JOB PERFORMANCE MEASURE

Job Position SRO / RO	No. JP-OP-315-0104-184	Revision 0
JPM Title Shift running RRMG Lube Oil Pumps - Noisy Pump Alt Path	Duration 10 minutes*	Page 1

*2 times Duration for ILO Exams

Examinee: _____ SRO / RO

Evaluator: _____

Validating Representatives Name: Ken Griffin / Chris McEachran

JPM Type: Normal / **Alternate Path** / Time Critical

Evaluation Method: **Perform** / Walkthrough / Discuss

Location: Plant / **Simulator** / Classroom

Start Time _____

Stop Time _____

Total Time: _____

PERFORMANCE EVALUATION SUMMARY											
Element	S	U	Comment	Element	S	U	Comment	Element	S	U	Comment
* **1**.											
* **2**.											
3.											
4.											
* **5.**											
* **6.**											
7.											
8.											

OPERATOR FUNDAMENTALS OBSERVATION

Monitor operator fundamentals during the JPM set. Rate each area based on the criteria by placing a checkmark in the appropriate column. Indicate the comment number associated with the observation.

Operator Fundamental	Meets all Expectations	Opportunity for Improvement	Does not meet Expectations	Comment Number
Monitoring				
Control				
Conservatism				
Teamwork				
Knowledge				

OVERALL EVALUATOR COMMENTS: _____

_____

_____

REMEDIAL CONTENT: _____

_____ **PASS** _____ **FAIL**

Evaluator Signature / Date: _____ /

JPM Observation Criteria

Fundamental	Meets all Expectations	Opportunity for Improvement	Does not meet Expectations
Monitoring	Equipment status monitored at proper frequency, using multiple means if available. Understood which indications were critical.	Some monitoring was performed but undue focus on task or lack of system knowledge prevented ideal monitoring.	Did not recognize key equipment status indicators, too much focus on single indications and ignored total system status.
Control	Task preview used to prepare for job. Aware of control bands and maintained them. Configuration control maintained.	Adequate control of system maintained throughout task but some improvements could be made such as better manual control or greater depth of knowledge for anticipating system response.	No anticipation of results of actions. Unaware or control bands or not able to maintain them. Lack of knowledge of how to control system parameters.
Conservatism	Low threshold for identification of problems. Questioning attitude. Uses “stop when unsure” if needed. Sensitive to nuclear safety.	Some opportunities existed to question before proceeding, High focus on task completion without consideration for other system affects.	Proceeds even when unsure with unanswered questions. High threshold for problem conditions.
Teamwork	Routinely communicates system status changes to the team. Communicates actions before taking them.	Communicated most status and actions. Some improvement would be warranted.	Routinely takes action without informing the team.
Knowledge	Able to anticipate system response based on solid system knowledge. Good working knowledge of generic fundamentals to predict and monitor system response.	Plant, system, or generic fundamental knowledge has some gaps.	Unable to predict system response, unsure of generic fundamentals concepts related to plant operation. Only relied on procedure for operating knowledge.

JPM Title Shift running RRMG Lube Oil Pumps - Noisy Pump Alt Path	No.: JP-OP-315-0104-184 Revision: 0 Page 3

JPM Information

System:

B3100 – Reactor Recirculation System

Task:

02B3100013– Shift Reactor Recirculation Motor Generator Set Lube Oil Pumps

References: Required (R) / Available (A)

23.138.01, Reactor Recirculation System (R)

Tools and Equipment Required:

None

Initial Conditions:

- You are the P603 Operator.
- Work is going to take place on the South RRMG Lube Oil Pump B1 later in the shift.

Initiating Cue(s):

The CRS directs you to shift running Lube Oil Pumps for the South RRMG Set.

Terminating Cue(s):

South RRMG Lube Oil Pump B2 is in service.

Task Standard:

Shift Reactor Recirculation Motor Generator Set Lube Oil Pumps IAW 23.138.01.

JPM Title Shift running RRMG Lube Oil Pumps - Noisy Pump Alt Path	No.: JP-OP-315-0104-184 Revision: 0 Page 4

Licensed Operator Exam Information (required for NRC exams)

Safety Function/Category:

1 – Reactivity Control

K/A Reference: (from NUREG 1123)

K/A SYSTEM: 202001 – Reactor Recirculation System

K/A STATEMENT:

A4. Ability to manually operate and/or monitor in the control room:

A4.06 Oil Pumps..... 2.7 / 2.7

Maintenance Rule Safety Classification:

B3100-01

Maintenance Rule Risk Significant? (Yes or No)

Yes

PERFORMANCE EVALUATION

Start Time _____

ELEMENT		STANDARD	
CUE: Provide examinee with Cue Sheet.			
NOTE: The examinee should refer to 23.138.01, Section 4.2 for task performance. When this section is found, provide examinee with copy of reference material.			
CUE: If asked, inform examinee that the Reactor Building Rounds NO is standing by to swap RRMG Lube Oil Pumps for the South RRMG Set and the B2 pump is ready for start.			
NOTE: The following step will initiate tripped indication of the Standby Lube Oil Pump and cause 3D96, MOTOR TRIPPED, to alarm.			
*** 1.**	Place standby N (S) RR MG Set Lube Oil Pump A1 (B1) or A2 (B2), in RUN.	*** 1.**	Places S RRMG Lube Oil Pump B2 in RUN.
CUE: If informed, acknowledge receipt of MOTOR TRIPPED ALARM.			
*** 2.**	Place running N (S) RR MG Set Lube Oil Pump A1 (B1) or A2 (B2), in OFF/RESET.	*** 2.**	Places the S. RRMG Lube Oil Pump B1 in OFF/RESET.
Alternate Path starts here.			
NOTE: When the B2 pump starts, ammeter oscillations will occur.			
3.	Verify N (S) RR MG Set Lube Oil Pump A1 (B1) or A2 (B2), in RUN, starts.	3.	Verifies the S. RRMG Lube Oil Pump B2 starts.
CUE: Wait 30 seconds and report the S. RRMG Lube Oil Pump B2 is making a loud rattling sound. **CUE: IF asked to mark fluid drive bearing oil supply pressure, report that South RRMG Set Bearing Oil Supply Pressure is oscillating between about 20 and 30 psig on B31-RA15B.**			
4.	Recognize indications of problems for N (S) RR MG Set Lube Oil Pump B2.	4.	Recognizes and reports problems with N (S) RR MG Set Lube Oil Pump B2.
CUE: If asked as CRS, direct examinee to shift back to the B1 pump in service. **NOTE: The following step will initiate tripped indication of the Standby Lube Oil Pump and cause 3D96, MOTOR TRIPPED, to alarm.** **CUE: If asked as RB rounds, inform examinee that personnel are clear of the South RRMG Set B1 pump and it is ready for start.**			
*** 5.**	Place standby N (S) RR MG Set Lube Oil Pump A1 (B1) or A2 (B2), in RUN.	*** 5.**	Places S RRMG Lube Oil Pump B1 in RUN.
CUE: If informed, acknowledge receipt of MOTOR TRIPPED ALARM.			
*** 6.**	Place running N (S) RR MG Set Lube Oil Pump A1 (B1) or A2 (B2), in OFF/RESET.	*** 6.**	Places the S. RRMG Lube Oil Pump B2 in OFF/RESET.
CUE: If called, report as Reactor Building Rounds NO that you have a good start on the South RRMG Lube Oil Pump B1. **NOTE: If asked, direct the examinee to place the B2 Pump CMC in AUTO.**			

ELEMENT		STANDARD	
7.	Place non-running N (S) RR MG Set Lube Oil Pump A1 (B1) or A2 (B2), in AUTO.	7.	Places non-running S. RRMG Lube Oil Pump B2 in AUTO or leaves in OFF-RESET.
8.	Verify Fluid Drive Bearing Oil Supply is 25 to 45 psig as indicated on B31-RA15A (B), North (South) RR MG Set Brg Oil Supply Press Ind (locally at RR MG Set gauge board).	8.	Directs NO to verify Fluid Drive Bearing Oil Supply is 25 to 45 psig as indicated on B31-RA15A (B), North (South) RR MG Set Brg Oil Supply Press Ind (locally at RR MG Set gauge board).
CUE:	**When called as RB Rounds, report local fluid drive bearing oil supply pressure is 36 psig on B31-RA15B South RRMG Set Brg Oil Supply Press Ind.**		
CUE:	**End JPM when the S. RRMG Lube Oil Pump B1 is in service and oil pressure has been verified.**		

_____ SATISFACTORY _____ UNSATISFACTORY

Stop Time _____

*** Critical Step**

JPM Title Shift running RRMG Lube Oil Pumps - Noisy Pump Alt Path	No.: JP-OP-315-0104-184 Revision: 0 Page 7

Evaluator Notes:

ENSURE ALL INDUSTRIAL AND PERSONNEL SAFETY PRACTICES ARE USED AND ENFORCED AT ALL TIMES.

FAILURE TO WEAR ALL PPE REQUIRED FOR TASK PERFORMANCE WILL RESULT IN FAILURE OF THIS JPM.

Generic Notes and Cues:

None

System Specific Notes and Cues:

None

Task Performance and Cues:

The Elements of this JPM are step by step in accordance with the procedure. The Standard is that the procedure is performed as written. The Cues are as listed above for indication or as each step is completed the appropriate information is reported to the examinee. Notify Examinee that time compression may be used for activities performed outside of the Control Room. Notify Examinee if JPM is Time Critical (only if JPM is **NOT** Alternate Path.)

Critical Steps:

Critical Tasks are identified by asterisk (*) and **bolded** steps on the cover sheet. Verify that the latest revision of the procedure is used and critical tasks are correctly identified.

FOLLOW-UP DOCUMENTATION QUESTIONS

Reason for follow-up question(s):

Question:

Reference:

Response:

Question:

Reference

Response:

Simulator Setup

IC#:

Any IC with the South RRMG Set in service with the B3103-C001C, S RRMG Set Lube Oil Pump B1, in service and the B2 pump in Auto.

Malfunctions:

Number	Title	Value	Delay	Ramp
BBAZP603_A154NOISE	Noise Amplitude (**Note 1**)	10.0	N/A	N/A

Note 1: The noisy ammeter malfunction will insert when the B2 Pump starts and it will clear when the B2 Pump is subsequently shut down per conditional steps.

Remote Functions:

Number	Title	Value	Delay	Ramp
N/A				

Override Functions:

Number	Title	Value	Delay	Ramp
N/A				

Special Instructions:

N/A

Cue Sheet: (JP-OP-315-0104-184)

Initial Conditions:

- You are the P603 Operator.
- Work is going to take place on the South RRMG Lube Oil Pump B1 later in the shift.

Initiating Cue(s):

The CRS directs you to shift running Lube Oil Pumps for the South RRMG Set.

JOB PERFORMANCE MEASURE

Job Position SRO / RO	No. JP-OP-315-0143-181	Revision 0
JPM Title Transfer RCIC Suction - Alternate Path	Duration 10 minutes*	Page 1

*2 times Duration for ILO Exams

Examinee: _____ SRO / RO

Evaluator: _____

Validating Representatives Name: Ken Griffin / Chris McEachran

JPM Type: Normal / **Alternate Path** / Time Critical — Start Time _____

Evaluation Method: **Perform** / Walkthrough / Discuss — Stop Time _____

Location: Plant / **Simulator** / Classroom — Total Time: _____

PERFORMANCE EVALUATION SUMMARY											
Element	S	U	Comment	Element	S	U	Comment	Element	S	U	Comment
*** 1.**											
*** 2.**											
*** 3.**											
*** 4.**											
*** 5.**											

OPERATOR FUNDAMENTALS OBSERVATION				
Monitor operator fundamentals during the JPM set. Rate each area based on the criteria by placing a checkmark in the appropriate column. Indicate the comment number associated with the observation.				
Operator Fundamental	**Meets all Expectations**	**Opportunity for Improvement**	**Does not meet Expectations**	**Comment Number**
Monitoring				
Control				
Conservatism				
Teamwork				
Knowledge				

OVERALL EVALUATOR COMMENTS: _____

_____

_____

REMEDIAL CONTENT: _____

_____ **PASS** _____ **FAIL**

Evaluator Signature / Date: _____ / _____

JPM Observation Criteria

Fundamental	Meets all Expectations	Opportunity for Improvement	Does not meet Expectations
Monitoring	Equipment status monitored at proper frequency, using multiple means if available. Understood which indications were critical.	Some monitoring was performed but undue focus on task or lack of system knowledge prevented ideal monitoring.	Did not recognize key equipment status indicators, too much focus on single indications and ignored total system status.
Control	Task preview used to prepare for job. Aware of control bands and maintained them. Configuration control maintained.	Adequate control of system maintained throughout task but some improvements could be made such as better manual control or greater depth of knowledge for anticipating system response.	No anticipation of results of actions. Unaware or control bands or not able to maintain them. Lack of knowledge of how to control system parameters.
Conservatism	Low threshold for identification of problems. Questioning attitude. Uses “stop when unsure” if needed. Sensitive to nuclear safety.	Some opportunities existed to question before proceeding, High focus on task completion without consideration for other system affects.	Proceeds even when unsure with unanswered questions. High threshold for problem conditions.
Teamwork	Routinely communicates system status changes to the team. Communicates actions before taking them.	Communicated most status and actions. Some improvement would be warranted.	Routinely takes action without informing the team.
Knowledge	Able to anticipate system response based on solid system knowledge. Good working knowledge of generic fundamentals to predict and monitor system response.	Plant, system, or generic fundamental knowledge has some gaps.	Unable to predict system response, unsure of generic fundamentals concepts related to plant operation. Only relied on procedure for operating knowledge.

JPM Title Transfer RCIC Suction - Alternate Path	No.: JP-OP-315-0143-181 Revision: 0 Page 3

JPM Information

System:

E5100 – Reactor Core Isolation Cooling

Task:

02E51000021 – Perform RCIC System Pump and Valve Operability Test

References: Required (R) / Available (A)

23.206, Reactor Core Isolation Cooling System (R)
1D74 (R)

Tools and Equipment Required:

None

Initial Conditions:

- You are the CRLNO.
- Maintenance is to be performed on the E5150-F010, RCIC Pump CST Suction Isolation Valve.

Initiating Cue(s):

The CRS directs you to transfer RCIC suction to the Torus.

Terminating Cue(s):

RCIC suction has been re-aligned to the CST.

Task Standard:

RCIC suction is aligned to the CST IAW 23.206.

JPM Title Transfer RCIC Suction - Alternate Path	No.: JP-OP-315-0143-181 Revision: 0 Page 4

Licensed Operator Exam Information (required for NRC exams)

Safety Function/Category:

2 – Reactor Coolant System Inventory Control

K/A Reference: (from NUREG 1123)

K/A SYSTEM: 217000 – Reactor Core Isolation Cooling System

K/A STATEMENT:

A4. Ability to manually operate and/or monitor in the control room:

A4.03 System Valves..... 3.4 / 3.3

Maintenance Rule Safety Classification:

E5100-01

Maintenance Rule Risk Significant? (Yes or No)

Yes

PERFORMANCE EVALUATION

Start Time _____

ELEMENT	STANDARD
CUE: Provide examinee with Cue Sheet.	
NOTE: The examinee should refer to 23.206, Section 7.5 for task performance. When this section is found, provide examinee with copy of reference material.	
*** 1.** Close E5150-F010, RCIC Pump CST Suction Iso Valve.	*** 1.** Closes E5150-F010.
*** 2.** Open E5150-F029, RCIC Torus Suct Otbd Iso Vlv.	*** 2**. Opens E5150-F029.
Alternate Path starts here:	
NOTE: When the OPEN pushbutton for the E5150-F031 is depressed, a blown fuse malfunction will result in a loss of power to the valve's Motor Control Center (MCC).	
*** 3.** Open E5150-F031, RCIC Torus Suct Inbd Iso Vlv.	*** 3.** Recognizes and reports loss of indication for E5150-F031 and 1D74, RCIC Valves Mtr Overlaod / Loss of Power.
CUE: If dispatched to 2PA-1-5B, wait 1 minute and report there is an acrid odor around the MCC bucket. **NOTE: The examinee should recognize that RCIC does not have a suction path. If confused, ask examinee for a recommendation. The examinee should determine that the correct course of action is to realign RCIC suction to the CST.**	
CUE: When recommended, direct examinee to transfer RCIC suction to the CST.	
*** 4.** Close E5150-F029, RCIC Torus Suct Otbd Iso Vlv.	*** 4.** Closes E5150-F029.
CUE: If asked, inform examinee that step 2b can be marked "N/A" and a unit log entry has been made.	
*** 5.** Open E5150-F010, RCIC Pump CST Suction Iso Valve.	*** 5.** Opens E5150-F010.
CUE: End JPM when RCIC suction is realigned to the CST.	

