Exelon Nuclear

Job Performance Measure

Evaluate License Holder's Status

JPM Number: Admin JPM a. (RO)

Revision Number: 01

Date: 02/08/2013

Developed By:	Bill Hochstetter Instructor	02/08/13 Date
Validated By:	_____ SME or Instructor	_____ Date
Approved By:	_____ Operating Dept. Representative	_____ Date

INITIAL CONDITIONS:

1. The current date is: May 1, 2013.

INITIATING CUES:

1. The Shift Manager has directed you to evaluate 4 NSO's License Status' to determine whether they are qualified to take duty as the Unit 1 NSO.

2. All shifts worked are 12 hour shifts.

3. All NSO's are eligible per ESOMS work hour rules.

4. Inform the Shift Manager of who is eligible and why the other(s) is (are) ineligible.

CUE: Hand examinee copy of NSO License Maintenance record.

- Provide copy of OP-AA-105-102, Rev 9, NRC Active License Maintenance
- Provide copy of OP-AA-105-101, Rev 14, Administrative Process for NRC License and Medical Requirements.

TASK STANDARDS:

1. Determine from list which individuals(s) is (are) eligible to stand duty as the NSO on Unit-1 and the reason the other(s) is (are) ineligible.

MATERIALS:

- NSO License Maintenance record (attached)
- OP-AA-105-102, Rev 9, NRC Active License Maintenance
- OP-AA-105-101, Rev 11, Administrative Process for NRC License and Medical Requirements

RECORD START TIME:_____

EVALUATOR NOTE: These steps may be performed in any order. **Provide candidate with OP-AA-105-101 and OP-AA-105-102.**					
STEP	**ELEMENT**	**STANDARD**	**SAT**	**UNSAT**	**CMT#**
1	Refer to • OP-AA-105-102, :Rev 9, NRC Active License Maintenance • OP-AA-105-101, Rev 11, Administrative Process for NRC License and Medical Requirements	Evaluate NSO status IAW: • OP-AA-105-102, Rev 9, NRC Active License Maintenance • OP-AA-105-101, Rev 11, Administrative Process for NRC License and Medical Requirements	____	____	____
***2.**	Evaluate NSO 1	Determine that NSO 1 is NOT qualified because of no NRC Operating Exam during the last calendar year	____	____	____
***3**	Evaluate NSO 2	Determine that NSO 2 is NOT qualified because it's been more than 2 years + anniversary month since NRC medical exam	____	____	____
***4**	Evaluate NSO 3	Determine that NSO 3 is NOT qualified because he hasn't had 5 12 hour watches at a qualifying watchstation	____	____	____
***5**	Evaluate NSO 4	Determine that NSO 4 is qualified to perform watchstanding duties.	____	____	____
CUE	**This JPM is complete.**				

RECORD STOP TIME:_____

JOB PERFORMANCE MEASURE

1. The current date is: May 1, 2013.

INITIATING CUES:

1. The Shift Manager has directed you to evaluate 4 NSO's License Status' to determine whether they are qualified to take duty as the Unit 1 NSO.
2. All shifts worked are 12 hour shifts.
3. All NSO's are eligible per ESOMS work hour rules.
4. Inform the Shift Manager of who is eligible and why the other(s) is (are) ineligible.

	Shifts performed in 1st quarter 2013	Date of last NRC written exam	Date of last NRC operating exam	Date of last NRC medical exam
NSO 1	2 shifts as Unit Operator 4 shifts as Unit Assist 3 shifts as WEC NSO 1 shift as C/O writer	April 18, 2012	December 8, 2011	May 22, 2011
NSO 2	4 shifts as Unit Operator 1 shift as Unit Assist 2 shifts as WEC NSO 2 shifts as C/O writer	June 30, 2012	February 14, 2012	March 12, 2011
NSO 3	2 shifts as Unit Operator 2 shifts as Unit Assist 3 shifts as WEC NSO 3 shifts as C/O writer	May 24, 2012	June 17, 2012	June 24, 2011
NSO 4	3 shifts as Unit Operator 2 shifts as Unit Assist 1 shift as WEC NSO 2 shifts as C/O writer	July 14, 2012	April 4, 2012	May 30, 2011

Exelon Nuclear

Job Performance Measure

Perform a QPTR Calculation

JPM Number: Admin JPM b. (RO)

Revision Number: 09

Date: 02/08/2013

Revised By:	Bill Hochstetter Instructor	02/08/2013 Date
Validated By:	Chuck Guernsey Operations Representative	03/03/2013 Date
Approved By:	/s/Rob Lawlor Operations Representative	03/03/2013 Date

INITIAL CONDITIONS

1. You are the Unit 1 Assist NSO.

2. The unit is in MODE 1, 100% steady state power.

3. The plant process computer has been inoperable for the last 30 minutes

4. PDMS is inoperable

INITIATING CUE

1. The Unit Supervisor instructs you to perform 1BOSR 2.4.1-1, UNIT ONE QUADRANT POWER TILT RATIO CALCULATION using the installed meters to satisfy the weekly surveillance frequency.

