This event is initiated by **TRIGGER 2** after DG-3 reactive load has been adjusted to 325 KVAR out*		
Time	**Position**	**Applicants Actions or Behavior**
	BOP	Reports DG-3 SW pump has tripped and there is no SW flow to DG-3
		Performs immediate operator action of ABN-SW and has OPS2 trip the HPCS DG
		Informs SRO that DG-3 was tripped per ABN-SW
		Backs out of DG-3 surveillance by restoring electric plant to normal lineup:
		• ensures CB-N1/2 whit Lockout Circuit Avail light and green tripped light are illuminated
		• ensures green position flag is being displayed in the CB-N1/2 control switch window
		• ensures CB-S2 white Lockout Circuit Avail light and red closed light are illuminated
		• places CB-N1/2 sync selector switch in the MANUAL position
		• checks voltage present on both incoming and running buses
		• places CB-N1/2 control switch to the CLOSE position
		• ensures CB-N1/2 closes
		• ensures CB-S2 auto trips when CB-N1/2 closes
		• places CB-S2 control switch to the TRIP position and ensures green flag is displayed
		• places CB-N1/2 sync selector switch to the OFF position
	SRO	Directs BOP to back out of surveillance procedure
		Refers to Tech Spec 3.7.2
		Declares HPCS system inoperable immediately
COMMENTS:		

Event No. 3		
Description: Rod Block Monitor Channel 'B' fails upscale resulting in a rod block. *This event is initiated*		
Time	**Position**	**Applicants Actions or Behavior**
	RO	Reports rod block on RBM channel 'B' due to upscale condition Refers to ARP: • Monitors power level to verify power not increasing • checks RBM indicators on P608 • refers to PPM 4.1.2.4, RBM failure • informs SRO that the ARP recommends consideration to bypass the RBM • informs SRO that the ARP references Tech Spec 3.3.2.1
	SRO	Refers to PPM 4.1.2.4: • directs RO to bypass the failed RBM Refers to Tech Spec 3.3.2.1 • determines that the inop RBM must be restored to Operable status within 24 hours (unless peripheral rod is selected)
COMMENTS:		

Event No. 4
Description: RCC pump 1B shaft coupling break *This event is initiated with **TRIGGER 4** after the RBM tech spec determination has been made by the SRO, or by the direction of the lead examiner*

Time	Position	Applicants Actions or Behavior
	BOP	Reports RCC pump B discharge pressure low annunciator Refers to ARP: • checks system pressure, flow, and surge tank level • starts additional RCC pump • investigates cause of low pressure condition – contacts OPS2 to check out RCC pump B •
	SRO	Refers to ABN-RCC: • directs second pump start if not already done by BOP • directs BOP to ensure that RCC-V-6 is open

COMMENTS: Initiate TRIGGER 5 during this event to allow time for temperatures to rise in the RFP turbine oil system

Event No. 5
Description: TSW to RFPT "B" oil cooler isolates resulting in high oil temperature, vibration problems, and eventual RFPT trip.   *This event is initiated with **TRIGGER 5** during the RCC event to allow time for oil temperatures to rise.*

Time	Position	Applicants Actions or Behavior
	RO	Reports feed pump turbine B oil cooler outlet temperature hi annunciator Refers to ARP: • checks oil cooler outlet temperature GE 140°F on TSW-TI-14B • notifies SRO that ARP recommends consideration for shifting filter units and oil coolers ***CUE: If requested to shift filters and coolers, acknowledge the request but do not transfer at this time.*** • directs OPS3 to investigate the cause of the high temperature • monitors turbine bearing temperatures on RFW-TR-1 • shutsdown the feed pump turbine if bearing high temp limits are exceeded (GT 175°F) Reports RFW Pump/Turbine Bearing Temperature High annunciator Refers to ARP: • checks attached list to determine which bearing has alarmed • determines that RFT bearings are reading GT 175°F on RFW-TR-1 (P823) • informs SRO that the ARP requires the feed pump turbine to be shutdown per PPM 2.2.4, Main Condensate and Feedwater System. Reports Turbine B Vibration High annunciator Refers to ARP: • Has OPS3 go to RFW-VMP-1 on TB 441 and report vibration readings ***CUE: As OPS3, wait 2 minutes and report that RFW-VBI-1B/XS/T01BXY (turbine outboard bearing) is in alarm and reading 5 mils and RFW-VBI-1B/XS/T1BXY (turbine inboard bearing) is reading 3 mils*** • determines that the outboard turbine bearing is above the danger setpoint • informs SRO that the ARP recommends tripping the feed pump turbine
	SRO	Directs the shutdown of feed pump turbine 'B'

		When vibrations are above the danger setpoint, directs trip of RFP turbine 'B'
	RO	Trips the 'B' feed pump turbine

COMMENTS:

Event No. 6		
Description: Recirc runback to 15% resulting in Region A entry and resultant manual scram *(WNP-2 97-004)* *This event is initiated automatically with **TRIGGER 6** based on feed pump trip*		
Time	**Position**	**Applicants Actions or Behavior**
	RO	Reports RPV water level decreasing due to tripped feedpump Reports Feedwater Pump Trip Limit annunciator Verifies recirc pump runback to 30% Reports that recirc pumps ran back to 15% Checks position on power to flow map and determines that they are in Region A
	SRO	Upon determination of entry into Region A of the power to flow map, directs RO to scram the reactor (if RO has not already done so) **CRITICAL TASK**
	RO	Places mode switch to shutdown and performs immediate scram actions: • monitors/reports power/pressure/level • inserts SRMs/IRMs • verifies all rods are in
	SRO	Enters/directs actions of PPM 5.1.1: • directs RO to carry out actions of PPM 3.3.1, Rx Scram • directs RO/BOP to verify actuations/isolations • directs RO to maintain RPV level +13" to +54" using feedwater system • directs RO/BOP to maintain pressure LT 1060 psig with BPVs
	RO	Establishes RFW-V-10 control of feedwater injection: • closes RFW-V-112s • opens RFW-V-118

		• sets 10 valve controller at 36" and places in AUTO • places 'A' feed pump speed controller in MDEM and adjusts speed to obtain a pressure 100 psig greater than RPV pressure Reports that feed pump turbine 'A' is not responding to its speed controller (see event 7)
	SRO	Directs RO/BOP to establish a new pressure band within the capability of the condensate booster pumps
	RO/BOP	Using DEH, establish pressure at approximately 500 psig with BPVs Restores level to band of +13" to +54"

COMMENTS:

Terminate scenario when level is restored to the normal band

Event No. 7
Description: RFP turbine "A" governor fails low requiring level with Condensate by lowering RPV pressure. *This event is automatically initiated by TRIGGER 7 upon reactor scram*

Time	Position	Applicants Actions or Behavior
	RO	Reports that the 'A' feed pump is not responding to its speed controller and that it is running a minimum RPMs.
	SRO	Directs RO/BOP to lower RPV pressure to a band of 500-700 psig using BPVs

COMMENTS:
This event occurs within event 6

SRO TURNOVER INFORMATION

The plant is operating at 100% power ever since the post-refueling startup done 34 days ago

OSP-ELEC-M703, HPCS DG Monthly Operability Surveillance, is in progress and completed through step 7.5.39, the diesel has been idling for greater than 10 minutes.

All pre-job briefs are complete.