_____ SATISFACTORY _____ UNSATISFACTORY

Stop Time _____

*** Critical Step**

Evaluator Notes:

ENSURE ALL INDUSTRIAL AND PERSONNEL SAFETY PRACTICES ARE USED AND ENFORCED AT ALL TIMES.

FAILURE TO WEAR ALL PPE REQUIRED FOR TASK PERFORMANCE WILL RESULT IN FAILURE OF THIS JPM.

Generic Notes and Cues:

None

System Specific Notes and Cues:

None

Task Performance and Cues:

The Elements of this JPM are step by step in accordance with the procedure. The Standard is that the procedure is performed as written. The Cues are as listed above for indication or as each step is completed the appropriate information is reported to the examinee. Notify Examinee that time compression may be used for activities performed outside of the Control Room. Notify Examinee if JPM is Time Critical (only if JPM is **NOT** Alternate Path.)

Critical Steps:

Critical Tasks are identified by asterisk (*) and **bolded** steps on the cover sheet. Verify that the latest revision of the procedure is used and critical tasks are correctly identified.

FOLLOW-UP DOCUMENTATION QUESTIONS

Reason for follow-up question(s):

Question:

Reference:

Response:

Question:

Reference

Response:

Simulator Setup

IC#:

Any IC with RCIC in a Standby Lineup (>150 psig).

Malfunctions:

Number	Title	Value	Delay	Ramp
E5AJFU02CC	Blow Fuse Malfunction	True	**Note 1**	N/A

Note 1: The blown fuse malfunction will cause loss of power to the E5150-F031, RCIC Torus Suction Inbd Iso Valve, when its OPEN Pushbutton is depressed (cd='P601_B066_1 EQ 1').

Remote Functions:

Number	Title	Value	Delay	Ramp
N/A				

Override Functions:

Number	Title	Value	Delay	Ramp
N/A				

Special Instructions:

N/A

Cue Sheet: (JP-OP-315-0143-181)

Initial Conditions:

- You are the CRLNO.
- Maintenance is to be performed on the E5150-F010, RCIC Pump CST Suction Isolation Valve.

Initiating Cue(s):

The CRS directs you to transfer RCIC suction to the Torus.

JOB PERFORMANCE MEASURE

Job Position SRO / RO	No. JP-OP-315-0105-181	Revision 0
JPM Title Manually Initiate Low-Low Set - Alt Path	Duration 9 minutes	Page 0

Examinee: _____ SRO / RO

Evaluator: _____

Validating Representatives Name: Ken Griffin / Chris McEachran

JPM Type: Normal / **Alternate Path /** Time Critical

Evaluation Method: **Perform** / Walkthrough / Discuss

(Circle method used) Plant / **Simulator** / Classroom

Start Time _____

Stop Time _____

Total Time: _____

PERFORMANCE EVALUATION SUMMARY							
Element	S	U	Comments	Element	S	U	Comments
*** 1.**							
2.							
*** 3.**							
4.							
5.							
*** 6.**							
7.							

_____ SATISFACTORY _____ UNSATISFACTORY

OPERATOR FUNDAMENTALS OBSERVATION				
Monitor operator fundamentals during the JPM set. Rate each area based on the criteria by placing a checkmark in the appropriate column. Indicate the comment number associated with the observation.				
Operator Fundamental	**Meets all Expectations**	**Opportunity for Improvement**	**Does not meet Expectations**	**Comment Number**
Monitoring				
Control				
Conservatism				
Teamwork				
Knowledge				

OVERALL EVALUATOR COMMENTS: _____

_____

_____

REMEDIAL CONTENT: _____

_____ **PASS** _____ **FAIL**

Evaluator Signature / Date: _____ /

JPM Title Manually Initiate Low-Low Set - Alt Path	No.: JP-OP-315-0105-181 Revision: 0 Page 1

JPM Observation Criteria

Fundamental	Meets all Expectations	Opportunity for Improvement	Does not meet Expectations
Monitoring	Equipment status monitored at proper frequency, using multiple means if available. Understood which indications were critical.	Some monitoring was performed but undue focus on task or lack of system knowledge prevented ideal monitoring.	Did not recognize key equipment status indicators, too much focus on single indications and ignored total system status.
Control	Task preview used to prepare for job. Aware of control bands and maintained them. Configuration control maintained.	Adequate control of system maintained throughout task but some improvements could be made such as better manual control or greater depth of knowledge for anticipating system response.	No anticipation of results of actions. Unaware or control bands or not able to maintain them. Lack of knowledge of how to control system parameters.
Conservatism	Low threshold for identification of problems. Questioning attitude. Uses “stop when unsure” if needed. Sensitive to nuclear safety.	Some opportunities existed to question before proceeding, High focus on task completion without consideration for other system affects.	Proceeds even when unsure with unanswered questions. High threshold for problem conditions.
Teamwork	Routinely communicates system status changes to the team. Communicates actions before taking them.	Communicated most status and actions. Some improvement would be warranted.	Routinely takes action without informing the team.
Knowledge	Able to anticipate system response based on solid system knowledge. Good working knowledge of generic fundamentals to predict and monitor system response.	Plant, system, or generic fundamental knowledge has some gaps.	Unable to predict system response, unsure of generic fundamentals concepts related to plant operation. Only relied on procedure for operating knowledge.

JPM Title Manually Initiate Low-Low Set - Alt Path	No.: JP-OP-315-0105-181 Revision: 0 Page 2

JPM Information

System:

B2104 – Safety Relief Valves

Task:

02B2104002 - Operate/Shutdown the Safety Relief Valves Low Low Set function

References: Required (R) / Available (A)

23.201, “Safety Relief Valves and Automatic Depressurization System”, Enclosure B (R)

Tools and Equipment Required:

None

Initial Conditions:

- You are the Control Room LNO.
- The plant is shutdown, and the MSIVs are closed.
- The CRS has entered the EOPs on Level 3.

Initiating Cue(s):

- The CRS directs you to manually initiate Low-low Set.
- Another operator will address plant alarms **not** associated with this task.

Terminating Cue(s):

Initiation of Low-low Set has been attempted and an SRV has been manually operated to control RPV pressure in the prescribed band.

Task Standard:

Manually initiate Low-low Set per 23.201 and manually control RPV pressure with SRVs.

JPM Title Manually Initiate Low-Low Set - Alt Path	No.: JP-OP-315-0105-181 Revision: 0 Page 3

Licensed Operator Exam Information (required for NRC exams)

Safety Function:

3 – Reactor Pressure Control

K/A Reference: (from NUREG 1123)

K/A SYSTEM: 239002 - Relief/Safety Valves

K/A STATEMENT:

A4. Ability to manually operate and/or monitor in the control room:

A4.01 SRVs .....4.4 / 4.4

Maintenance Rule Safety Classification:

B2104-05

Maintenance Rule Risk Significant? (Yes or No)

No

PERFORMANCE EVALUATION

Start Time _____

ELEMENT		STANDARD	
CUE:	**Provide Examinee with CUE SHEET.**		
NOTE:	**Examinee should use hard card for 23.201 Enclosure B at H11P601. When hard card is located, provide examinee with exam copy.**		
*** 1.**	Open selected SRV by depressing the OPEN pushbutton.	*** 1.**	Opens an SRV.
2.	Verify 1D38, DIV I/II LOW - LOW SET ARMED, alarms.	2.	Verifies 1D38.
*** 3.**	Close selected SRV by depressing the CLOSE pushbutton.	*** 3**.	Closes SRV.
4.	Allow Reactor pressure to increase to Scram Pressure setpoint of 1093 psig.	4.	Monitors Reactor Pressure on Post Accident Recorder B21R623A.
	Alternate Path Starts Here.		
5.	Verify B2104-F013A, Div 1 MS Line D SRV, and B2104-F013G, Div 2 MS Line B SRV, open automatically to control Reactor pressure.	5.	Recognizes and reports failure of LLS valves to open automatically.
CUE:	**If examinee asks for direction, direct examinee to maintain RPV Pressure 900 to 1050 psig.** **NOTE: Examinee can elect to use any SRV for manual pressure control.** **NOTE: SRVs A and G are failed closed and will not work in manual or automatic (LLS).**		
*** 6.**	Operate an SRV to manually control Reactor Pressure between 900 to 1050 psig.	*** 6.**	Opens an SRV to lower RPV Pressure to less than 1050 psig and then closes the SRV prior to reaching 900 psig.
7.	Perform or verify complete steps of Section 5.3, Low-Low Set Operation.	7.	Informed by examiner that another operator will perform these steps.
CUE:	**If examinee asks, inform examinee that another operator will perform Section 5.3.**		
CUE:	**End JPM when Low-low Set initiation has been attempted and RPV Pressure is being controlled manually in the 900 to 1050 psig control band.**		

_____ SATISFACTORY _____ UNSATISFACTORY

Stop Time _____

*** Critical Step**

JPM Title Manually Initiate Low-Low Set - Alt Path	No.: JP-OP-315-0105-181 Revision: 0 Page 5

Evaluator Notes:

ENSURE ALL INDUSTRIAL AND PERSONNEL SAFETY PRACTICES ARE USED AND ENFORCED AT ALL TIMES.

Generic Notes and Cues:

CMC switches will turn RED and amperage will increase when the switch is rotated to the start position started. The current should initially be five to seven times the normal running amps with the ammeter flashing. As counter EMF is developed, the amperage will lower to the normal running amperage and the ammeter will no longer flash. CMC switches will turn GREEN when the pumps are stopped and amperage will decrease to zero.

Ex.: Pump start: "Switch has been rotated to the start position, red light is lit, green light is out, amperage initially pegs out high, and is now indicating __X__ amps."

Pump stop: "Switch has been rotated to the stop position, green light is lit, red light is out, amperage indicates 0 amps."

Remotely operated valve position is determined with open and close indicating lights. A RED light only would indicate that the valve is open. A GREEN light only would indicate that the valve is closed. Dual indication would indicate that the valve is in some intermediate position.

Manual valves are checked in the closed direction (MOP02 and MOP05). Valve stem position may aid in valve position determination, but cannot be used as Independent Verification (MOP02).

Ex.: Verify valve closed: "Valve handwheel indicates no valve movement in the clockwise direction."

Verify valve open: "Valve handwheel has been rotated slightly in the clockwise direction and returned to the original positions."

Closing a valve: "Valve handwheel has been rotated in the fully clockwise direction until no additional valve movement. Valve stem is down."

Opening a valve: "Valve handwheel has been rotated in the fully counterclockwise direction until no additional valve movement, valve stem is out."

Controllers have an Auto light that is GREEN when selected and AMBER (YELLOW) when Manual is selected. When in Manual, the open and closed pushbuttons control the parameter to be changed by adjusting position or speed. When the deviation meter is nulled, then the process can be shifted to Auto to allow the desired setpoint to control the process.

System Specific Notes and Cues:

None

Task Performance and Cues:

The Elements of this JPM are step by step in accordance with the procedure. The Standard is that the procedure is performed as written. The Cues are as listed above for indication or as each step is completed the appropriate information is reported to the examinee. Notify Examinee that time compression may be used for activities performed outside of the Control Room.

Critical Steps:

Critical Tasks are identified by asterisk (*) and **bolded** steps on the cover sheet. Verify that the latest revision of the procedure is used and critical tasks are correctly identified.

FOLLOW-UP DOCUMENTATION QUESTIONS

Reason for follow-up question(s):

Question:

Reference:

Response:

Question:

Reference

Response:

Simulator Setup

IC#:

IC-20

Malfunctions:

Number	Title	Value	Delay	Ramp
B21MF0023	Main Steam SRV A Failure (**Note 1**)	0.0	N/A	N/A
B21MF0029	Main Steam SRV G Failure (**Note 1**)	0.0	N/A	N/A
N21MF0030	Spurious S RFPT Trip (**Note 2**)	ACTIVE	N/A	N/A
N21MF0029	Spurious N RFPT Trip (**Note 3**)	ACTIVE	N/A	N/A

Note 1: SRV Failures are conditional upon reaching 1093# and receipt of associated white lights on H11-P601.

Note 2: S. RFPT trip is conditional upon placing the Mode Switch in Shutdown (part of setup).

Note 3: N. RFPT trip is conditional upon closing the MSIVs (part of setup).

Remote Functions:

Number	Title	Value	Delay	Ramp
N/A				

Override Functions:

Number	Title	Value	Delay	Ramp
N/A				

Special Instructions:

1. Initialize the simulator to IC-20 and place in **RUN**.
2. Place the Mode Switch in Shutdown.
3. Insert IRMs/SRMs.
4. Trip the South RFP.
5. Ensure Low-Low Set is NOT armed.
6. **Perform** the following when Reactor Pressure is approximately 970-1000 psig:
    a. Close the MSIVs.
    b. Trip the North RFP.
    c. Verify RPV Pressure is rising.
    d. **FREEZE** the Simulator when RPV reaches 1030 psig.
7. Place simulator in **RUN** once examinee indicates understanding of initial conditions and initiating cues.

Cue Sheet (JP-OP-315-0105-181)

Initial Conditions:

- You are the Control Room LNO.
- The plant is shutdown, and the MSIVs are closed.
- CRS has entered the EOPs on Level 3.

Initiating Cue(s):

- The CRS directs you to manually initiate Low-low Set.
- Another operator will address plant alarms **not** associated with this task.

JOB PERFORMANCE MEASURE

Job Position SRO / RO	No. JP-OP-315-0141-181	Revision 0
JPM Title Manually Place RHR in LPCI Mode	Duration 8 minutes*	Page 1

*2 times Duration for ILO Exams

Examinee: _____ SRO / RO / NO

Evaluator: _____

Validating Representatives Name: Ken Griffin / Chris McEachran

JPM Type: Normal / **Alternate Path** / Time Critical — Start Time _____

Evaluation Method: **Perform** / Walkthrough / Discuss — Stop Time _____

Location: Plant / **Simulator** / Classroom — Total Time: _____

PERFORMANCE EVALUATION SUMMARY											
Element	S	U	Comment	Element	S	U	Comment	Element	S	U	Comment
***1.**											
***2.**											
3.											
4.											
5.											
6.											
7.											
***8.**											
9.											
10.											

OPERATOR FUNDAMENTALS OBSERVATION

Monitor operator fundamentals during the JPM set. Rate each area based on the criteria by placing a checkmark in the appropriate column. Indicate the comment number associated with the observation.

Operator Fundamental	Meets all Expectations	Opportunity for Improvement	Does not meet Expectations	Comment Number
Monitoring				
Control				
Conservatism				
Teamwork				
Knowledge				

OVERALL EVALUATOR COMMENTS: _____

_____

_____

REMEDIAL CONTENT: _____

_____ **PASS** _____ **FAIL**

Evaluator Signature / Date: _____ /

JPM Observation Criteria

Fundamental	Meets all Expectations	Opportunity for Improvement	Does not meet Expectations
Monitoring	Equipment status monitored at proper frequency, using multiple means if available. Understood which indications were critical.	Some monitoring was performed but undue focus on task or lack of system knowledge prevented ideal monitoring.	Did not recognize key equipment status indicators, too much focus on single indications and ignored total system status.
Control	Task preview used to prepare for job. Aware of control bands and maintained them. Configuration control maintained.	Adequate control of system maintained throughout task but some improvements could be made such as better manual control or greater depth of knowledge for anticipating system response.	No anticipation of results of actions. Unaware or control bands or not able to maintain them. Lack of knowledge of how to control system parameters.
Conservatism	Low threshold for identification of problems. Questioning attitude. Uses “stop when unsure” if needed. Sensitive to nuclear safety.	Some opportunities existed to question before proceeding, High focus on task completion without consideration for other system affects.	Proceeds even when unsure with unanswered questions. High threshold for problem conditions.
Teamwork	Routinely communicates system status changes to the team. Communicates actions before taking them.	Communicated most status and actions. Some improvement would be warranted.	Routinely takes action without informing the team.
Knowledge	Able to anticipate system response based on solid system knowledge. Good working knowledge of generic fundamentals to predict and monitor system response.	Plant, system, or generic fundamental knowledge has some gaps.	Unable to predict system response, unsure of generic fundamentals concepts related to plant operation. Only relied on procedure for operating knowledge.