2. Another NSO will monitor the Main Control Board panels and address alarms as necessary.

3. An IM Technician AND Station Reactor Engineer are NOT available.

4. All NI Channels are OPERABLE.

5. The Shift Manager has given his permission and the cover sheet has been signed.

6. Inform the Unit Supervisor when you have completed 1BOSR 2.4.1-1

RECORD START TIME: _____

ELEMENT	**STANDARD**	**SAT**	**UNSAT**	**Comment Number**
NOTE If this JPM is performed on the simulator, only the cues underlined are required to be provided to the examinee Provide the examinee with a copy of 1BOSR 2.4.1-1, Unit 1 Quadrant Power Tilt Ratio Calculation				
1. Refer to 1BOSR 2.4.1-1 Unit 1 Quadrant Power Tilt Ratio Calculation Verify all applicable Prerequisites, Precautions, Limitations and Actions are satisfactorily addressed Note: Step 1 may be performed at any time **Cue: All Prerequisites are met**	Refer to 1BOSR 2.4.1-1 • Verify all applicable Prerequisites, Precautions, Limitations and Actions are satisfactorily addressed	____	____	____
2. Reads Main Body Note ○ Marks section F.1 as N/A	• Determines Section F.2 applies	____	____	____
3. Records step 2.a data on Data sheet D3 Indicated power for: ○ N41 = 99.7% ○ N42 = 99.9% ○ N43 = 99.9% ○ N44 = 99.9%	At 1PM07J On Data sheet **D3** Records: ○ Date ○ Time Indicated power for: ○ N41 ○ N42 ○ N43 ○ N44	____	____	____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
NOTE to EVALUATOR **This JPM is calculated so that QPTR will meet the surveillance acceptance criteria.** **Detector currents may differ slightly (± 2) from the values indicated in the steps below. If the values vary far enough to cause QPTR to exceed 1.02 then the examinee has failed this JPM.**				
*4. Determine detector current Upper Detector Current • N-41 = 164 • N-42 = 161 • N-43 = 164 • N-44 = 164 Lower Detector Current • N-41 = 166 • N-42 = 166 • N-43 = 164 • N-44 = 165	At 1PM07J record: (step b.1).) Upper Detector Current • N-41 • N-42 • N-43 • N-44 Lower Detector Current • N-41 • N-42 • N-43 • N-44 On Data Sheet D3 Mark DVM QA number and Cal Date as **N/A**	____	____	____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*5. From Operator Aid Records: Upper Detector Current • N-41 = 161 • N-42 = 160 • N-43 = 161 • N-44 = 161 Lower Detector Current • N-41 = 173 • N-42 = 174 • N-43 = 170 • N-44 = 170	At 1PM07J record last determined 100% Power NIS current on Data Sheet D3 (step F.2.c) Upper Detector Current • N-41 • N-42 • N43 • N44 Lower Detector Current • N-41 • N-42 • N43 • N44	____	____	____
*6. Determine Normalized Detector Current Upper Detector Current • N-41 = 164/161 **= 1.0186** • N-42 = 161/160 **= 1.0062** • N-43 = 164/161 **= 1.0186** • N-44 = 164/161 **= 1.0186** Lower Detector Current • N-41 = 166/173 **= 0.9595** • N-42 = 166/174 **= 0.9540** • N-43 = 164/170 **= 0.9647** • N-44 = 165/170 **= 0.9705**	On Data Sheet D3 divide the obtained detector current by the 100% current: (step F.2.d) Upper Detector Current • N-41 • N-42 • N43 • N44 Lower Detector Current • N-41 • N-42 • N43 • N44	____	____	____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*7. Determine Average Normalized Detector Current for: Upper detectors: 1.0186 + 1.0062 + 1.0186 + 1.0186 =4.0620/4 = **1.0155** Lower detectors: 0.9595 + 0.9540 + 0.9647 + 0.9705 =3.8487/4 = **0.9621**	On Data Sheet D3 compute the average normalized current for: (step F.2.e) • Upper detectors • Lower detectors	____	____	____
*8. Determine Quadrant Power Tilt Ratio Upper Detector Current • N-41 = **1.0186 / 1.0155 = 1.0030** • N-42 = **1.0062 / 1.0155 = 0.9908** • N-43 = **1.0186 / 1.0155 = 1.0030** • N-44 = **1.0186 / 1.0155 = 1.0030** Lower Detector Current • N-41 = **0.9595 / 0.9621 = 0.9972** • N-42 = **0.9540 / 0.9621 = 0.9915** • N-43 = **0.9647 / 0.9621 = 1.0027** • N-44 = **0.9705 / 0.9621 = 1.0087**	On Data Sheet D3 compute the QPTR: (step F.2.f) Upper detectors • N-41 • N-42 • N43 • N44 Lower detectors • N-41 • N-42 • N43 • N44	____	____	____
*9. Determines QPTR requirements are met	Determines QPTR has not exceeded 1.02 and informs Unit Supervisor	____	____	____
Cue: ***(if required)*** ***<u>This JPM is completed</u>***		____	____	____

RECORD STOP TIME: _____

INITIAL CONDITIONS

1. You are the Unit 1 Assist NSO.

2. The Unit is in MODE 1, 100% steady state power.

3. The plant process computer has been inoperable for the last 30 minutes

4. PDMS is inoperable

INITIATING CUE

1. The Unit Supervisor instructs you to perform 1BOSR 2.4.1-1, UNIT ONE QUADRANT POWER TILT RATIO CALCULATION using the installed meters to satisfy the weekly surveillance frequency.

2. Another NSO will monitor the Main Control Board panels and address alarms as necessary.

3. An IM Technician AND Station Reactor Engineer are NOT available.

4. All NI Channels are OPERABLE.

5. The Shift Manager has given his permission and the cover sheet has been signed.

6. Inform the Unit Supervisor when you have completed 1BOSR 2.4.1-1

Exelon Nuclear

Job Performance Measure

Return to service of a worker tagout

JPM Number: Admin JPM c. (RO)

Revision Number: 00

Date: 02/13/2013

Written By:	Bill Hochstetter Instructor	02/13/13 Date
Validated By:	_____ Operations Dept	_____ Date
Approved By:	/s/ Operations Representative	_____ Date

INITIAL CONDITIONS

1. You are the Unit 1 Assist NSO.
2. Unit 1 is at 100% power.

INITIATING CUE

1. The Unit 1 Unit Supervisor has directed you to Return to Service (clear) Worker Tagout (WTO) P07-100 on the 1A FW Pump.
2. Equipment operators have completed field steps of the WTO and are standing by in the field to assist you, if needed. Proper lube oil level has been verified for 1A FW Pump.
3. Inform the Unit 1 Unit Supervisor when you have completed the Worker Tagout.
4. There are no PMTs scheduled at the current time.

RECORD START TIME: _____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
NOTE If this JPM is performed on the simulator, only the cues underlined are required to be provided to the examinee. **Provide the examinee with a copy of the Worker Tagout**				
1. Refer to Worker Tagout Form Hang/Lift Section:	Refer to Worker Tagout Form Hang/Lift Section: • Review WTO Hang/Lift Section. • Review Special Instructions	____	____	____
NOTE The examinee may determine the RTS position of 1FW012A is incorrect during their review of the WTO paperwork at which time they should STOP and notify the US of the problem. If asked a clearance order brief has already been conducted.				
NOTE **The JPM contains a corrected Worker Tagout checklist to be given to the examinee after the error is identified.** **If the examinee determines the incorrect component position is listed on the Worker Tagout checklist, provide examinee page_ and inform the trainee that corrections have been made and to continue with the return to service.**				
*2. Remove WTO on 1A FW Pump Aux Oil Pump C/S (sequence 3)	At 1PM04J: • Remove WTO card from 1FW01PA-B C/S • Place 1FW01PA-B, FW Pump 1A Aux Oil Pump C/S to NAT. ○ Place initials in RTS block	____	____	____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*3. Remove WTO on 1A FW Pump Disch Valve 1FW002A C/S (sequence 4)	At 1PM04J: • Remove WTO card from 1FW002A C/S • Place 1FW002A, FW Pump 1A Disch. Valve C/S to OPEN. ○ Place initials in RTS block	____	____	____
*4. Determine the clearance RTS position for 1A FW Pump Recirc valve is incorrect prior to manipulating the C/S ***Cue: Acknowledge as Unit Supervisor and inform examinee the checklist will be corrected.*** ***Cue: Hand examinee the corrected Worker Tagout in accordance with the evaluator note above***	• Determine the RTS position for 1A FW Pump Recirc valve is incorrect prior to manipulating the C/S • Notify the Unit Supervisor of RTS position error	____	____	____
NOTE **When the examinee has the corrected page of the WTO paperwork they should continue with the RTS.**				
*5. Remove WTO on 1A FW Pump Recirc. Valve 1FW012A C/S (sequence 4)	At 1PM04J: • Remove WTO card from 1FW012A C/S ○ Place initials in RTS block	____	____	____

ELEMENT	**STANDARD**	**SAT**	**UNSAT**	**Comment Number**
*6. Remove WTO on 1A FW Pump C/S (sequence 5)	At 1PM04J: • Remove WTO card from 1FW01PA C/S • Place 1FW002A, FW Pump 1A C/S to NAT. ○ Place initials in RTS block ○ Sign/time and date of WTO Cleared by at bottom of form.	____	____	____
7. Inform the Unit Supervisor 1A FW Pump WTO is complete ***Cue: As Unit Supervisor, acknowledge report.***	Perform the following: • Inform the Unit Supervisor 1A FW Pump WTO is complete ○	____	____	____
Cue: ***(if required)*** ***<u>This JPM is completed</u>***		____	____	____

RECORD STOP TIME: _____

INITIAL CONDITIONS

1. You are the Unit 1 Assist NSO.
2. Unit 1 is at 100% power.

INITIATING CUE

1. The Unit 1 Unit Supervisor has directed you to Return to Service (clear) Worker Tagout (WTO) P07-100 on the 1A FW Pump.