JPM Title Manually Place RHR in LPCI Mode - Alt Path	No.: JP-OP-315-0141-181 Revision: 0 Page 2

JPM Information

System:

E1100 Residual Heat Removal

Task:

02E1100003-Operate Residual Heat Removal Low Pressure Coolant Injection Mode, Manual Operation

References: Required (R) / Available (A)

23.205 Residual Heat Removal System – Enclosure B (R)

Tools and Equipment Required:

None

Initial Conditions:

- You are the Control Room LNO.
- A large LOCA has occurred.
- The RPV is depressurizing due to the leak.
- RPV level is below Top of Active Fuel (TAF).
- The RHR System has failed to respond in the LPCI Mode.

Initiating Cue(s):

The CRS directs you to place RHR in the LPCI Mode and inject into the Reactor Vessel, through the A Loop, at maximum capacity to restore RPV water level above TAF.

Terminating Cue(s):

RHR is in the LPCI Mode and injecting into the Reactor Vessel at maximum capacity and RPV level is recovering.

Task Standard:

RHR is placed in LPCI Mode injecting into the Reactor Vessel at maximum capacity in accordance with SOP 23.205.

JPM Title Manually Place RHR in LPCI Mode - Alt Path	No.: JP-OP-315-0141-181 Revision: 0 Page 3

Licensed Operator Exam Information (required for NRC exams)

Safety Function/Category:

2 - Reactor Coolant/ Water Inventory Control

4 – Heat Removal from Reactor Core

10 – Emergency Plant Evolutions

K/A Reference: (from NUREG 1123)

K/A SYSTEM: 203000 Residual Heat Removal/Low Pressure Coolant Injection

K/A STATEMENT:

A4. Ability to manually operate and/or monitor in the control room:

A4.01 Pumps ..... 4.3 / 4.1

A4.02 System Valves..... 4.1 / 4.1

K/A SYSTEM: EPE: 295031 Reactor Low Water Level

K/A STATEMENT:

EA1. Ability to operate and/or monitor the following as they apply to REACTOR LOW WATER LEVEL:

EA1.01 Low Pressure Coolant Injection (RHR) ..... 4.4 / 4.4

Maintenance Rule Safety Classification:

E1100-03

Maintenance Rule Risk Significant? (Yes or No)

No

JPM Title Manually Place RHR in LPCI Mode - Alt Path	No.: JP-OP-315-0141-181 Revision: 0 Page 1

PERFORMANCE EVALUATION

Start Time _____

ELEMENT		STANDARD	
CUE:	**Provide examinee with Cue Sheet.**		
CUE:	**When examinee locates hard card, provide examinee with 23.205, Enclosure B.**		
*** 1.**	Start RHR Pumps A and C.	*** 1.**	RHR Pumps A and C CMC switches are rotated and the pumps are started.
*** 2.**	Start RHR Pumps B and D.	*** 2.**	RHR Pumps B and D CMC switches are rotated and the pumps are started.
3.	Close B3105-F031A(B), N(S) RR Pump Discharge Vlv, for loop where injection is desired.	3.	Depresses CLOSE pushbutton for B3105-F031A, N RR Pump Discharge Vlv.
4.	If either RHR Division was in Shutdown Cooling Mode, then if desired, open E1150-F010, RHR Crosstie Vlv as follows: a. Place E1150-F010, Operate Permissive keylock switch in OPER. b. Open E1150-F010, RHR Crosstie Vlv.	4.	Marks step as N/A.
Alternate Path Starts Here			
5.	When Reactor Pressure decreases below 461 psig, open E1150-F015A(B), Div 1(2) LPCI Inbd Iso Vlv.	5.	Depresses OPEN pushbutton for E1150-F015A, Div 1 LPCI Inbd Iso Vlv.
6.	Recognize and report that E1150-F015A, Div 1 LPCI Inbd Iso Vlv failed to open.	6.	Recognizes / reports that E1150-F015A, Div 1 LPCI Inbd Iso Vlv failed to open.
CUE:	**Acknowledge report of failure of E1150-F015A to open.**		
CUE:	**IF necessary, ask examinee what he/she recommends. Direct examinee to align for LPCI injection through the B Loop.**		
7.	Close B3105-F031A(B), N(S) RR Pump Discharge Vlv, for loop where injection is desired.	7.	Depresses CLOSE pushbutton for B3105-F031B, S RR Pump Discharge Vlv.
*** 8.**	When Reactor Pressure decreases below 461 psig, open E1150-F015A(B), Div 1(2) LPCI Inbd Iso Vlv.	*** 8.**	Depresses OPEN pushbutton for E1150-F015B, Div 2 LPCI Inbd Iso Vlv.
9.	When RHR Loop A(B) Flow Indicator, E11-R603A(B) is > 3000 gpm, verify E1150-F007A(B), Div 1(2) RHR Pmps Min Flow Vlv, closes.	9.	Verifies that E1150-F007A(B), Div 1(2) RHR Pmps Min Flow Valves close.
10.	Verify LPCI is operating properly by monitoring Control Room indications.	10.	Verifies LPCI is operating properly and reports that LPCI is injecting.
CUE:	**Terminate JPM when LPCI injection is established.**		

_____ SATISFACTORY _____ UNSATISFACTORY

Stop Time _____

*** Critical Step**

Evaluator Notes:

ENSURE ALL INDUSTRIAL AND PERSONNEL SAFETY PRACTICES ARE USED AND ENFORCED AT ALL TIMES.

FAILURE TO WEAR ALL PPE REQUIRED FOR TASK PERFORMANCE WILL RESULT IN FAILURE OF THIS JPM.

Generic Notes and Cues:

CMC switches will turn RED and amperage will increase when the switch is rotated to the start position started. The current should initially be five to seven times the normal running amps with the ammeter flashing. As counter EMF is developed, the amperage will lower to the normal running amperage and the ammeter will no longer flash. CMC switches will turn GREEN when the pumps are stopped and amperage will decrease to zero.

Ex.: Pump start: "Switch has been rotated to the start position, red light is lit, green light is out, amperage initially pegs out high, and is now indicating __X__ amps."

Pump stop: "Switch has been rotated to the stop position, green light is lit, red light is out, amperage indicates 0 amps."

Remotely operated valve position is determined with open and close indicating lights. A RED light only would indicate that the valve is open. A GREEN light only would indicate that the valve is closed. Dual indication would indicate that the valve is in some intermediate position.

Manual valves are checked in the closed direction (MOP02 and MOP05). Valve stem position may aid in valve position determination, but cannot be used as Independent Verification (MOP02).

Ex.: Verify valve closed: "Valve handwheel indicates no valve movement in the clockwise direction."

Verify valve open: "Valve handwheel has been rotated slightly in the clockwise direction and returned to the original positions."

Closing a valve: "Valve handwheel has been rotated in the fully clockwise direction until no additional valve movement. Valve stem is down."

Opening a valve: "Valve handwheel has been rotated in the fully counterclockwise direction until no additional valve movement, valve stem is out."

Controllers have an Auto light that is GREEN when selected and AMBER (YELLOW) when Manual is selected. When in Manual, the open and closed pushbuttons control the parameter to be changed by adjusting position or speed. When the deviation meter is nulled, then the process can be shifted to Auto to allow the desired setpoint to control the process

System Specific Notes and Cues:

None

Task Performance and Cues:

The Elements of this JPM are step by step in accordance with the procedure. The Standard is that the procedure is performed as written. The Cues are as listed above for indication or as each step is completed the appropriate information is reported to the examinee. Notify Examinee that time compression may be used for activities performed outside of the Control Room. Notify Examinee if JPM is Time Critical (only if JPM is **NOT** Alternate Path.)

Critical Steps:

Critical Tasks are identified by asterisk (*) and **bolded** steps on the cover sheet. Verify that the latest revision of the procedure is used and critical tasks are correctly identified.

FOLLOW-UP DOCUMENTATION QUESTIONS

Reason for follow-up question(s):

Question:

Reference:

Response:

Question:

Reference

Response:

Simulator Setup

IC#:

Any 100% Power IC or an IC set up specifically for this JPM.

Malfunctions:

Number	Title	Value	Delay	Ramp
EADAK77ATVSP	LPCI Loop Select Relay (A Logic)	0	N/A	N/A
EADHK77BTVSP	LPCI Loop Select Relay (B Logic)	0	N/A	N/A
E11MF0012	LPCI Injection Valve E1150F015A Positioner Failure	0.0	**Note 1**	N/A
E11MF0013	LPCI Injection Valve E1150F015B Positioner Failure	0.0	**Note 1**	N/A
N20MF0018	Condenser Pump Trip C	ACTIVE	N/A	N/A
N20MF0019	Condenser Pump Trip N	ACTIVE	N/A	N/A
N20MF0020	Condenser Pump Trip S	ACTIVE	N/A	N/A
B31MF0066	Recirculation Loop Rupture A	10.0	5	N/A
B31MF0066	Recirculation Loop Rupture A	15.0	30	300 Sec

Note 1: Conditional upon the FIRST E1150F015 valve that is attempted to be opened.

Remote Functions:

Number	Title	Value	Delay	Ramp
E11RF0069	Inhibit RHR Automatic Initiation Division I	ACTIVE	N/A	N/A
E11RF0070	Inhibit RHR Automatic Initiation Division II	ACTIVE	N/A	N/A

Override Functions:

Number	Title	Value	Delay	Ramp
N/A				

Special Instructions:

1. Initialize simulator to the 100% Power IC.
2. Place the Simulator in RUN.
3. Open and Execute JPM Lesson.
4. Place the Mode Switch in Shutdown.
5. When RPV level is below TAF and the RPV is depressurized below 461 psig, allow examinee to enter the Simulator.

Cue Sheet: (JP-OP-315-0141-181)

Initial Conditions:

- You are the Control Room LNO.
- A large LOCA has occurred.
- The RPV is depressurizing due to the leak.
- RPV level is below Top of Active Fuel (TAF).
- The RHR System has failed to respond in the LPCI Mode.

Initiating Cue(s):

The CRS directs you to place RHR in the LPCI Mode and inject into the Reactor Vessel, through the A Loop, at maximum capacity to restore RPV water level above TAF.

JOB PERFORMANCE MEASURE

Job Position SRO / RO	No. JP-OP-315-0165-181	Revision 0
JPM Title Shutdown EDG from MCR following a LOCA	Duration 20 minutes*	Page 1

*2 times Duration for ILO Exams

Examinee: _____ SRO / RO / NO

Evaluator: _____

Validating Representatives Name: Ken Griffin / Chris McEachran

JPM Type: **Normal** / Alternate Path / Time Critical Start Time _____

Evaluation Method: **Perform** / Walkthrough / Discuss Stop Time _____

Location: Plant / **Simulator** / Classroom Total Time: _____

PERFORMANCE EVALUATION SUMMARY											
Element	S	U	Comment	Element	S	U	Comment	Element	S	U	Comment
1.				*** 9.**							
*** 2.**				10.							
3.				*** 11.**							
*** 4.**											
5.											
*** 6.**											
*** 7.**											
8.											

OPERATOR FUNDAMENTALS OBSERVATION				
Monitor operator fundamentals during the JPM set. Rate each area based on the criteria by placing a checkmark in the appropriate column. Indicate the comment number associated with the observation.				
Operator Fundamental	**Meets all Expectations**	**Opportunity for Improvement**	**Does not meet Expectations**	**Comment Number**
Monitoring				
Control				
Conservatism				
Teamwork				
Knowledge				

OVERALL EVALUATOR COMMENTS: _____

_____

_____

REMEDIAL CONTENT: _____

_____ PASS _____ FAIL

Evaluator Signature / Date: _____ / _____

JPM Observation Criteria

Fundamental	Meets all Expectations	Opportunity for Improvement	Does not meet Expectations
Monitoring	Equipment status monitored at proper frequency, using multiple means if available. Understood which indications were critical.	Some monitoring was performed but undue focus on task or lack of system knowledge prevented ideal monitoring.	Did not recognize key equipment status indicators, too much focus on single indications and ignored total system status.
Control	Task preview used to prepare for job. Aware of control bands and maintained them. Configuration control maintained.	Adequate control of system maintained throughout task but some improvements could be made such as better manual control or greater depth of knowledge for anticipating system response.	No anticipation of results of actions. Unaware or control bands or not able to maintain them. Lack of knowledge of how to control system parameters.
Conservatism	Low threshold for identification of problems. Questioning attitude. Uses “stop when unsure” if needed. Sensitive to nuclear safety.	Some opportunities existed to question before proceeding, High focus on task completion without consideration for other system affects.	Proceeds even when unsure with unanswered questions. High threshold for problem conditions.
Teamwork	Routinely communicates system status changes to the team. Communicates actions before taking them.	Communicated most status and actions. Some improvement would be warranted.	Routinely takes action without informing the team.
Knowledge	Able to anticipate system response based on solid system knowledge. Good working knowledge of generic fundamentals to predict and monitor system response.	Plant, system, or generic fundamental knowledge has some gaps.	Unable to predict system response, unsure of generic fundamentals concepts related to plant operation. Only relied on procedure for operating knowledge.

JPM Title Shutdown EDG from MCR following a LOCA	No.: JP-OP-315-0165-181 Revision: 0 Page 2

JPM Information

System:

R3000 - Emergency Diesel Generator System

Task:

02R3000006 Shutdown an Emergency Diesel Generator from the Control Room

References: Required (R) / Available (A)

23.307, Emergency Diesel Generator System (R)

Tools and Equipment Required:

None

Initial Conditions:

- You are an extra licensed operator on shift.
- The plant is shut down following a LOCA.
- EDGs 12 and 13 have been shut down.
- EDGs 11 and 14 are running and were manually loaded to 1800 kW 2 hours ago.
- The EDG Service Water Pump for EDGs 11 and 14 are in AUTO locally and in the Control Room.
- The LOCA signal is still present and the plant is stable.

Initiating Cue(s):

The CRS directs you to shut down EDG 11 (14), from the Main Control Room, in accordance with 23.307.

Terminating Cue(s):

EDG has been shut down from the Main Control Room.

Task Standard:

EDG is manually unloaded and shut down, from the Main Control Room, in accordance with 23.207.

JPM Title Shutdown EDG from MCR following a LOCA	No.: JP-OP-315-0165-181 Revision: 0 Page 3

Licensed Operator Exam Information (required for NRC exams)

Safety Function/Category:

SF6 - Electrical

K/A Reference: (from NUREG 1123)

K/A SYSTEM: 264000 Emergency Generators (Diesel/Jet)

K/A STATEMENT:

A4. Ability to manually operate and/or monitor in the Control room:

A4.04 Manual start, loading, and stopping of emergency generator..... 3.7 / 3.7

Maintenance Rule Safety Classification:

R3000-01

Maintenance Rule Risk Significant? (Yes or No)

Yes

JPM Title Shutdown EDG from MCR following a LOCA	No.: JP-OP-315-0165-181 Revision: 0 Page 1

PERFORMANCE EVALUATION

Start Time _____

ELEMENT		STANDARD	
CUE:	**Provide examinee with Cue Sheet.**		
1.	Verify the EDG has operated, loaded to at least 600kW load, for at least one hour (two hours recommended) or for duration of time as agreed to by System Engineering.	1.	From the cue, examinee determines that EDG 11(14) has operated, loaded to 1800kW, for two hours.
*** 2.**	If a LOCA signal is present and the plant is stable, place Emergency Signal Bypass Keylock Switch in BYPASS.	*** 2.**	Places Emergency Signal Bypass Keylock Switch in BYPASS.
3.	If the EDG 11(14) is in remote control and it is desired to perform the following locally, transfer control in accordance with Section 7.6, EDG Control Transfer from Remote to Local.	3.	Leaves EDG 11(14) Control in Remote.
CUE:	**If asked, direct the examinee to shut down EDG 11(14) remotely from the Main Control Room.**		
*** 4.**	Reduce load on EDG 11(14) by performing the following concurrently: a. Reduce load to 1450 to 1700kW using EDG Governor Control switch. b. Reduce Kilovars 700 to 900 KVARS using Auto Volt Regulator Raise - Lower switch.	*** 4.**	Reduces load on EDG 11(14) by: **a.** Uses EDG Governor Control switch to lower load to 1450 to 1700kW. **b.** Uses Auto Volt Regulator Raise - Lower switch to lower Kilovars to 700 to 900 KVARS.
CUE:	**IF desired to use time compression, inform the examinee that five minutes have elapsed AFTER EDG 11(14) is loaded to 1450 – 1700 kW and 700 – 900 KVAR.**		
5.	Run EDG for five minutes.	5.	Runs EDG for five minutes.
*** 6.**	Reduce load on EDG 11(14) by performing the following concurrently: a. Reduce load to approximately 300kW using EDG Governor Control switch. b. Reduce KVARS to approximately 200 KVARS using Auto Volt Regulator Raise - Lower switch.	*** 6.**	Reduce load on EDG 11(14) by: **a.** Uses EDG Governor Control switch to lower load to approximately 300kW. **b.** Uses Auto Volt Regulator Raise - Lower switch to lower Kilovars to approximately 200 KVARS.