2. Equipment operators have completed field steps of the WTO and are standing by in the field to assist you, if needed. Proper lube oil level has been verified for 1A FW Pump.

3. Inform the Unit 1 Unit Supervisor when you have completed the Worker Tagout.

4. There are no PMTs scheduled at the current time

ATTACHMENT 14 PART 1
WTO Form Hang/Lift Section
Page 1 of 1

Exceptional C/O: ☐ Mode Dependent: ☐ Condition Dependent: ☐

Production Risk: ☐ Environmental Risk: ☐ Atmospheric Risk: ☐ Reactivity Risk: ☐

WORKER TAGOUT# **PO7-100** JOB DESCRIPTION: **CHANGE 1A MAIN FEEDWATER PUMP OIL**

WORKING DEPARTMENT: **MMD** W/O OR W/R: **12345** EQUIP. TAG# **1FW01PA**

COMPONENT DESCRIPTION: **1A MAIN FEEDWATER PUMP**

FIRST APPROVAL: ***Jim NSO*** DATE/TIME: ***Today/One hour ago***

SECOND APPROVAL: ***Mike Operator*** DATE/TIME: ***Today/45 minutes ago***

WTO AUTHORIZATION: ***Joe Supervisor*** DATE/TIME ***Today/30 minutes ago***

SPECIAL INSTRUCTIONS: YES: ☒ NO: ☐ (IF YES SEE ATTACHMENT 14 PART 2)

EQUIP. TAG/EQUIPMENT NAME	SEQ	TAG TYPE	POSITION	HUNG BY	VERIF. BY	SFTY. VERIF.	RTS SEQ	RTS POSITION	RTS BY	VERIF. BY
1FW01PA C/S FW PUMP 1A C/S (1PM04J)	1	CI	PTL	***JRO***	N/A	***MMS***	5	NAT		N/A
1FW012A C/S FW PUMP 1A RECIRC VALVE C/S (1PM04J)	2	CI	CLOSE	***JRO***	N/A	***MMS***	4	OPEN		N/A
1FW002A C/S FW PUMP 1A DISCH VALVE C/S (1PM04J)	2	CI	NAC	***JRO***	N/A	***MMS***	4	NAO		N/A
1FW01PA-B C/S FW PUMP 1A AUX OIL PUMP C/S (1PM04J)	3	CI	PTL	***JRO***	N/A	***MMS***	3	NAT		N/A
1FW01PA BKR FW PUMP 1A BKR (BUS 156 CUB 4)	4	RD	R/O	***JEO***	N/A	***MMS***	2	R/I	***JEO***	N/A
1FW01PA-B BKR FW PUMP 1A AUX OIL PUMP BKR (134Z2 CUB F1)	4	RD	OFF	***JEO***	N/A	***MMS***	2	ON	***JEO***	N/A
1FW01PA-A BKR FW PP 1A MOTOR HTR BKR (134Z2 G4)	4	RD	OFF	***JEO***	N/A	***MMS***	2	ON	***JEO***	N/A
1FW002A BKR FW PUMP 1A DSCH VLV BKR (133Z2 G3)	4	RD	OFF	***JEO***	N/A	***MMS***	2	ON	***JEO***	N/A
1FW027A FW PUMP 1A RECIRC VALVE MANUAL ISOL VLV (401 K-11 +20')	5	RD	CLOSED	***JEO***	N/A	***MMS***	1	OPEN	***JEO***	N/A

WTO PLACED: ***Jack Reactor Operator*** DATE/TIME: ***Today/6 Hours ago***
WTL COMPLETED WORK START: ***John Supervisor*** DATE/TIME: ***Today/5 Hours ago***

WTO FINAL CLEAR: WORK CREWMEMBER RELEASE: ***Jane Mechanic*** DATE/TIME: ***Today/1 Hour ago***
WTO CLEARED: _____ DATE/TIME: _____
(COPIES MAY BE MADE OF THIS FORM FOR ADDITIONAL ISOLATION POINTS)
(COPIES MAY BE MADE OF THIS FORM FOR ADDITIONAL ISOLATION POINTS)

ATTACHMENT 14 PART 2
WTO Form Special Instructions Section
Page 1 of 1

WTO # P07-100
********** RTS NOTES **********
1. Check for proper lube oil level prior to starting lube oil system. May need to add oil after Aux Oil Pump is run.

ATTACHMENT 14 PART 3
WTO Form Testing/Manipulation Section
Page 1 of 1

WTO # _____**P07-100**_____

RECORD ALL MANIPULATIONS (HANG AND LIFT) ASSOCIATED WITH THIS WTO
(ADDITIONAL COPIES MAY BE USED AS NEEDED) **Page ____ of _____**

EQUIP. TAG/ EQUIP. NAME	SEQ	AS FOUND POSITION	MANIP. POSITION	POSIT. BY	VERIF. BY	RH SEQ	RH POSITION	RH BY	VERIF. BY	SFTY. VERIF.

ATTACHMENT 14 PART 4
WTO Worker Tracking List (WTL)
Page 1 of 1

Use additional sheets as needed. Sheet _____ of _____

W/O #	WTO #	Supervisor (Print):	Designated Crew member (Print):
12345	**PO7-100**	**John Supervisor**	**Jane Mechanic**

Worker Sign ON				**Worker Sign OFF****			
Print and Sign Name	Date	Time	WTO* Tracking List Tag Placed (Yes/Dual)	Sign Name	Date	Time	WTO* Tracking List Tag Removed (Yes/Dual)
Jane Mechanic	JM	today	5 hrs ago	***Jane Mechanic***	JM	today	1 hr ago

* Indicate "Yes" if done and use "Dual" if 2 tags used for dual feed components. Required for individuals that hung the tag. Verify "Worker Sign Off" column completed for all employees, then sign

(Designated Work Crewmember sign and date) _____***Jane Mechanic*** _____/ today 1 hr ago

ATTACHMENT 5
Clearance Preparation/Approval Checklist
Page 1 of 4

CLEARANCE # ***P07-100***____

EQUIPMENT _____***1FW01PA***_____

Exceptional C/O: ☐ Mode Dependent: ☐ Condition Dependent: ☐

Operational Risk: ☐ Environmental Risk: ☐ Atmospheric Risk: ☐ Reactivity Risk: ☐

Preparation Brief:				
Pre-Job Brief may be Required IF: (Initial, or N/A)			HU-AA-1212 may be required IF: (Initial, or N/A)	
	Writer/Preparer	Approver		
First time for writing this type of C/O?	N/A	N/A	Complex C/O which integrates several systems?	N/A
Unfamiliar with system or prints?			Boundary involves Daisy Chains?	
Confusing nomenclature?			Boundary impacts PLC or Black box logic?	
Emergent request?	Pre-Job Brief required			
Pre-Job Brief Discussion Items:				
	(√, or N/A)			(√, or N/A)
Is there any in-house or external OE?	N/A		What human performance tools will be utilized (e.g. C/O Preparer Checklist, HU-AA series procedures)?	**JO**
Applicable Clearance Order preparation considerations.	**JO**			

Actions to be performed for all checklist types:	**Writer/Preparer** (√) – N/A	**Approver** (√) – N/A
Preparation Brief requirements reviewed	√	√
Special Instructions reviewed / entered	√	√
Exceptional criteria evaluated	√	√
Containment integrity considered	**N/A**	**N/A**
C/O hang (lift) risk considered (See Page 4 of 4)	√	√
C/O Operational/Reactivity/Environmental/Atmospheric (Breathing or Explosive) Risk impact assessed and critical steps identified	√	√

ATTACHMENT 5
Clearance Preparation/Approval Checklist
Page 2 of 4

Specific actions to be performed for hang checklists: CHK # _____	**Writer/Preparer** (√) – N/A	**Approver** (√) – N/A
C/O positions and Sequence correct	√	√
All attached work scope understood	√	√
Drain and vent requirements identified	√	√
Tech Spec applicability assessed	√	√
Fire Protection concerns noted / addressed	√	√
C/O step types and tag types correct	√	√
Requestor notified if work not isolated as requested	√	√

Specific actions to be performed for lift checklists: CHK # _____	**Writer/Preparer** (√) – N/A	**Approver** (√) – N/A
Lift positions / sequence appropriate for plant status	√	√
Non-tagged items included in checklist as needed	√	√
Fill and vent issues addressed	√	√
Instrumentation backfill requirements identified	√	√
Configuration control actions properly addressed?	√	√

Specific actions for Work Addition to an approved C/O: List W/O's*	**Writer/Preparer** (√) – N/A	**Approver** (√) – N/A
New work scope reviewed and understood	√	√
Isolation point positions and tag types verified as adequate	√	√
Exceptional C/O criteria evaluated	√	√
Containment integrity considered	√	√
Drain and vent requirements identified	√	√
Special Instructions reviewed / entered	√	√
Requestor notified if work not isolated as requested	√	√

* **IF** C/O is placed, **THEN** complete **ALL** approvals before attaching the additional work