ELEMENT		STANDARD	
*** 7.**	Open EDG 11(14) Output Breaker by performing the following: a. If operating EDG 11(14) locally, place EDG Output Breaker in TRIP. b. If operating from CR, place Bus 11EA EDG 11 (14ED EDG 14) 4160V Output Breaker CMC switch in OPEN.	*** 7.**	Opens EDG 11 Output Breaker by placing Bus 11EA EDG 11 (14ED EDG 14) 4160V Output Breaker CMC switch in OPEN.
8.	Adjust EDG output voltage as required using EDG VOLTAGE CONTROL to obtain an EDG output voltage of 4200 – 4250 Volts as read on R30-R004A, EDG #11 GENERATOR VOLTMETER (R30-R004D, EDG #14 GENERATOR VOLTMETER).	8.	Uses EDG VOLTAGE CONTROL to obtain EDG output voltage of 4200 – 4250 Volts as read on R30-R004A, EDG #11 GENERATOR VOLTMETER (R30-R004D, EDG #14 GENERATOR VOLTMETER).
CUE:	**IF contacted as NO, inform examinee that EDG #11 (14) GENERATOR VOLTMETER (R30-R004A (D), EDG #11 (14) GENERATOR VOLTMETER is <u>reading 4200 volts</u>.**		
*** 9.**	Place EDG 11(14) Auto Manual Operate Select switch for EDG Breaker in AUTO.	*** 9.**	Places EDG 11(14) Auto Manual Operate Select switch for EDG Breaker in AUTO.
CUE:	**IF desired to use time compression, inform the examinee that EDG 11(14) has been operating unloaded for five minutes.**		
10.	Allow EDG 11(14) to operate unloaded at 900 rpm (850-950 rpm is acceptable range) for five minutes.	10.	Allows EDG 11(14) to operate unloaded for five minutes.
*** 11.**	Stop EDG 11(14) by placing EDG START-STOP Control switch in STOP and releasing.	*** 11.**	Stops EDG 11(14) by placing EDG START-STOP Control switch in STOP and releases.
CUE:	**Inform examinee that another operator will complete the Control Room actions to shutdown EDG 11(14) when the field actions are complete.**		
CUE:	**End JPM when EDG 11(14) is shut down.**		

_____ SATISFACTORY _____ UNSATISFACTORY

Stop Time _____

*** Critical Step**

JPM Title Shutdown EDG from MCR following a LOCA	No.: JP-OP-315-0165-181 Revision: 0 Page 3

Evaluator Notes:

ENSURE ALL INDUSTRIAL AND PERSONNEL SAFETY PRACTICES ARE USED AND ENFORCED AT ALL TIMES.

FAILURE TO WEAR ALL PPE REQUIRED FOR TASK PERFORMANCE WILL RESULT IN FAILURE OF THIS JPM.

Generic Notes and Cues:

None

System Specific Notes and Cues:

None

Task Performance and Cues:

The Elements of this JPM are step by step in accordance with the procedure. The Standard is that the procedure is performed as written. The Cues are as listed above for indication or as each step is completed the appropriate information is reported to the examinee. Notify Examinee that time compression may be used for activities performed outside of the Control Room. Notify Examinee if JPM is Time Critical (only if JPM is **NOT** Alternate Path.)

Critical Steps:

Critical Tasks are identified by asterisk (*) and **bolded** steps on the cover sheet. Verify that the latest revision of the procedure is used and critical tasks are correctly identified.

FOLLOW-UP DOCUMENTATION QUESTIONS

Reason for follow-up question(s):

Question:

Reference:

Response:

Question:

Reference

Response:

Simulator Setup

IC#:

Shutdown (Post-LOCA) IC with the following conditions established:

- LOCA signal (High Drywell Pressure) present.
- EDG conditions established as described below.

Note: If desired, prior to bringing in LOCA, place Emergency Signal Bypass Keylock Switches in BYPASS for EDGs 12 and 13.

Note: This JPM may be used in conjunction with other post-LOCA JPMs.

Malfunctions:

Number	Title	Value	Delay	Ramp
N/A				

Remote Functions:

Number	Title	Value	Delay	Ramp
R30RF0038	EDG 12 Local Alarm Reset Pushbutton	RESET	N/A	N/A
R30RF0055	EDG 13 Local Alarm Reset Pushbutton	RESET	N/A	N/A
R30RF0072	EDG 14 Local Alarm Reset Pushbutton	RESET	N/A	N/A

Override Functions:

Number	Title	Value	Delay	Ramp
N/A				

Special Instructions:

1. Shut down EDGs 12 and 13 (if running) by performing the following:
    a. Place EDG 12, 13 and 14 Emergency Signal Bypass Keylock Switches in BYPASS.
    b. Stop EDGs by placing EDG START-STOP Control switches in STOP and release.
    c. Depress EDG Engine RESET (Eng. Trouble Trip Reset) pushbuttons.
    d. After >2 minutes, depress EDG Exciter Reset pushbuttons.
    e. Acknowledge alarms at Local Panels using the Remote Functions above.
2. Load EDG 11(14) to 1800 kW by performing the following:
    a. Acknowledge Local alarms using R30RF0021 (R30RF0072) for EDG 11 (14).
    b. Place Control Room Synchronize switch for EDG 11(14) Breaker Position EA3 (ED3) in ON.
    c. Place Auto Manual select switch for EDG Output Breaker in MANUAL.
    d. Synchronize across EA3 (ED3)
    e. Immediately apply 1000 kW.
    f. Load to 1800 kW and 1200 kVAR.
    g. Place Control Room Synchronize switch for EDG 11 (14) Breaker Position EA3 (ED3) in OFF.
    h. Acknowledge EDG related MCR alarms.
3. Save IC for later use and/or allow examinee to enter the Simulator.

Cue Sheet: (JP-OP-315-0165-181)

Initial Conditions:

- You are an extra licensed operator on shift.
- The plant is shut down following a LOCA.
- EDGs 12 and 13 have been shut down.
- EDGs 11 and 14 are running and were manually loaded to 1800 kW 2 hours ago.
- The EDG Service Water Pump for EDGs 11 and 14 are in AUTO locally and in the Control Room.
- The LOCA signal is still present and the plant is stable.

Initiating Cue(s):

The CRS directs you to shut down EDG 11(14), from the Main Control Room, in accordance with 23.307.

Job Position SRO / RO	No. JP-OP-315-0127-191	Revision 0
JPM Title Reset Reactor Scram	Duration 20 minutes*	Page 1

*2 times Duration for ILO Exams

Examinee: _____ SRO / RO

Evaluator: _____

Validating Representatives Name: Ken Griffin / Chris McEachran

JPM Type: **Normal** / Alternate Path / Time Critical

Evaluation Method: **Perform** / Walkthrough / Discuss

Location: Plant / **Simulator** / Classroom

Start Time _____

Stop Time _____

Total Time: _____

PERFORMANCE EVALUATION SUMMARY											
Element	S	U	Comment	Element	S	U	Comment	Element	S	U	Comment
1.				*** 7.**				13.			
2.				8.				14.			
3.				*** 9.**				15.			
*** 4.**				10.				16.			
*** 5.**				11.				17.			
6.				12.							

OPERATOR FUNDAMENTALS OBSERVATION				
Monitor operator fundamentals during the JPM set. Rate each area based on the criteria by placing a checkmark in the appropriate column. Indicate the comment number associated with the observation.				
Operator Fundamental	**Meets all Expectations**	**Opportunity for Improvement**	**Does not meet Expectations**	**Comment Number**
Monitoring				
Control				
Conservatism				
Teamwork				
Knowledge				

OVERALL EVALUATOR COMMENTS: _____

_____

_____

REMEDIAL CONTENT: _____

_____ **PASS** _____ **FAIL**

Evaluator Signature / Date: _____ / _____

JPM Observation Criteria

Fundamental	Meets all Expectations	Opportunity for Improvement	Does not meet Expectations
Monitoring	Equipment status monitored at proper frequency, using multiple means if available. Understood which indications were critical.	Some monitoring was performed but undue focus on task or lack of system knowledge prevented ideal monitoring.	Did not recognize key equipment status indicators, too much focus on single indications and ignored total system status.
Control	Task preview used to prepare for job. Aware of control bands and maintained them. Configuration control maintained.	Adequate control of system maintained throughout task but some improvements could be made such as better manual control or greater depth of knowledge for anticipating system response.	No anticipation of results of actions. Unaware or control bands or not able to maintain them. Lack of knowledge of how to control system parameters.
Conservatism	Low threshold for identification of problems. Questioning attitude. Uses “stop when unsure” if needed. Sensitive to nuclear safety.	Some opportunities existed to question before proceeding, High focus on task completion without consideration for other system affects.	Proceeds even when unsure with unanswered questions. High threshold for problem conditions.
Teamwork	Routinely communicates system status changes to the team. Communicates actions before taking them.	Communicated most status and actions. Some improvement would be warranted.	Routinely takes action without informing the team.
Knowledge	Able to anticipate system response based on solid system knowledge. Good working knowledge of generic fundamentals to predict and monitor system response.	Plant, system, or generic fundamental knowledge has some gaps.	Unable to predict system response, unsure of generic fundamentals concepts related to plant operation. Only relied on procedure for operating knowledge.

JPM Title Reset Reactor Scram	No.: JP-OP-315-0127-191 Revision: 0 Page 3

JPM Information

System:

C7100 – Reactor Protection System

Task:

02A0001011 Recognize and respond to Reactor Scram

References: Required (R) / Available (A)

23.610, Reactor Protection System (R)

Tools and Equipment Required:

None

Initial Conditions:

You are The P603 Operator.

The Mode Switch has just been taken to Shutdown for the start of the next Refueling Outage.

The scram report was as follows:

- The Mode Switch is in Shutdown.
- All Control Rods are fully inserted.
- Reactor Power is 0% and lowering.
- RPS has actuated.
- The Main Turbine is tripped.

Also:

- The SRM/IRM detectors have been inserted.
- No fuel damage is suspected.
- D065 sump pumps have power.

Initiating Cue(s):

The CRS directs you to Reset the Reactor Scram IAW 23.610.

Terminating Cue(s):

The Reactor Scram has been Reset.

Task Standard:

The Reactor Scram is Reset IAW 23.610.

JPM Title Reset Reactor Scram	No.: JP-OP-315-0127-191 Revision: 0 Page 4

Licensed Operator Exam Information (required for NRC exams)

Safety Function/Category:

7 - Instrumentation

K/A Reference: (from NUREG 1123)

K/A SYSTEM: 212000 - Reactor Protection System

K/A STATEMENT:

A4. Ability to manually operate and/or monitor in the control room:

A4.14 Reset system following system activation..... 3.8 / 3.8

Maintenance Rule Safety Classification:

C7100-02

Maintenance Rule Risk Significant? (Yes or No)

Yes

PERFORMANCE EVALUATION

Start Time _____

ELEMENT		STANDARD	
CUE:	**Provide examinee with Cue Sheet.**		
1.	Verify or place Reactor Mode Switch in SHUTDOWN or REFUEL.	1.	Verifies Mode Switch is in SHUTDOWN.
2.	Verify Annunciator 3D6, SCRAM VALVE PILOT AIR HDR PRESS HIGH/LOW, is in alarm.	2.	Verifies Annunciator 3D6, SCRAM VALVE PILOT AIR HDR PRESS HIGH/LOW, is in alarm.
3.	Verify Annunciator 3D2, SCRAM DISCHARGE VOLUME LEVEL HIGH, alarms.	3.	Verifies Annunciator 3D2, SCRAM DISCHARGE VOLUME LEVEL HIGH, is in alarm.
*** 4.**	Place C7100-M604, Scram Disch Vol Hi H2O Lvl Byp, switch in BYPASS: • Verify Annunciator 3D95, DISCH WATER VOL HI LEVEL CHANNEL TRIP BYPASSED, alarms.	*** 4**.	Places C7100-M604, Scram Disch Vol Hi H2O Lvl Byp, switch in BYPASS and verifies Annunciator 3D95, DISCH WATER VOL HI LEVEL CHANNEL TRIP BYPASSED, alarms.
*** 5.**	Cycle C7100-M605, Scram Reset Switch, to both positions (GP 1/4, GP 2/3), and release: • Verify Trip System A and B blue Pilot Scram Valve Solenoid lights are ON. • Verify alarm is reset for RPS Channels A and B: - 3D73, TRIP ACTUATORS A1/A2 TRIPPED. - 3D74, TRIP ACTUATORS B1/B2 TRIPPED • Verify C1100-F010/F180, Scram Disch Vol Vent Vlv's, and C1100-F011/F181, Scram Disch Vol Drain Vlv's, are open.	*** 5**.	Cycle C7100-M605, Scram Reset Switch, to both positions (GP 1/4, GP 2/3), and release and: • Verifies Trip System A and B blue Pilot Scram Valve Solenoid lights are ON. • Verifies alarm is reset for RPS Channels A and B: - 3D73, TRIP ACTUATORS A1/A2 TRIPPED. - 3D74, TRIP ACTUATORS B1/B2 TRIPPED • Verifies C1100-F010/F180, Scram Disch Vol Vent Vlv's, and C1100-F011/F181, Scram Disch Vol Drain Vlv's, are open.
6.	Reset Rod Drift alarms.	6.	Resets Rod Drift alarms.
*** 7.**	Verify Annunciator 3D94, DISCH WATER VOL HI LEVE CHANNEL TRIP, clears.	*** 7.**	Verifies Annunciator 3D94, DISCH WATER VOL HI LEVE CHANNEL TRIP, clears.
CUE:	**Inform examinee that time compression has been used and the Scram Discharge Volume will drain faster than normal.**		
8.	Verify Annunciator 3D2, SCRAM DISCHARGE VOLUME LEVEL HIGH, clears.	8.	Verifies Annunciator 3D2, SCRAM DISCHARGE VOLUME LEVEL HIGH, clears.

ELEMENT		STANDARD	
*** 9.**	Place C7100-M604, Scram Disch Vol Hi H2O Lvl Byp, switch in NORMAL: • Verify Annunciator 3D95, DISCH WATER VOL HI LEVEL CHANNEL TRIP BYPASSED, clears.	*** 9**.	Places C7100-M604, Scram Disch Vol Hi H2O Lvl Byp, switch in NORMAL and verifies Annunciator 3D95, DISCH WATER VOL HI LEVEL CHANNEL TRIP BYPASSED, clears.
10.	Close or verify closed the following valves (H11-P805): • N2100-F607, N RFP Disch Line Iso Valve. • N2100-F608, S RFP Disch Line Iso Valve.	10.	Verifies N2100-F607, N RFP Disch Line Iso Valve and N2100-F608, S RFP Disch Line Iso Valve are CLOSED.
11.	Place or verify both C32-R616A/B, North/South Reactor Feed Pump Controllers, in MANUAL.	11.	Places or verifies both C32-R616A/B, North/South Reactor Feed Pump Controllers, in MANUAL.
12.	Verify or place SULCV Mode Switch in START.	12.	Verifies / places SULCV Mode Switch in START.
13.	Reset Post Scram Feedwater Logic.	13.	Depresses Feedwater Logic RESET push button to Reset Post Scram Feedwater Logic.
14.	Reset Post Scram Reactor Water Level Setdown Logic.	14.	Depresses Reactor Water Level Set Down RESET push button to Reset Reactor Water Level Setdown Logic.
15.	If Scram is locked in on IPCS, on IPCS cycle plant to Mode 3 or 4 and back to current Mode to clear locked in scram signal.	15.	Checks IPCS display and, if Yellow SCRAM Block is displayed, selects Mode Screen and cycles plant to Mode 3 or 4 and back to Mode 3 to clear locked in scram signal.
16.	Verify closed or close C1100-F212, CST To CRD Pumps Secondary Supply Check Valve (ABB G-12).	16.	Dispatches operator to verify closed, or close, C1100-F212, CST To CRD Pumps Secondary Supply Check Valve.
CUE:	**When directed to check status of C11-F212, CST To CRD Pumps Secondary Supply Check Valve, report that C11-F212 is CLOSED.**		
17.	Inform CRS that Reactor Scram is RESET.	17.	Informs CRS that Reactor Scram is RESET.
CUE:	**End JPM when Reactor Scram is Reset.**		

_____ SATISFACTORY _____ UNSATISFACTORY

Stop Time _____

*** Critical Step**

Evaluator Notes:

ENSURE ALL INDUSTRIAL AND PERSONNEL SAFETY PRACTICES ARE USED AND ENFORCED AT ALL TIMES.