ATTACHMENT 5
Clearance Preparation/Approval Checklist
Page 3 of 4

Clearance Order preparation considerations
Determine the scope of work:
Review and approve the Clearance Request. Review the Work Order instructions and applicable procedures. Identify C/O and temp lift requirements, placement of jumpers, or introductions of any energy sources. Review any TMOD's or design changes that are in progress against the system or equipment. Review the applicable Unit Turnovers for any abnormalities or unusual conditions. Consult with the Work Planner or SME (Fire Marshal, Engineer) if doubt exists on the scope of work and/or return the C/R if needed for further information.
Establish the Zone of Protection:
Identify electrical and mechanical drawings as needed. Refer to Passport T210 or T215 panels to identify pending document changes. Request DCP or Mod packages as needed Prepare a sketch or outline of the protection needed including grounds. Review equipment procedures for special needs in startup, shutdown, or changeover. Walkdown the equipment looking for interfaces with other equipment/systems not identified or incorrect on drawings. Submit label requests and drawing change requests as needed. Review any historical/model C/O's for the same work scope. Compare zone of protection, Special Instructions, etc. Verify positions correct, sequencing appropriate, tag types correct.
Identify "concerns" in the Special Instructions:
Equipment draining requirements. Note any process lines that can't be drained, any siphon paths, hoses needed, etc. "Daisy chained" neutrals. Safety hazards (confined space, fall hazard, etc.) Tech Spec / TRM / ODCM requirements. Document any Subject Matter Expert review (Fire Marshal, System Engineer, Component Engineer, etc.) Any switching orders required, other departments needed to assist in hanging/clearing the C/O (Rad Pro, Maintenance, etc.). The Operations Planning person(s) should be notified to appropriately schedule these resources. Include a note of any grounds that need to be installed / removed, by which department, and manipulations that may be required. Exceptional C/O criteria evaluated. Containment integrity considered. Environmental concerns such as special sampling equipment affected, compensatory measures required, draining of hazardous materials, or systems containing tritium.

ATTACHMENT 5
Clearance Preparation/Approval Checklist
Page 4 of 4

C/O Hang/Lift risk consideration		
Hang risk actions	**Lift risk actions**	**Possible effects**
Fuse or circuit board removal	Fuse or circuit board installation	Auto-starts Equipment trips Reactor Protection Logic signals Control Room indication changes Control Room annunciators Opposite Unit / Train effects Turbine Supervisory Logic Radioactive release Loss of Main condenser vacuum
Draining / venting	Filling / Venting	
Isolating instruments	Valving in instruments	
Jumper installation	Jumper removal	
Breaking daisy chains	Restoring daisy chains	
Isolating control air	Valving in control air	
De-energizing control power	Energizing control power	
Lifting of leads	Landing of leads	
Installing grounds	Removing grounds	

The 5 Key Questions
What are the Critical Steps in the task?
What is the Worst Thing that can go wrong?
What are the Error Likely Situations?
What Defenses are we relying upon?
What actions will assure proper configuration control?

Note: When assembling the C/O package include pages 1-4 of this attachment.

Writer/Preparer ***Jim NSO*** / ***Today***
Name Date

Approver ***Mike Operator*** / ***Today***
Name Date

C/O Challenge ***Joe Supervisor*** / ***Today***
Name Date

ATTACHMENT 7
C/O Challenge Guidelines
Page 1 of 1

NOTE: The C/O Challenge will be conducted by a knowledgeable Management Individual (i.e. SRO, SRO Certified, previously licensed SRO or individual possessing specific technical knowledge).

CLEARANCE #_____**PO7-100**_____ CHECKLIST#____WTO ____

1. The C/O package will include the following as applicable:

   (√)

   ___√___ Prints with highlighted isolation boundaries
   ___√___ Clearance Request (C/R), including revisions based on scope change
   ___√___ Preparation Checklist
   ___√___ Review the final approved copy of the C/O
   ___√___ Procedures, as applicable
   ___√___ Any other materials needed or used in the preparation of the C/O
   ___√___ Notes, e-mail, etc, to identify communications/corrective actions taken against any discrepancies found during preparation.

2. The individual performing the challenge will review the C/R to identify:

   ___√___ Principle Equipment (PE)
   ___√___ Scope of Work
   ___√___ Recommended isolation points

3. The individual performing the challenge will review C/O Package and consider the following Technical Aspects:

   ___√___ Proposed drain/vent path, if applicable
   ___√___ Proper use of C/O Tags for those isolation points necessary for Personnel Protection
   ___√___ Proper steps sequencing
   ___√___ Special Instructions are clear and include appropriate procedural references.
   ___√___ Plant conditions, expected system and alarm response

ATTACHMENT 8
Clearance Authorization Checklist
Page 1 of 1

C/O #_____***P07-100***_____

C/O APPLICATION SUPERVISORY AUTHORIZATION	(√ - N/A)
C/O is in the Approved Status and C/O challenge complete	√
Special Instructions reviewed	√
Plant conditions acceptable	√
Review existing TCC/TMOD's for emergent changes	***N/A***
Redundant train operability assessed including any confidence runs and shared support equipment.	***N/A***
Pre-clearance activity testing required/performed	√
Tech Spec & Admin requirements met/initiated	√
Applicable procedure prerequisites satisfied	√
C/O Risk Potentials reviewed/acceptable (Attachment 5)	√
C/O Reactivity/Operational/Environmental/ Atmospheric (Breathing or Explosive) Risks considered/addressed	√
PRA, Online & Shutdown Risk acceptable/updated	***N/A***
HLA criteria evaluated and initiated if required	***N/A***
Fire Protection actions/paperwork initiated	***N/A***
Barrier Breach actions/paperwork initiated	√
Verification type properly designated (IV, CV, or none)	√
C/O's taken to Distributed status with tags printed and Checklist is Master or Duplicate (not Review)	√
Mode/Condition Dependent actions initiated/Performed	√
C/O application authorized (SRO signature)	√
C/O application pre-job brief initiated/performed	√
For RH Checklist, Remove Holders Acceptance Lock after tags rehung.	***N/A***
C/O REMOVAL SUPERVISORY AUTHORIZATION	
W/O statused correctly for release reason with notes as applicable	√
Method of restoration Acceptable	√
C/O Risk Potentials reviewed/acceptable (Attachment 5, Page 4 of 4)	√
C/O Reactivity/Operational/Environmental/Atmospheric (Breathing or Explosive) Risks considered/addressed	√
HLA criteria evaluated and initiated if required	√
Verification type properly designated (IV, CV, or none)	√
C/O restoration authorized (SRO signature)	√
C/O restoration pre-job brief initiated/performed	√
PMT's are being coordinated with C/O removal	√
C/O checklist is Master or Duplicate (not Review) and Special Instructions reviewed	√
All C/O Supervision and employees have released the C/O	√
No names listed on Contacts Panel for WTL Control	√
For Temp Lift has Holder Acceptance Lock been applied or C/O placed in Suspended status?	
C/O CLOSEOUT ACTIVITIES	
Tech Spec actions updated, as required	
Fire Protection issues updated, as required	
All Tags removed/accounted for and any tags missing have been reconciled with final clear checklist.	
Barrier Breach issues updated, as required	
Ensure C/O activity logged, as required	
Working/Testing Department notified	

ATTACHMENT 14 PART 1
WTO Form Hang/Lift Section
Page 1 of 1

Exceptional C/O: ☐ Mode Dependent: ☐ Condition Dependent: ☐

Production Risk: ☐ Environmental Risk: ☐ Atmospheric Risk: ☐ Reactivity Risk: ☐

WORKER TAGOUT# **PO7-100** JOB DESCRIPTION: **CHANGE 1A MAIN FEEDWATER PUMP OIL**

WORKING DEPARTMENT: **MMD** W/O OR W/R: **12345** EQUIP. TAG# **1FW01PA**

COMPONENT DESCRIPTION: **1A MAIN FEEDWATER PUMP**

FIRST APPROVAL: ***Jim NSO*** DATE/TIME: ***Today/One hour ago***

SECOND APPROVAL: ***Mike Operator*** DATE/TIME: ***Today/45 minutes ago***

WTO AUTHORIZATION: ***Joe Supervisor*** DATE/TIME ***Today/30 minutes ago***

SPECIAL INSTRUCTIONS: YES: ☒ NO: ☐ (IF YES SEE ATTACHMENT 14 PART 2)

EQUIP. TAG/EQUIPMENT NAME	SEQ	TAG TYPE	POSITION	HUNG BY	VERIF. BY	SFTY. VERIF.	RTS SEQ	RTS POSITION	RTS BY	VERIF. BY
1FW01PA C/S FW PUMP 1A C/S (1PM04J)	1	CI	PTL	***JRO***	N/A	***MMS***	5	NAT		N/A
1FW012A C/S FW PUMP 1A RECIRC VALVE C/S (1PM04J)	2	CI	CLOSE	***JRO***	N/A	***MMS***	4	CLOSE		N/A
1FW002A C/S FW PUMP 1A DISCH VALVE C/S (1PM04J)	2	CI	NAC	***JRO***	N/A	***MMS***	4	NAO		N/A
1FW01PA-B C/S FW PUMP 1A AUX OIL PUMP C/S (1PM04J)	3	CI	PTL	***JRO***	N/A	***MMS***	3	NAT		N/A
1FW01PA BKR FW PUMP 1A BKR (BUS 156 CUB 4)	4	RD	R/O	***JEO***	N/A	***MMS***	2	R/I	***JEO***	N/A
1FW01PA-B BKR FW PUMP 1A AUX OIL PUMP BKR (134Z2 CUB F1)	4	RD	OFF	***JEO***	N/A	***MMS***	2	ON	***JEO***	N/A
1FW01PA-A BKR FW PP 1A MOTOR HTR BKR (134Z2 G4)	4	RD	OFF	***JEO***	N/A	***MMS***	2	ON	***JEO***	N/A
1FW002A BKR FW PUMP 1A DSCH VLV BKR (133Z2 G3)	4	RD	OFF	***JEO***	N/A	***MMS***	2	ON	***JEO***	N/A
1FW027A FW PUMP 1A RECIRC VALVE MANUAL ISOL VLV (401 K-11 +20')	5	RD	CLOSED	***JEO***	N/A	***MMS***	1	OPEN	***JEO***	N/A

WTO PLACED: ***Jack Reactor Operator*** DATE/TIME: ***Today/6 Hours ago***

WTL COMPLETED WORK START: ***John Supervisor*** DATE/TIME: ***Today/5 Hours ago***