FAILURE TO WEAR ALL PPE REQUIRED FOR TASK PERFORMANCE WILL RESULT IN FAILURE OF THIS JPM.

Generic Notes and Cues:

None

System Specific Notes and Cues:

None

Task Performance and Cues:

The Elements of this JPM are step by step in accordance with the procedure. The Standard is that the procedure is performed as written. The Cues are as listed above for indication or as each step is completed the appropriate information is reported to the examinee. Notify Examinee that time compression may be used for activities performed outside of the Control Room. Notify Examinee if JPM is Time Critical (only if JPM is **NOT** Alternate Path.)

Critical Steps:

Critical Tasks are identified by asterisk (*) and **bolded** steps on the cover sheet. Verify that the latest revision of the procedure is used and critical tasks are correctly identified.

FOLLOW-UP DOCUMENTATION QUESTIONS

Reason for follow-up question(s):

Question:

Reference:

Response:

Question:

Reference

Response:

Simulator Setup

IC#:

Any Power IC or IC set up specifically for this JPM.

Malfunctions:

Number	Title	Value	Delay	Ramp

Remote Functions:

Number	Title	Value	Delay	Ramp
N/A				

Override Functions:

Number	Title	Value	Delay	Ramp

Special Instructions:

1. Place the Simulator in RUN.
2. Place the Mode Switch in Shutdown.
3. Insert the IRMs/SRMs
4. Allow RPV Water Level to restore back to 197”.
5. Acknowledge all alarms.
6. Allow examinee to enter the Simulator.

Cue Sheet: (JP-OP-315-0127-191)

Initial Conditions:

You are The P603 Operator.

The Mode Switch has just been taken to Shutdown for the start of the next Refueling Outage.

The scram report was as follows:

- The Mode Switch is in Shutdown.
- All Control Rods are fully inserted.
- Reactor Power is 0% and lowering.
- RPS has actuated.
- The Main Turbine is tripped.

Also:

- The SRM/IRM detectors have been inserted.
- No fuel damage is suspected.
- D065 sump pumps have power.

Initiating Cue(s):

The CRS directs you to Reset the Reactor Scram IAW 23.610.

JOB PERFORMANCE MEASURE

Job Position RO / SRO	No. JP-OP-315-0172-001	Revision 1
JPM Title Jockey Fire pump failure, start Electric or Diesel Fire Pump	Duration 6 minutes*	Page 1

*2 times Duration for ILO Exams

Examinee: _____ SRO / RO

Evaluator: _____

Validating Representatives Name: Ken Griffin/Chris McEachran

JPM Type: **Normal** / Alternate Path **/** Time Critical Start Time _____

Evaluation Method: **Perform** / Walkthrough / Discuss Stop Time _____

Location: Plant / **Simulator** / Classroom Total Time: _____

PERFORMANCE EVALUATION SUMMARY											
Element	S	U	Comment	Element	S	U	Comment	Element	S	U	Comment
1.											
2.											
*** 3.**											
*** 4.**											
*** 5.**											
*** 6.**											
7.											

OPERATOR FUNDAMENTALS OBSERVATION

Monitor operator fundamentals during the JPM set. Rate each area based on the criteria by placing a checkmark in the appropriate column. Indicate the comment number associated with the observation.

Operator Fundamental	Meets all Expectations	Opportunity for Improvement	Does not meet Expectations	Comment Number
Monitoring				
Control				
Conservatism				
Teamwork				
Knowledge				

OVERALL EVALUATOR COMMENTS: _____

_____

_____

REMEDIAL CONTENT: _____

_____ **PASS** _____ **FAIL**

Evaluator Signature / Date: _____ /

JPM Observation Criteria

Fundamental	Meets all Expectations	Opportunity for Improvement	Does not meet Expectations
Monitoring	Equipment status monitored at proper frequency, using multiple means if available. Understood which indications were critical.	Some monitoring was performed but undue focus on task or lack of system knowledge prevented ideal monitoring.	Did not recognize key equipment status indicators, too much focus on single indications and ignored total system status.
Control	Task preview used to prepare for job. Aware of control bands and maintained them. Configuration control maintained.	Adequate control of system maintained throughout task but some improvements could be made such as better manual control or greater depth of knowledge for anticipating system response.	No anticipation of results of actions. Unaware or control bands or not able to maintain them. Lack of knowledge of how to control system parameters.
Conservatism	Low threshold for identification of problems. Questioning attitude. Uses “stop when unsure” if needed. Sensitive to nuclear safety.	Some opportunities existed to question before proceeding, High focus on task completion without consideration for other system affects.	Proceeds even when unsure with unanswered questions. High threshold for problem conditions.
Teamwork	Routinely communicates system status changes to the team. Communicates actions before taking them.	Communicated most status and actions. Some improvement would be warranted.	Routinely takes action without informing the team.
Knowledge	Able to anticipate system response based on solid system knowledge. Good working knowledge of generic fundamentals to predict and monitor system response.	Plant, system, or generic fundamental knowledge has some gaps.	Unable to predict system response, unsure of generic fundamentals concepts related to plant operation. Only relied on procedure for operating knowledge.

JPM Title Jockey Fire pump failure, start Electric or Diesel Fire Pump	No.: JP-OP-315-0172-001 Revision: 1 Page 3

JPM Information

System:

P8000 – Fire Water Suppression System

Task:

02P8000002 - Operate the fire pumps from the control room

References: Required (R) / Available (A)

7D12, Fire Protection Jockey Pump Trouble (R)
23.501.01, Fire Water Suppression System (A)

Tools and Equipment Required:

None

Initial Conditions:

- You are the CRLNO.
- Reactor Power is at 100%.
- Plant conditions are stable as you see them.
- GSW PUMP #6 is Red Tagged for maintenance.
- 7D12, Fire Protection Jockey Pump Trouble has just alarmed.

Initiating Cue(s):

Respond to 7D12, Fire Protection Jockey Pump Trouble.

Terminating Cue(s):

CMC switch for Electric (Diesel) Fire Pump P8000-C002 (C001) is in RUN and Fire Header pressure has recovered to greater than 150 psig.

Task Standard:

Start the P8000-C002, Electric Fire Pump and P8000-C001, Diesel Fire Pump to restore Fire Header Pressure indicated on P4100-R809 above 150 psig IAW ARP 7D12.

JPM Title	No.: JP-OP-315-0172-001
Jockey Fire pump failure, start Electric or Diesel Fire Pump	Revision: 1
	Page 4

Licensed Operator Exam Information (Required for NRC Exams Only)

Safety Function:

SF-8. Plant Service Systems

K/A Reference: (from NUREG 1123)

K/A SYSTEM: 286000 - Fire Protection System

K/A STATEMENT:

A2. Ability to (a) predict the impacts of the following on the FIRE PROTECTION SYSTEM ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: (CFR: 41.5 / 45.6)

A2.06 Low fire main pressure: Plant-Specific ……..3.1/3.2

Maintenance Rule Safety Classification:

P8000-08

Maintenance Rule Risk Significant? (Yes or No)

NO

PERFORMANCE EVALUATION

Start Time _____

ELEMENT		STANDARD	
CUE:	**Provide the examinee with the cue sheet.**		
1.	Respond to ARP 7D12.	1.	Reviews ARP 7D12
CUE:	**If dispatched as Outside Rounds NO, acknowledge direction to investigate Jockey Pump. For any request of status, reply that you are on your way.**		
2.	Verify GSW System or alternate supply (EF1 Fire Protection) is operating.	2.	Verifies GSW has pressure on P4100-R809, GSW / FIRE HEADER PROTECTION PRESSURE INDICATION at ~ 110 psig.
*** 3**.	Identify Fire Header Pressure is lowering.	*** 3.**	Identifies lowering Fire Header pressure on P4100-R809, GSW / FIRE HEADER PROTECTION PRESSURE INDICATION
NOTE: The FIRST pump started will NOT develop adequate discharge pressure due to blockage that tripped the Jockey Pump. The pump started second will recover Fire Header pressure.			
*** 4.**	Before Fire Header reaches 130 psig, start P8000-C002, Electric Fire Pump or P8000-C001, Diesel Fire Pump.	*** 4.**	Places CMC switch for P8000-C002, EFP or P8000-C001, DFP in RUN. Verifies Fire Header pressure on P4100-R809 GSW / FIRE HEADER PROTECTION PRESSURE INDICATION is NOT recovering.
CUE:	**If dispatched as Outside Rounds NO, acknowledge direction to Electric (or Diesel) Fire Pump. For any request of status, reply that you are on your way**		
*** 5.**	Recognize that Fire Header Pressure is continuing to lower.	*** 5**.	Verifies Fire Header pressure on P4100-R809 GSW / FIRE HEADER PROTECTION PRESSURE INDICATION. Recognizes/reports Fire Header Pressure is still lowering.
CUE:	**If examinee reports to CRS that Fire Header pressure is still lowering, acknowledge report. If asked for guidance, ask examinee what he/she recommends.**		
*** 6.**	Start P8000-C002, Electric Fire Pump or P8000-C001, Diesel Fire Pump.	*** 6.**	Places CMC switch for P8000-C001, DFP or P8000-C002, EFP in RUN. Verifies Fire Header pressure on P4100-R809 GSW / FIRE HEADER PROTECTION PRESSURE INDICATION increases.
7.	Direct Nuclear Operator (NO) to investigate Jockey Fire Pump.	7.	Directs NO to investigate condition of Jockey Fire Pump.
CUE:	**End JPM when Fire Header pressure has recovered to greater than 150 psig.**		

_____ SATISFACTORY _____ UNSATISFACTORY

Stop Time _____

*** Critical Step**

JPM Title	No.: JP-OP-315-0172-001
Jockey Fire pump failure, start Electric or Diesel Fire Pump	Revision: 1
	Page 6

Evaluator Notes:

ENSURE ALL INDUSTRIAL AND PERSONNEL SAFETY PRACTICES ARE USED AND ENFORCED AT ALL TIMES.

FAILURE TO WEAR ALL PPE REQUIRED FOR TASK PERFORMANCE WILL RESULT IN FAILURE OF THIS JPM.

Generic Notes and Cues:

CMC switches will turn RED and amperage will increase when the switch is rotated to the start position started. The current should initially be five to seven times the normal running amps with the ammeter flashing. As counter EMF is developed, the amperage will lower to the normal running amperage and the ammeter will no longer flash. CMC switches will turn GREEN when the pumps are stopped and amperage will decrease to zero.

Remotely operated valve position is determined with open and close indicating lights. A RED light only would indicate that the valve is open. A GREEN light only would indicate that the valve is closed. Dual indication would indicate that the valve is in some intermediate position.

Manual valves are checked in the closed direction (MOP02 and MOP05). Valve stem position may aid in valve position determination, but cannot be used as Independent Verification (MOP02).

System Specific Notes and Cues:

None

Task Performance and Cues:

The Elements of this JPM are step by step in accordance with the procedure. The Standard is that the procedure is performed as written. The Cues are as listed above for indication or as each step is completed the appropriate information is reported to the examinee.

Critical Steps:

Critical Tasks are identified by asterisk (*) and **bolded** steps on the cover sheet. Verify that the latest revision of the procedure is used and critical tasks are correctly identified.

FOLLOW-UP DOCUMENTATION QUESTIONS

Reason for follow-up question(s):

Question:

Reference:

Response:

Question:

Reference

Response:

Simulator Setup

IC#: IC-20, or another IC set up specifically for this JPM.

Malfunctions:

Number	Title	Value	Delay	Ramp
P801PSEN460TFASIS	ELEC FIRE PUMP PRES SW	TRUE	N/A	N/A
P801PSEN461TFASIS	ELEC FIRE PUMP PRES SW	TRUE	N/A	N/A
P801C003_MTVLS	FAILURE JFP	0.32	0	300
P801C002_MTFSEIZUR	EFP Shaft Seize (**Note 1**)	TRUE	N/A	N/A
P801C001_ETFSHEAR	DFP Shaft Shear (**Note 2**)	TRUE	N/A	N/A

Note 1: EFP Shaft Seize will occur if it is the FIRST pump started (CMC Switch in RUN and DFP Shaft Shear malfunction NOT in).

Note 2: DFP Shaft Shear will occur is it is the FIRST pump started (CMC Switch in RUN and EFP Shaft Seize malfunction NOT in).

Remote Functions:

Number	Title	Value	Delay	Ramp

Override Functions:

Number	Title	Value	Delay	Ramp
H_P807_A012_3	GSW # 6 OFF LIGHT	0	N/A	N/A
HCCQP807_D012TVSP	JFP TROUBLE 7D12	1	N/A	N/A

Special Instructions:

1. Initialize the simulator to IC 20, and place in RUN.
2. Open and Execute lesson 315-0172-001.lsn.
3. Trigger the START step and Trigger Initial Conditions to fail the EFP & DFP automatic start pressure switches and remove GSW #6 from service.
4. Place RED TAG DOT next to CMC for #6 GSW PUMP (P807 P4100-C006) to indicate Danger Tagged Out.
5. When examiner is ready, trigger ALARM and Jockey Pump Failure step.

Cue Sheet: (JP-OP-315-0172-001)

Initial Conditions:

- You are the CRLNO.
- Reactor Power is at 100%.
- Plant conditions are stable as you see them.
- GSW PUMP #6 is Red Tagged for maintenance.
- 7D12, Fire Protection Jockey Pump Trouble has just alarmed.

Initiating Cue(s):

Respond to 7D12, Fire Protection Jockey Pump Trouble.

JOB PERFORMANCE MEASURE

Job Position SRO / RO	No. JP-OP-802-2001-191	Revision 0
JPM Title Align CCHVAC Emergency Intake to the Lowest Indicated Radiation Level	Duration 8 minutes*	Page 1

*2 times Duration for ILO Exams

Examinee: _____ SRO / RO

Evaluator: _____

Validating Representatives Name: Ken Griffin / Chris McEachran

JPM Type: **Normal** / Alternate Path / Time Critical

Evaluation Method: **Perform** / Walkthrough / Discuss

Location: Plant / **Simulator** / Classroom

Start Time _____

Stop Time _____

Total Time: _____

PERFORMANCE EVALUATION SUMMARY											
Element	S	U	Comment	Element	S	U	Comment	Element	S	U	Comment
1.				*** 8.**							
2.											
3.											
4.											
5.											
*** 6.**											
*** 7.**											

OPERATOR FUNDAMENTALS OBSERVATION				
Monitor operator fundamentals during the JPM set. Rate each area based on the criteria by placing a checkmark in the appropriate column. Indicate the comment number associated with the observation.				
Operator Fundamental	**Meets all Expectations**	**Opportunity for Improvement**	**Does not meet Expectations**	**Comment Number**
Monitoring				
Control				
Conservatism				
Teamwork				
Knowledge				

OVERALL EVALUATOR COMMENTS: _____

_____

_____

REMEDIAL CONTENT: _____

_____ **PASS** _____ **FAIL**

Evaluator Signature / Date: _____ /

JPM Observation Criteria

Fundamental	Meets all Expectations	Opportunity for Improvement	Does not meet Expectations
Monitoring	Equipment status monitored at proper frequency, using multiple means if available. Understood which indications were critical.	Some monitoring was performed but undue focus on task or lack of system knowledge prevented ideal monitoring.	Did not recognize key equipment status indicators, too much focus on single indications and ignored total system status.
Control	Task preview used to prepare for job. Aware of control bands and maintained them. Configuration control maintained.	Adequate control of system maintained throughout task but some improvements could be made such as better manual control or greater depth of knowledge for anticipating system response.	No anticipation of results of actions. Unaware or control bands or not able to maintain them. Lack of knowledge of how to control system parameters.
Conservatism	Low threshold for identification of problems. Questioning attitude. Uses “stop when unsure” if needed. Sensitive to nuclear safety.	Some opportunities existed to question before proceeding, High focus on task completion without consideration for other system affects.	Proceeds even when unsure with unanswered questions. High threshold for problem conditions.
Teamwork	Routinely communicates system status changes to the team. Communicates actions before taking them.	Communicated most status and actions. Some improvement would be warranted.	Routinely takes action without informing the team.
Knowledge	Able to anticipate system response based on solid system knowledge. Good working knowledge of generic fundamentals to predict and monitor system response.	Plant, system, or generic fundamental knowledge has some gaps.	Unable to predict system response, unsure of generic fundamentals concepts related to plant operation. Only relied on procedure for operating knowledge.

JPM Title Align CCHVAC Emergency Intake to the Lowest Indicated Radiation Level	No.: JP-OP-802-2001-191 Revision: 0 Page 2

JPM Information

System:

T4102 – Control Center HVAC

Task:

Align CCHVAC emergency intake to the lowest indicated radiation level.

References: Required (R) / Available (A)

23.413, Control Center HVAC System (A)
3D38 CONT CENTER EMERG AIR DIV I RADN MON TROUBLE (A)
3D39 CONT CENTER EMERG AIR DIV II RADN MON TROUBLE (A)

Tools and Equipment Required:

None

Initial Conditions:

- You are an extra licensed operator on shift in the Main Control Room.
- A Loss of Coolant Accident and Fuel Failure have occurred.
- The RPV has been Emergency Depressurized.
- An offsite radioactivity release is in progress.
- 3D38 (3D39) CONT CENTER EMERG AIR DIV I(II) RADN MON TROUBLE have just been received.

Initiating Cue(s):

Respond to 3D38 (3D39) CONT CENTER EMERG AIR DIV I(II) RADN MON TROUBLE and align CCHVAC to the intake with the lowest radiation level.

Terminating Cue(s):

CCHVAC Emergency Intakes aligned to the South intakes.

Task Standard:

Division 1 and 2 CCHVAC Emergency Intake aligned to the South intakes.

JPM Title Align CCHVAC Emergency Intake to the Lowest Indicated Radiation Level	No.: JP-OP-802-2001-191 Revision: 0 Page 3

Licensed Operator Exam Information (required for NRC exams)

Safety Function/Category:

9 – Radioactivity Release

K/A Reference: (from NUREG 1123)

K/A SYSTEM: 290003 – Control Room HVAC System

K/A STATEMENT:

A1. Ability to predict and/or monitor changes in parameters associated with operating the CONTROL ROOM HVAC controls including:

A1.05 Radiation monitoring (control room)..... 3.2 / 3.3

A4. Ability to manually operate and/or monitor in the control room:

A4.03 Reposition dampers ..... 2.8 / 2.8

Maintenance Rule Safety Classification:

T4102 - 1

Maintenance Rule Risk Significant? (Yes or No)

Yes

JPM Title Align CCHVAC Emergency Intake to the Lowest Indicated Radiation Level	No.: JP-OP-802-2001-191 Revision: 0 Page 1

PERFORMANCE EVALUATION

Start Time _____

ELEMENT	STANDARD
CUE: Provide examinee with Cue Sheet.	
1. Refer to ARPs 3D38 and 3D39.	1. Refers to ARPs 3D38 and 3D39
2. Direct an operator to D11-K836A (K837A), Div 1 S (N) CCHVAC Emerg Air Inlet Rad Monitor, at RR H11-P914 to perform the following: a. Check the following for possible causes: • Mode switch not in OPERATE • Red TRIP 2 light on (HIGH-HIGH) • Amber TRIP 1 light on (HIGH) • Green FAILURE light OFF • Downscale indication • *Greater than 35,000 cpm • *Greater than 50,000 cpm b. Attempt to reset D11-K836A (K837A), Div 1 S (N) CCHVAC Emerg Air Inlet Rad Monitor, by depressing red, amber, or green pushbuttons. c. Report condition found to Control Room	2. Directs an operator to D11-K836A (K837A), Div 1 S (N) CCHVAC Emerg Air Inlet Rad Monitors, at RR H11-P914. Records and repeats-back the report from the Relay Room, only the following are critical: • *D11-K836A (Div 1 South): **37,000 cpm**. **(Critical Step)** • *D11-K8367A (Div 1 North): **48,000 cpm**. **(Critical Step)**

CUE: When directed, provide the following to the examinee in the order requested from the Relay Room:

At the H11-P914, D11-K836A (K837A), Div 1 S (N) CCHVAC Emerg Air Inlet Rad Monitors are BOTH:

- In OPERATE.
- Red Trip 2 lights – NOT ON.
- Amber Trip 1 lights – Both ON.
- Green Failure lights – Both OFF.
- Neither indicate Downscale.
- D11-K836A – Reading 37,000 cpm.
- D11-K837A – Reading 48,000 cpm.

CUE: If directed, report that you attempted to Reset the radiation monitors and they are still tripped.

ELEMENT	STANDARD
NOTE: **The examinee may recognize the conditions above as an actual condition and not direct the actions below.**	
3. Direct an operator to North and South Sample Pumps to check for high flow, low flow, off, or electrical feed open or fuses blown in accordance with 23.625, "Process Radiation Monitoring."	3. Directs an operator to check North and South Sample Pumps in accordance with 23.625, "Process Radiation Monitoring."
CUE: If directed, report that you have checked out the North and South Sample Pumps in accordance with 23.625 and everything looks normal.	
4. Direct an operator to D11-K836B (K837B), Div 2 S (N) CCHVAC Emerg Air Inlet Rad Monitor, at RR H11-P915 to perform the following: a. Check the following for possible causes: • Mode switch not in OPERATE • Red TRIP 2 light on (HIGH-HIGH) • Amber TRIP 1 light on (HIGH) • Green FAILURE light OFF • Downscale indication • *Greater than 35,000 cpm • *Greater than 50,000 cpm b. Attempt to reset D11-K836B (K837B), Div 2 S (N) CCHVAC Emerg Air Inlet Rad Monitor, by depressing red, amber, or green pushbuttons. c. Report condition found to Control Room.	4. Directs an operator to D11-K836B (K837B), Div 2 S (N) CCHVAC Emerg Air Inlet Rad Monitors, at RR H11-P915. Records and repeats-back the report from the Relay Room, only the following are critical: • *D11-K836B (Div 2 South): **36,000 cpm**. **(Critical Step)** • *D11-K837B (Div 2 North): **48,000 cpm**. **(Critical Step)**
CUE: When directed, provide the following to the examinee in the order requested from the Relay Room: **At the H11-P915, D11-K836B (K837B), Div 2 S (N) CCHVAC Emerg Air Inlet Rad Monitors are BOTH:** • In OPERATE. • Red Trip 2 lights – NOT ON. • Amber Trip 1 lights – Both ON. • Green Failure lights – Both OFF. • Neither indicate Downscale. • D11-K836B – Reading 36,000 cpm. • D11-K837B – Reading 48,000 cpm. **CUE: If directed, report that you attempted to Reset the radiation monitors and they are still tripped.**	

ELEMENT		STANDARD	
NOTE: **The examinee may recognize the conditions above as an actual condition and not direct the actions below.**			
5.	Direct an operator to North and South Sample Pumps to check for high flow, low flow, off, or electrical feed open or fuses blown in accordance with 23.625, "Process Radiation Monitoring."	5.	Directs an operator to check North and South Sample Pumps in accordance with 23.625, "Process Radiation Monitoring."
CUE:	**If directed, report that you have checked out the North and South Sample Pumps in accordance with 23.625 and everything looks normal.**		
*** 6.**	Evaluate radiation levels and determine the South CCHVAC Emergency Air Inlets have the lowest indicated radiation levels.	*** 6.**	Determines South CCHVAC Emergency Air Inlets have the lowest indicated radiation levels.
*** 7.**	Place Division 1 Emergency Air Inlet Selector switch to intake with the lowest reading.	*** 7.**	Places Division 1 Emergency Air Inlet Selector switch to SOUTH.
*** 8.**	Place Division 2 Emergency Air Inlet Selector switch to intake with the lowest reading.	*** 8.**	Places Division 2 Emergency Air Inlet Selector switch to SOUTH.
CUE:	**End JPM when Division 1 and 2 CCHVAC Emergency Intakes have been aligned to the South intake.**		

_____ SATISFACTORY _____ UNSATISFACTORY

Stop Time _____

*** Critical Step**

Evaluator Notes:

ENSURE ALL INDUSTRIAL AND PERSONNEL SAFETY PRACTICES ARE USED AND ENFORCED AT ALL TIMES.

FAILURE TO WEAR ALL PPE REQUIRED FOR TASK PERFORMANCE WILL RESULT IN FAILURE OF THIS JPM.

Generic Notes and Cues:

None

System Specific Notes and Cues:

None

Task Performance and Cues:

The Elements of this JPM are step by step in accordance with the procedure. The Standard is that the procedure is performed as written. The Cues are as listed above for indication or as each step is completed the appropriate information is reported to the examinee. Notify Examinee that time compression may be used for activities performed outside of the Control Room. Notify Examinee if JPM is Time Critical (only if JPM is **NOT** Alternate Path.)

Critical Steps:

Critical Tasks are identified by asterisk (*) and **bolded** steps on the cover sheet. Verify that the latest revision of the procedure is used and critical tasks are correctly identified.

FOLLOW-UP DOCUMENTATION QUESTIONS

Reason for follow-up question(s):

Question:

Reference:

Response:

Question:

Reference

Response:

Simulator Setup

IC#:

N/A

Malfunctions:

Number	Title	Value	Delay	Ramp
B21MF0021	Steam Leak in DW	5.0	N/A	120 sec
B11MF0003	Fuel Failure	10.0	N/A	N/A
D11MF0040	Div 2 SGTS SPING	10.0	N/A	60 sec
D11MF0002	Div 2 SGTS AXM	2500	N/A	60 sec
C97MF0365	3D44 Effluent Process Rad Monitor Trouble	ON	60 sec	N/A
C97MF0351	3D38 Div 1 CCHVAC Emerg Air Intake Rad Mon	ON	60 sec	N/A
C97MF0354	3D39 Div 2 CCHVAC Emerg Air Intake Rad Mon	ON	60 sec	N/A

Remote Functions:

Number	Title	Value	Delay	Ramp
N/A				

Override Functions:

Number	Title	Value	Delay	Ramp
N/A				

Special Instructions:

1. Place Simulator in RUN.
2. Execute step for Steam Leak and Fuel Failure.
3. Place Mode Switch in Shutdown.
4. Insert IRMs and SRMs.
5. Close Inboard and Outboard MSIVs.
6. Turn OFF all Condenser Pumps.
7. Inhibit ADS.
8. Open 5 ADS SRVs.
9. Turn OFF all RHR and Core Spray Pumps.
10. Turn ON all Condenser Pumps and 1 HFP.
11. Allow RPV Level to stabilize on the SULCV.
12. Trigger steps to bring in 3D38/3D39 and Div 2 AXM alarms.
13. Allow examinee to enter simulator OR save IC for future use.

Cue Sheet: (JP-OP-802-2001-191)

Initial Conditions:

- You are an extra licensed operator on shift in the Main Control Room.
- A Loss of Coolant Accident and Fuel Failure have occurred.
- The RPV has been Emergency Depressurized.
- An offsite radioactivity release is in progress.
- 3D38 (3D39) CONT CENTER EMERG AIR DIV I(II) RADN MON TROUBLE have just been received.

Initiating Cue(s):

Respond to 3D38 (3D39) CONT CENTER EMERG AIR DIV I(II) RADN MON TROUBLE and align CCHVAC to the intake with the lowest radiation level

JOB PERFORMANCE MEASURE

Job Position RO	No. JP-OP-315-0172-207	Revision 1
JPM Title Fire Zone 9 – Subsequent Action AB, Impact 1 / Strategy 3	Duration 18 minutes*	Page 1

*2 times Duration for ILO Exams

Examinee: _____ SRO / RO / NO

Evaluator: _____

Validating Representatives Name: Ken Griffin

JPM Type: **Normal** / Alternate Path **/** Time Critical

Evaluation Method: Perform / **Walkthrough** / Discuss

Location: **Plant** / Simulator / Classroom

Start Time _____

Stop Time _____

Total Time: _____

PERFORMANCE EVALUATION SUMMARY											
Element	S	U	Comment	Element	S	U	Comment	Element	S	U	Comment
*** 1.**											
*** 2.**											
*** 3.**											
*** 4.**											
5.											

OPERATOR FUNDAMENTALS OBSERVATION

Monitor operator fundamentals during the JPM set. Rate each area based on the criteria by placing a checkmark in the appropriate column. Indicate the comment number associated with the observation.

Operator Fundamental	Meets all Expectations	Opportunity for Improvement	Does not meet Expectations	Comment Number
Monitoring				
Control				
Conservatism				
Teamwork				
Knowledge				

OVERALL EVALUATOR COMMENTS: _____

_____

_____

REMEDIAL CONTENT: _____

_____ PASS _____ FAIL

Evaluator Signature / Date: _____ / _____

JPM Observation Criteria

Fundamental	Meets all Expectations	Opportunity for Improvement	Does not meet Expectations
Monitoring	Equipment status monitored at proper frequency, using multiple means if available. Understood which indications were critical.	Some monitoring was performed but undue focus on task or lack of system knowledge prevented ideal monitoring.	Did not recognize key equipment status indicators, too much focus on single indications and ignored total system status.
Control	Task preview used to prepare for job. Aware of control bands and maintained them. Configuration control maintained.	Adequate control of system maintained throughout task but some improvements could be made such as better manual control or greater depth of knowledge for anticipating system response.	No anticipation of results of actions. Unaware or control bands or not able to maintain them. Lack of knowledge of how to control system parameters.
Conservatism	Low threshold for identification of problems. Questioning attitude. Uses “stop when unsure” if needed. Sensitive to nuclear safety.	Some opportunities existed to question before proceeding, High focus on task completion without consideration for other system affects.	Proceeds even when unsure with unanswered questions. High threshold for problem conditions.
Teamwork	Routinely communicates system status changes to the team. Communicates actions before taking them.	Communicated most status and actions. Some improvement would be warranted.	Routinely takes action without informing the team.
Knowledge	Able to anticipate system response based on solid system knowledge. Good working knowledge of generic fundamentals to predict and monitor system response.	Plant, system, or generic fundamental knowledge has some gaps.	Unable to predict system response, unsure of generic fundamentals concepts related to plant operation. Only relied on procedure for operating knowledge.

JPM Title Fire Zone 9 – Subsequent Action AB, Impact 1 / Strategy 3	No.: JP-OP-315-0172-207 Revision: 1 Page 3

JPM Information

System:

E5150 RCIC

Task:

04A0001012 Assist the Licensed Operator in responding to Plant Fires

References: Required (R) / Available (A)

20.000.22, “Plant Fires” (R)

Tools and Equipment Required:

None

Initial Conditions:

- You are an extra operator on shift.
- The plant is operating steady state at 100% rated thermal power.
- A Fire alarm (Zone 9) has been received in the West Cable Tunnel (Fire Zone 05 ABW) and a fire has been confirmed.
- The fire threatens cable trays in the cable tunnel.
- All other operators are involved with fighting the fire.

Initiating Cue(s):

- The Control Room LNO has directed you to perform AOP 20.000.22, Subsequent Action AB.1 through AB.4.

Terminating Cue(s):

Examinee notifies the control room that AOP 20.000.22 actions AB.1 through AB.4 are complete.

Task Standard:

Electrical circuits for RCIC and Div. 2 SRVs are open per AOP 20.000.22 actions AB.1 through AB.4 are complete.

Licensed Operator Exam Information (Required for NRC Exams Only)

Safety Function:

11. Abnormal Plant Evolutions

2 – Reactor Water Inventory Control

4 – Heat Removal from Reactor Core

K/A Reference: (from NUREG 1123)

K/A SYSTEM: 600000 – Plant Fire On Site

K/A STATEMENT:

AA2 Ability to determine and interpret the following as they apply to Plant Fire on Site:

AA2.17 Systems that may be affected by the fire. RO 3.1 / SRO 3.6

GENERIC

2.1.30 Ability to locate and operate components including local controls. RO 3.4 / SRO 3.5

K/A SYSTEM: 217000 – Reactor Core Isolation Cooling System (RCIC)

K/A STATEMENT:

A2. Ability to (a) predict the impacts of the following on the REACTOR CORE ISOLATION COOLING SYSTEM (RCIC); and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations:

A2.03 Valve Closures ……..... RO 3.4 / SRO 3.3

A210 Turbine control system failures..... RO 3.1 / SRO 3.1

Maintenance Rule Safety Classification:

From MMR Appendix E

Maintenance Rule Risk Significant? (Yes or No)

From MMR Appendix E

PERFORMANCE EVALUATION

Start Time _____

ELEMENT		STANDARD	
CUE:	Provide examinee with Cue Sheet and a copy of the applicable pages from 20.000.22, Plant Fires AOP.		
PREREQUSITES: None			
NOTE: Fire may damage the circuitry to H11-P810 requiring the action to be taken at Bus 72F.			
*** 1.**	At H11-P810 Bus 72F, Open Position 4A (CR) or Open Position 4A at Bus 72F in D2 Switchgear Room (AB3 G-10).	*** 1.**	Contacts CR to OPEN 72F Position 4A. or Depresses OPEN pushbutton at Bus 72F Position 4A.
CUE:	**IF contacted to open 72F Position 4A from the CR, report that 72F Position 4A is OPEN.** **CUE: IF examinee explains that he/she will depress the trip pushbutton locally, inform examinee the following when 72F Position 4A pushbutton is depressed:** • Pushbutton inserted when depressed. • Flag status changed from red CLOSED to green OPEN. • Light status changed to red ON and green OFF.		
*** 2.**	At Dist Cab 2PB2-6, open Circuit 11 (RR West Wall South).	*** 2.**	Opens 2PB2-6 Circuit 11
CUE:	**2PB2-6 Circuit 11 is open.**		
*** 3.**	At Dist Cab 2PB2-5, open Circuit 1 (RR West Wall South).	*** 3.**	Opens 2PB2-5 Circuit 1
CUE:	**2PB2-5 Circuit 1 is open.**		
*** 4.**	At Dist Cab 2PB2-5, open Circuit 10 (RR West Wall South).	*** 4.**	Opens 2PB2-5 Circuit 10
CUE:	**2PB2-5 Circuit 10 is open.**		
5.	Notify the control room that 20.000.22 actions AB.1 through AB.4 are complete.	5.	The control room is notified that 20.000.22 actions AB.1 through AB.4 are complete.
CUE:	The control room acknowledges that 20.000.22 actions AB.1 through AB.4 are complete		
CUE:	**End JPM when examinee notifies the control room that 20.000.22 actions AB.1 through AB.4 are complete.**		

_____ SATISFACTORY _____ UNSATISFACTORY

Stop Time _____

*** Critical Step**

Evaluator Notes:

ENSURE ALL INDUSTRIAL AND PERSONNEL SAFETY PRACTICES ARE USED AND ENFORCED AT ALL TIMES.

FAILURE TO WEAR ALL PPE REQUIRED FOR TASK PERFORMANCE WILL RESULT IN FAILURE OF THIS JPM.

Generic Notes and Cues:

CMC switches will turn RED and amperage will increase when the switch is rotated to the start position started. The current should initially be five to seven times the normal running amps with the ammeter flashing. As counter EMF is developed, the amperage will lower to the normal running amperage and the ammeter will no longer flash. CMC switches will turn GREEN when the pumps are stopped and amperage will decrease to zero.

Ex.: Pump start: "Switch has been rotated to the start position, red light is lit, green light is out, amperage initially pegs out high, and is now indicating 25 amps."

Pump stop: "Switch has been rotated to the stop position, green light is lit, red light is out, amperage indicates 0 amps."

Remotely operated valve position is determined with open and close indicating lights. A RED light only would indicate that the valve is open. A GREEN light only would indicate that the valve is closed. Dual indication would indicate that the valve is in some intermediate position.

Manual valves are checked in the closed direction (MOP02 and MOP05). Valve stem position may aid in valve position determination, but cannot be used as Independent Verification (MOP02).

Ex.: Verify valve closed: "Valve handwheel indicates no valve movement in the clockwise direction."

Verify valve open: "Valve handwheel has been rotated slightly in the clockwise direction and returned to the original positions."

Closing a valve: "Valve handwheel has been rotated in the fully clockwise direction until no additional valve movement. Valve stem is down."

Opening a valve: "Valve handwheel has been rotated in the fully counterclockwise direction until no additional valve movement, valve stem is out."

System Specific Notes and Cues:

Task Performance and Cues:

The Elements of this JPM are step by step in accordance with the procedure. The Standard is that the procedure is performed as written. The Cues are as listed above for indication or as each step is completed the appropriate information is reported to the examinee. Notify Examinee if time compression will be used for activities performed outside of the Control Room. Notify Examinee if JPM is Time Critical (only if JPM is **NOT** Alternate Path).

Critical Steps:

Critical Tasks are identified by asterisk (*) and **bolded** steps on the cover sheet. Verify that the latest revision of the procedure is used and critical tasks are correctly identified.

FOLLOW-UP DOCUMENTATION QUESTIONS

Reason for follow-up question(s):

Question:

Reference:

Response:

Question:

Reference

Response:

Simulator Setup

IC#:

Malfunctions:

Number	Title	Value	Delay	Ramp

Remote Functions:

Number	Title	Value	Delay	Ramp

Override Functions:

Number	Title	Value	Delay	Ramp

Special Instructions:

Cue Sheet: (JP-OP-315-0172-207)

Initial Conditions:

- You are an extra operator on shift.
- The plant is operating steady state at 100% rated thermal power.
- A Fire alarm (Zone 9) has been received in the West Cable Tunnel (Fire Zone 05 ABW) and a fire has been confirmed.
- The fire threatens cable trays in the cable tunnel.
- All other operators are involved with fighting the fire.

Initiating Cue(s):

- The Control Room LNO has directed you to perform AOP 20.000.22, Subsequent Action AB.1 through AB.4.

JOB PERFORMANCE MEASURE

Job Position SRO / RO	No. JP-OP-802-3006-181	Revision 0
JPM Title Defeat of All Primary Containment Vent Valve Isolations	Duration 23 minutes*	Page 1

*2 times Duration for ILO Exams

Examinee: _____ SRO / RO / NO

Evaluator: _____

Validating Representatives Name: Ken Griffin

JPM Type: **Normal** / Alternate Path / Time Critical — Start Time _____

Evaluation Method: **Perform** / Walkthrough / Discuss — Stop Time _____

Location: **Plant** / Simulator / Classroom — Total Time: _____

PERFORMANCE EVALUATION SUMMARY			
Element	S	U	Comment
*** 1.**			
*** 2.**			
*** 3.**			
***4.**			
***5.**			
*** 6.**			
7.			
8.			
9.			

OPERATOR FUNDAMENTALS OBSERVATION

Monitor operator fundamentals during the JPM set. Rate each area based on the criteria by placing a checkmark in the appropriate column. Indicate the comment number associated with the observation.

Operator Fundamental	Meets all Expectations	Opportunity for Improvement	Does not meet Expectations	Comment Number
Monitoring				
Control				
Conservatism				
Teamwork				
Knowledge				

OVERALL EVALUATOR COMMENTS: _____

_____

_____

REMEDIAL CONTENT: _____

_____ PASS _____ FAIL

Evaluator Signature / Date: _____ /

JPM Observation Criteria

Fundamental	Meets all Expectations	Opportunity for Improvement	Does not meet Expectations
Monitoring	Equipment status monitored at proper frequency, using multiple means if available. Understood which indications were critical.	Some monitoring was performed but undue focus on task or lack of system knowledge prevented ideal monitoring.	Did not recognize key equipment status indicators, too much focus on single indications and ignored total system status.
Control	Task preview used to prepare for job. Aware of control bands and maintained them. Configuration control maintained.	Adequate control of system maintained throughout task but some improvements could be made such as better manual control or greater depth of knowledge for anticipating system response.	No anticipation of results of actions. Unaware or control bands or not able to maintain them. Lack of knowledge of how to control system parameters.
Conservatism	Low threshold for identification of problems. Questioning attitude. Uses “stop when unsure” if needed. Sensitive to nuclear safety.	Some opportunities existed to question before proceeding, High focus on task completion without consideration for other system affects.	Proceeds even when unsure with unanswered questions. High threshold for problem conditions.
Teamwork	Routinely communicates system status changes to the team. Communicates actions before taking them.	Communicated most status and actions. Some improvement would be warranted.	Routinely takes action without informing the team.
Knowledge	Able to anticipate system response based on solid system knowledge. Good working knowledge of generic fundamentals to predict and monitor system response.	Plant, system, or generic fundamental knowledge has some gaps.	Unable to predict system response, unsure of generic fundamentals concepts related to plant operation. Only relied on procedure for operating knowledge.

JPM Title Defeat of All Primary Containment Vent Valve Isolations	No.: JP-OP-802-3006-181 Revision: 0 Page 3

JPM Information

System:

A7100 – Primary Containment Isolation System (PCIS)

Task:

02A0004005 - Defeat Primary Containment Vent Valve Isolations

References: Required (R) / Available (A)

29.ESP.22, Defeat of RBCCW/EECW to Drywell (R)

ODE-14, Attachment 15, Energized Equipment Work Permit (R)

Tools and Equipment Required:

None

Initial Conditions:

- You are an extra LNO on shift.
- EOP flowcharts direct defeat of all Primary Containment Vent Valve Isolations to allow containment venting in order to maintain Primary Containment Integrity.

Initiating Cue(s):

The CRS directs you to defeat All Primary Containment Vent Valve Isolations per 29.ESP.22, Section 3.0.

Terminating Cue(s):

All Primary Containment Vent Valve Isolations are defeated per 29.ESP.22.

Task Standard:

Primary Containment Vent Valve Isolations are defeated per 29.ESP.22.

JPM Title Defeat of All Primary Containment Vent Valve Isolations	No.: JP-OP-802-3006-181 Revision: 0 Page 4

Licensed Operator Exam Information (required for NRC exams)

Safety Function:

SF-5 Containment Integrity

K/A Reference: (from NUREG 1123)

K/A SYSTEM: 295024 - High Drywell Pressure

K/A STATEMENT:

EA1. Ability to operate and/or monitor the following as they apply to HIGH DRYWELL PRESSURE:

EA 1.07PCIS/NSSSS..... 3.8 / 3.9

K/A SYSTEM: 223001 – Primary Containment System and Auxiliaries

K/A STATEMENT:

A2. Ability to (a) predict the impacts of the following on the PRIMARY CONTAINMENT SYSTEM AND AUXILIARIES ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations:

A2.07 High drywell pressure..... 4.2 / 4.3

Maintenance Rule Safety Classification:

A7100-01

Maintenance Rule Risk Significant? (Yes or No)

Yes

PERFORMANCE EVALUATION

Start Time _____

ELEMENT		STANDARD	
CUE:	**Provide examinee with cue from Cue Sheet.**		
	NOTE **A key to the SM EOP Locker is available from the SM, CRS, and the SM Key Locker.**		
* 1.	Retrieve EOP Defeat Package from SM EOP Locker.	* 1.	EOP Defeat Package retrieved from SM EOP Locker.
CUE:	**After SM EOP Locker is opened, provide examinee with copy of 29.ESP.22 and ODE-14, Attachment 15.**		
	NOTE **While working in the Relay Room panels, all conductive jewelry should be removed, and safety glasses and 100% cotton long sleeves should be worn.**		
* 2.	At RR H11-P822 East Bay, verify installed or install a jumper between Terminal G-37 and Terminal G-38 (Division 1).	* 2.	Installs a jumper between Terminal G-37 and Terminal G-38 in H11-P822 East Bay.
CUE:	**The jumper is installed between Terminals specified by examinee.**		
* 3.	At RR H11-P853 East Bay, verify installed or install a jumper between Terminal E-81 and Terminal E-82 (Division 2).	* 3.	Installs a jumper between Terminal E-81 and Terminal E-82 in H11-P853 East Bay.
CUE:	**The jumper is installed between Terminals specified by examinee.**		
* 4.	At RR H11-P868 East Bay, install a jumper between Terminal H-37 and Terminal H-39 (T4600-F407).	* 4.	Installs a jumper between Terminal H-37 and Terminal H-39 in H11-P868 East Bay.
CUE:	**The jumper is installed between Terminals specified by examinee.**		
* 5.	At RR H11-P620, lift lead at Terminal CC-68 (T4600-F406).	* 5.	Lifts lead at Terminal CC-68 in H11-P620.
CUE:	**The lead specified by the examinee is lifted.**		
* 6.	At RR H11-P854 East Bay, install a jumper between Terminal B-46 and Terminal B-48 (T4600-F410).	* 6.	Installs a jumper between Terminal B-46 and Terminal B-48 in H11-P854 East Bay.
CUE:	**The jumper is installed between Terminals specified by examinee.**		
7.	At COP H11-P601, depress A7100-M120, Inbd MSIV Iso Reset Sw pushbutton.	7.	Contacts MCR to depress A7100-M120, Inbd MSIV Iso Reset Sw pushbutton.
CUE:	**When MCR is contacted, inform examinee that A7100-M120, Inbd MSIV Iso Reset Sw pushbutton has been depressed.**		
8.	At COP H11-P602, depress A7100-M146, Otbd MSIV Iso Reset Sw pushbutton.	8.	Contacts MCR to depress A7100-M146, Otbd MSIV Iso Reset Sw pushbutton.
CUE:	**When MCR is contacted, inform examinee that A7100-M146, Otbd MSIV Iso Reset Sw pushbutton has been depressed.**		
9.	Inform Main Control Room that 29.ESP.22 is complete.	9.	Informs Main Control Room that 29.ESP.22 is complete.

ELEMENT	STANDARD
CUE: Acknowledge report that 29.ESP.22 is complete.	
CUE: End JPM when Primary Containment Vent Valve Isolations are defeated per 29.ESP.22.	

_____ SATISFACTORY _____ UNSATISFACTORY

Stop Time _____

*** Critical Step**

Evaluator Notes:

Ensure SM informed of JPM walkthrough in relay room and cabinet doors opened for walkthrough of this task.

Stop the JPM if, at any time, this JPM interferes with plant operation.

ENSURE ALL INDUSTRIAL AND PERSONNEL SAFETY PRACTICES ARE USED AND ENFORCED AT ALL TIMES.

Generic Notes and Cues:

CMC switches will turn RED and amperage will increase when the switch is rotated to the start position started. The current should initially be five to seven times the normal running amps with the ammeter flashing. As counter EMF is developed, the amperage will lower to the normal running amperage and the ammeter will no longer flash. CMC switches will turn GREEN when the pumps are stopped and amperage will decrease to zero.

Ex.: Pump start: "Switch has been rotated to the start position, red light is lit, green light is out, amperage initially pegs out high, and is now indicating __X__ amps."

Pump stop: "Switch has been rotated to the stop position, green light is lit, red light is out, amperage indicates 0 amps."

Remotely operated valve position is determined with open and close indicating lights. A RED light only would indicate that the valve is open. A GREEN light only would indicate that the valve is closed. Dual indication would indicate that the valve is in some intermediate position.

Manual valves are checked in the closed direction (MOP02 and MOP05). Valve stem position may aid in valve position determination, but cannot be used as Independent Verification (MOP02).

Ex.: Verify valve closed: "Valve handwheel indicates no valve movement in the clockwise direction."

Verify valve open: "Valve handwheel has been rotated slightly in the clockwise direction and returned to the original positions."

Closing a valve: "Valve handwheel has been rotated in the fully clockwise direction until no additional valve movement. Valve stem is down."

Opening a valve: "Valve handwheel has been rotated in the fully counterclockwise direction until no additional valve movement, valve stem is out."

Controllers have an Auto light that is GREEN when selected and AMBER (YELLOW) when Manual is selected. When in Manual, the open and closed pushbuttons control the parameter to be changed by adjusting position or speed. When the deviation meter is nulled, then the process can be shifted to Auto to allow the desired setpoint to control the process.

System Specific Notes and Cues:

ESP Defeats are installed either by installing a jumper, lifting leads, or removing a plug-in relay or fuse.

Installing Jumpers:

- Ensure the operator goes to the SM and obtains the key to the EOP cabinet.
- Upon unlocking the cabinet, the operator finds the correct package and ensures the proper equipment is in the package.
- Per the attached drawing, locate the panel and verify the panel opened is correct and the operator has opened the correct side door.
- Within the panel, locate the proper terminal strip and verify that the proper terminal number is selected.
- Using proper safety techniques, a jumper is landed on each terminal ensuring that no other terminal is touched or cabinet ground is touched with the free end.
- Repeat until all jumpers are installed per the package.
- For some cabinets, the terminals are separated load to source side of the terminal point by a Knife Switch. In these cabinets the direction of the ESP has the knife switch screw unlocked and opened prior to installing the defeat. This will be spelled out and then the same rules as above apply.

- When both ends are safely landed on all jumpers per the package in the proper location, the operator calls the control room and informs them that the defeat is installed.

Lifting Leads:

- Ensure the operator goes to the SM and obtains the key to the EOP cabinet.
- Upon unlocking the cabinet, the operator finds the correct package and ensures the proper equipment is in the package.
- Per the attached drawing, locate the panel and verify the panel opened is correct and the operator has opened the correct side door.
- Within the panel, locate the proper terminal strip and verify that the proper terminal number is selected.
- Using the proper safety techniques, remove the locking screw and remove the wire from the terminal point keeping it from making contact with the other cabinet wiring or cabinet sides.
- Tape the wire electrical end or install the boot provided.
- For some terminal points, more than one wire will be terminated at the proper point. For these, the instruction will read " Lift and separate leads". This means remove the leads safely and place each into boots or tape separately.
- For some cabinets, the terminals are separated load to source side of the terminal point by a Knife Switch. In these cabinets the direction of the ESP has the knife switch screw unlocked and opened prior to installing the defeat. This will be spelled out and then the same rules as above apply.
- When all leads are removed per the package in the proper location, the operator calls the control room and informs them that the defeat is complete.

Remove Plug-in Relay or Fuse:

- Ensure the operator goes to the SM and obtains the key to the EOP cabinet.
- Upon unlocking the cabinet, the operator finds the correct package and ensures the proper equipment is in the package.
- Per the attached drawing, locate the panel and verify the panel opened is correct and the operator has opened the correct side door.
- Locate the plug-in relay or fuse and verify the defeat package to the relay, or fuse in question, labels.
- Plug-in relays have seismic clips which need to be removed first and then grasped on either side and pulled straight back out of the cabinet.
- Fuses need to be grasped by fuse pullers and pulled out evenly and in one motion. There is a fuse identifier mylar cover on some fuses which needs to be removed to reach the fuse.
- The one exception is the Main Turbine Bypass Dump System fuses which set in the H11P632 cabinet in a fuse block. FS59 & FS60 are contained in a block that can be pulled out much like the plug-in relay without the seismic clip.
- When all steps are complete, contact the control room and announce that the defeat is completed.

Task Performance and Cues:

The Elements of this JPM are step by step in accordance with the procedure. The Standard is that the procedure is performed as written. The Cues are as listed above for indication or as each step is completed the appropriate information is reported to the examinee.

Critical Steps:

Critical Tasks are identified by asterisk (*) and **bolded** steps on the cover sheet. Verify that the latest revision of the procedure is used and critical tasks are correctly identified.

FOLLOW-UP DOCUMENTATION QUESTIONS

Reason for follow-up question(s):

Question:

Reference:

Response:

Question:

Reference

Response:

Simulator Setup

IC#:

N/A

Malfunctions:

Number	Title	Value	Delay	Ramp
N/A				

Remote Functions:

Number	Title	Value	Delay	Ramp
N/A				

Override Functions:

Number	Title	Value	Delay	Ramp
N/A				

Special Instructions:

N/A

Cue Sheet: (JP-OP-802-3006-181)

Initial Conditions:

- You are an extra LNO on shift.
- EOP flowcharts direct defeat of all Primary Containment Vent Valve Isolations to allow containment venting in order to maintain Primary Containment Integrity.

Initiating Cue(s):

The CRS directs you to defeat All Primary Containment Vent Valve Isolations per 29.ESP.22, Section 3.0.

JOB PERFORMANCE MEASURE

Job Position RO	No. JP-OP-802-2001-192	Revision 0
JPM Title Realign for Control from the Dedicated Shutdown Panel	Duration* 15 minutes	Page 1

*2 times Duration for ILO Exams

Examinee: _____ SRO / RO

Evaluator: _____

Validating Representatives Name: Ken Griffin

JPM Type: **Normal** / Alternate Path / Time Critical Start Time _____

Evaluation Method: Perform / **Walkthrough** / Discuss Stop Time _____

Location: **Plant** / Simulator / Classroom Total Time: _____

PERFORMANCE EVALUATION SUMMARY											
Element	S	U	Comment	Element	S	U	Comment	Element	S	U	Comment
1.											
2.											
* **3.**											
* **4.**											
5.											

OPERATOR FUNDAMENTALS OBSERVATION

Monitor operator fundamentals during the JPM set. Rate each area based on the criteria by placing a checkmark in the appropriate column. Indicate the comment number associated with the observation.

Operator Fundamental	Meets all Expectations	Opportunity for Improvement	Does not meet Expectations	Comment Number
Monitoring				
Control				
Conservatism				
Teamwork				
Knowledge				

OVERALL EVALUATOR COMMENTS: _____

_____

_____

REMEDIAL CONTENT: _____

_____ **PASS** _____ **FAIL**

Evaluator Signature / Date: _____ /

JPM Observation Criteria

Fundamental	Meets all Expectations	Opportunity for Improvement	Does not meet Expectations
Monitoring	Equipment status monitored at proper frequency, using multiple means if available. Understood which indications were critical.	Some monitoring was performed but undue focus on task or lack of system knowledge prevented ideal monitoring.	Did not recognize key equipment status indicators, too much focus on single indications and ignored total system status.
Control	Task preview used to prepare for job. Aware of control bands and maintained them. Configuration control maintained.	Adequate control of system maintained throughout task but some improvements could be made such as better manual control or greater depth of knowledge for anticipating system response.	No anticipation of results of actions. Unaware or control bands or not able to maintain them. Lack of knowledge of how to control system parameters.
Conservatism	Low threshold for identification of problems. Questioning attitude. Uses “stop when unsure” if needed. Sensitive to nuclear safety.	Some opportunities existed to question before proceeding, High focus on task completion without consideration for other system affects.	Proceeds even when unsure with unanswered questions. High threshold for problem conditions.
Teamwork	Routinely communicates system status changes to the team. Communicates actions before taking them.	Communicated most status and actions. Some improvement would be warranted.	Routinely takes action without informing the team.
Knowledge	Able to anticipate system response based on solid system knowledge. Good working knowledge of generic fundamentals to predict and monitor system response.	Plant, system, or generic fundamental knowledge has some gaps.	Unable to predict system response, unsure of generic fundamentals concepts related to plant operation. Only relied on procedure for operating knowledge.

JPM Title Realign for Control from the Dedicated Shutdown Panel	No.: JP-OP-802-2001-192 Revision: 0 Page 3

JPM Information

System:

R1100 – AC Electrical Distribution System

Task:

02A0001100 Recognize and respond to Control of the Plant from the Dedicated Shutdown Panel

References: Required (R) / Available (A)

20.000.18, Control of the Plant from the Dedicated Shutdown Panel (R)

Tools and Equipment Required:

None

Initial Conditions:

- The plant is at 100% power.
- You are an extra licensed operator on shift.
- A confirmed fire is in progress in a 3L zone of concern.
- The Dedicated Shutdown NO has been directed to meet you at the Dedicated Shutdown Panel (H21-P623).
- CTG 11-1 is the Blackstart CTG.
- CTG 11-1 is in Remote.
- CTG11-1 was NOT started from the Main Control Room.

Initiating Cue(s):

The CRS directs you to obtain a set of Security Keys, report to the Dedicated Shutdown Panel (H21-P623) and perform Actions A.2, A.3 and A.4 of 20.000.18.

Terminating Cue(s):

Control has been transferred to the Dedicated Shutdown Panel.

Task Standard:

Control has been transferred to the Dedicated Shutdown Panel per Condition A of 20.000.18.

JPM Title Realign for Control from the Dedicated Shutdown Panel	No.: JP-OP-802-2001-192 Revision: 0 Page 4

Licensed Operator Exam Information (required for NRC exams)

Safety Function/Category:

6 - Electrical

7 - Instrumentation

11 - Abnormal Plant Evolution

K/A Reference:

K/A SYSTEM: 295016 Control Room Abandonment

K/A STATEMENT:

AA1. Ability to operate and/or monitor the following as they apply to CONTROL ROOM ABANDONMENT :

AA1.04 A.C. electrical distribution ..... 3.1 / 3.2

K/A SYSTEM: 295016 Control Room Abandonment

K/A STATEMENT:

AA1. Ability to operate and/or monitor the following as they apply to CONTROL ROOM ABANDONMENT :

AA1.07 Control room/local control transfer mechanisms ..... 4.2 / 4.3

K/A SYSTEM: 262001 A.C. Electrical Distribution

K/A STATEMENT:

A2. Ability to (a) predict the impacts of the following on the A.C. ELECTRICAL DISTRIBUTION; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations:

A2.03 Loss of off-site power ..... 3.9 / 4.3

Maintenance Rule Safety Classification:

R1100-01

Maintenance Rule Risk Significant? (Yes or No)

Yes

PERFORMANCE EVALUATION

Start Time _____

ELEMENT	STANDARD
CUE: Provide examinee with a Cue sheet and a copy of the first five pages of 20.000.18.	
NOTE **Security Keys can be obtained from the Shift Manager's office or the Dedicated Shutdown equipment locker with an Operator's key.**	
1. Direct at least one licensed operator and one other operator to Dedicated Shutdown Panel (H21-P623). (obtain Security Keys).	1. Obtains Security Keys and proceeds to the Dedicated Shutdown Panel as directed.
CUE: Inform examinee that he/she has a copy of the Security Keys when the examinee explains how to obtain them.	
NOTE **There is no need to open the Dedicated Shutdown Panel. All component manipulations can be simulated through the viewing window on the door.**	
2. Unlock and open the Dedicated Shutdown Panel (H21-P623).	2. Unlocks and opens the Dedicated Shutdown Panel (H21-P623).
CUE: Inform examinee that door to the Dedicated Shutdown Panel is open.	
*** 3.** At H21-P623, If "Emerg Start" not performed in the Control room, do the following to transfer control from Control Room to Dedicated Shutdown Panel and start CTG11-1/Alternate AC source: ❑ Place EF2 SUPV CONTROL in LOCAL and release (spring returns to neutral). ❑ Verify/have placed CTG11-1 in remote. ❑ Start CTG11-1. **OR** ❑ Contact CTG dedicated operator to start the designated Blackstart CTG.	*** 3.** Performs the following from the Dedicated Shutdown Panel: ❑ Places EF2 SUPV CONTROL in LOCAL and releases (spring returns to neutral). ❑ Verifies CTG 11-1 is in remote. ❑ Starts CTG 11-1.
CUE: If asked, inform examinee that Emergency Start was NOT performed in the Control Room. **CUE: If asked, inform examinee that CTG 11-1 IS the Blackstart CTG.** **CUE: When EF2 SUPV CONTROL is placed in LOCAL, inform examinee of the following:** • **The SUPV CONT TRANSFD backlight is ON.** • **The UV TRIP ARMED backlight is ON.** **CUE: When EF2 SUPV CONTROL is released, inform examinee that it has spring returned to neutral.** **CUE: If asked, inform examinee that CTG 11-1 is in Remote.** **CUE: When examinee starts CTG 11-1, inform examinee that the following occurred:** • **The CMC Switch rotated to start (and spring returned to neutral when released).** • **READY TO START backlight is OFF.** • **SEQ IN PROG backlight is ON.**	

ELEMENT	STANDARD
*** 4.** At H21-P623 align power to Standby Feedwater: ❑ Verify West SBFW Pump in OFF. ❑ Verify East SBFW Pump in OFF. ❑ Place EF2 SYSTEM TRANSFER switch in LOCAL. ❑ Open 65W Pos W5. ❑ Open 64V Pos V3. ❑ Close 64V Pos V1. ❑ Close 64V Pos V3	*** 4**. Performs the following from the Dedicated Shutdown Panel: ❑ Verifies West SBFW Pump in OFF. ❑ Verifies East SBFW Pump in OFF. ❑ Places EF2 SYSTEM TRANSFER switch in LOCAL. ❑ Open 65W Pos W5. ❑ Open 64V Pos V3. ❑ Close 64V Pos V1. ❑ Close 64V Pos V3
CUE: If asked, inform examinee that the West and East SBFW Pump CMC Switches are in OFF/RESET. **CUE: When EF2 SYSTEM TRANSFER is placed in LOCAL, inform examinee that the following occurred:** • **The CLOSED lights for the N2103-F002, F003 and F001 are ON.** • **The OFF/RESET lights for the West/East SBFW Pumps A/B are ON.** • **The CLOSED lights are lit for 4160V POS V1 and POS W5.** • **The OPEN light is lit for 4160V POS V3.** • **The 64V 4.16 kV BUS light is ON.** **CUE: When 65W Pos W5 is taken to OPEN, inform examinee that the CLOSE light is OFF and the OPEN light is ON.** **CUE: Inform examinee that the OPEN light is ON for 64V Pos V3.** **CUE: Inform examinee that the CLOSE light is ON for 64V Pos V1.** **CUE: When 64V Pos V3 is taken to CLOSE, inform examinee that the OPEN light is OFF and the CLOSE light is ON.**	
5. Inform Main Control Room that Actions A.2, A.3 and A.4 of 23.000.18 are complete.	5. Informs Main Control Room that Actions A.2, A.3 and A.4 of 23.000.18 are complete.
CUE: As Control Room Operator acknowledge report.	
CUE: Terminate JPM when control has been transferred to the Dedicated Shutdown Panel per Condition A of 20.000.18.	

_____ SATISFACTORY _____ UNSATISFACTORY

Stop Time _____ *** Critical Step**

Evaluator Notes:

ENSURE ALL INDUSTRIAL AND PERSONNEL SAFETY PRACTICES ARE USED AND ENFORCED AT ALL TIMES.

Generic Notes and Cues:

CMC switches will turn RED and amperage will increase when the switch is rotated to the start position started. The current should initially be five to seven times the normal running amps with the ammeter flashing. As counter EMF is developed, the amperage will lower to the normal running amperage and the ammeter will no longer flash. CMC switches will turn GREEN when the pumps are stopped and amperage will decrease to zero.

Ex.: Pump start: "Switch has been rotated to the start position, red light is lit, green light is out, amperage initially pegs out high, and is now indicating __X__ amps."

Pump stop: "Switch has been rotated to the stop position, green light is lit, red light is out, amperage indicates 0 amps."

Remotely operated valve position is determined with open and close indicating lights. A RED light only would indicate that the valve is open. A GREEN light only would indicate that the valve is closed. Dual indication would indicate that the valve is in some intermediate position.

Manual valves are checked in the closed direction (MOP02 and MOP05). Valve stem position may aid in valve position determination, but cannot be used as Independent Verification (MOP02).

Ex.: Verify valve closed: "Valve handwheel indicates no valve movement in the clockwise direction."

Verify valve open: "Valve handwheel has been rotated slightly in the clockwise direction and returned to the original positions."

Closing a valve: "Valve handwheel has been rotated in the fully clockwise direction until no additional valve movement. Valve stem is down."

Opening a valve: "Valve handwheel has been rotated in the fully counterclockwise direction until no additional valve movement, valve stem is out."

Controllers have an Auto light that is GREEN when selected and AMBER (YELLOW) when Manual is selected. When in Manual, the open and closed pushbuttons control the parameter to be changed by adjusting position or speed. When the deviation meter is nulled, then the process can be shifted to Auto to allow the desired setpoint to control the process.

System Specific Notes and Cues:

None

Task Performance and Cues:

The Elements of this JPM are step by step in accordance with the procedure. The Standard is that the procedure is performed as written. The Cues are as listed above for indication or as each step is completed the appropriate information is reported to the examinee.

Critical Steps:

Critical Tasks are identified by asterisk (*) and **bolded** steps on the cover sheet. Verify that the latest revision of the procedure is used and critical tasks are correctly identified.

FOLLOW-UP DOCUMENTATION QUESTIONS

Reason for follow-up question(s):

Question:

Reference:

Response:

Question:

Reference

Response:

Cue Sheet: (JP-OP-802-2001-192)

Initial Conditions:

- **The plant is at 100% power.**
- **You are an extra licensed operator on shift.**
- **A confirmed fire is in progress in a 3L zone of concern.**
- **The Dedicated Shutdown NO has been directed to meet you at the Dedicated Shutdown Panel (H21-P623).**
- **CTG 11-1 is the Blackstart CTG.**
- **CTG 11-1 is in Remote.**
- **CTG11-1 was NOT started from the Main Control Room.**

Initiating Cue(s):

The CRS directs you to obtain a set of Security Keys, report to the Dedicated Shutdown Panel (H21-P623) and perform Actions A.2, A.3 and A.4 of 20.000.18.