WTO FINAL CLEAR: WORK CREWMEMBER RELEASE: ***Jane Mechanic*** DATE/TIME: ***Today/1 Hour ago***

WTO CLEARED: _____ DATE/TIME: _____

(COPIES MAY BE MADE OF THIS FORM FOR ADDITIONAL ISOLATIONPOINTS)

Exelon Nuclear

Job Performance Measure

Perform Offsite Notification (NARS form transmittal)

JPM Number: Admin JPM d. (RO)

Revision Number: 04

Date: 02/13/2013

Revised By:	W. Hochstetter Instructor	02/13/2013 Date
Validated By:	Kelly Wilson SME or Instructor	03/03/2013 Date
Approved By:	Rob Lawlor Operations Representative	03/03/2013 Date

INITIAL CONDITIONS

1. You are the Unit 2 Assist NSO assigned as Communicator.

2. 1BEP-1 is in progress.

3. Unit 2 Unit Supervisor is performing Status Tree monitoring.

4. The Emergency Director (SM) has classified an ALERT.

INITIATING CUES

1. A NARS form has been filled out and approved. The Emergency Director has directed you to transmit the initial NARS Form per EP-MW-114-100 MWROG OFFSITE NOTIFICATIONS.

2. This is a time critical JPM for NARS notification

JPM Start Time: _____

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
EXAMINER NOTE: Record a clock time value on NARS form in block 4 "Accident Classified" of approximately 2 minutes prior to handing form to candidate and today's date. **Provide the examinee a copy of an Emergency Director approved NARS form ready for transmittal (Candidate Copy attached).** **AND** **Provide the examinee a copy of EP-MW-114-100 rev. 12.**					
1	Initiate the NARS transmittal.	• Refer to EP-MW-114-100 step 4.2 and EP-MW-114-100-F-01, NARS Form • Determine that CODE 20 must be used on the NARS phone.	___	___	___
***2**	Establish communications with required agencies. **Note: Have the examinee describe which phone to use if not given in the simulator or MCR.**	Establish communications as follows: • Pick up the BLACK NARS phone. • Dial "20"	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*3	Perform Initial Roll Call of IEMA and REAC. **Cue: <u>This is Illinois EMA, and we will notify REAC</u>** **Note:** **REAC (NOT Required for time critical notification) is NOT manned full time. They are in the same building as IEMA and IDNS. IEMA notifies IDNS and REAC to activate during off hours. REAC MAY pickup the phone during normal work hours from the normal NARS phone. REAC will notify the station when they are manned.**	• Read standby message inserting "Byron Control Room" • Read Roll call message inserting "Byron Control Room". • Take roll call. • Mark box for Illinois EMA and REAC on page 2 of NARS form.	___	___	___
*4	Record time and date message was initiated. **Roll call completion time** **_____ minus Classification time** **_____ equals** **_____ *(LESS than 15 minutes)** **NOTE: If Initial Roll Call time is NOT recorded, use the final roll call completion time in Section 11 for the transmittal time.**	• Record the time and date on the NARS Form under "Initial Roll Call Complete" heading on page 2.	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
***5**	Verbally transmit the NARS form information.	• Transmit NARS form blocks 1-10 using the procedure directed communication standards.	___	___	___
***6**	Record block 11 data **Cue: (If asked) outside line # is (815)-234-8811** **Note: If NOT asked, other acceptable outside phone numbers include:** **(815) 406-3806 or 3807** **(815) 406-2202** **(815) 406-2208**	In block 11: • Mark [A] • Record candidate's name. • Record outside phone number.	___	___	___
7	Record the time and date the message was transmitted.	• Record in block 11 current time and date.	___	___	___
8	Enter block 12 data Cue: <u>John Smith</u>	• Request name of Illinois EMA representative. • Record under 'NAME'. • Record Illinois EMA in 'ORGANIZATION' box. • List time/date.	___	___	___
9	Perform final roll call. **Cue: (provide the following response for roll call):** **<u>Illinois EMA – REAC will be notified to respond.</u>**	• Perform final roll call • Document roll call on page 2 of NARS form.	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
10	Ask if there are any questions and clarify as needed **Cue: No questions on information.** **Note: When candidate reports completion of NARS transmittal to Emergency Director (SM):**	• Ask if there are any questions and clarify as needed.	___	___	___
CUE	**This JPM is complete.**				

JPM Stop Time: _____

INITIAL CONDITIONS

1. You are the Unit 2 Assist NSO assigned as Communicator.

2. 1BEP-1 is in progress.

3. Unit 2 Unit Supervisor is performing Status Tree monitoring.

4. The Emergency Director (SM) has classified an ALERT.

INITIATING CUES

1. A NARS form has been filled out and approved. The Emergency Director has directed you to transmit the initial NARS Form per EP-MW-114-100 MWROG OFFSITE NOTIFICATIONS.

2. This is a time critical JPM for NARS notification

Exelon Nuclear

Job Performance Measure

Review Shutdown Margin Calculation

JPM Number: Admin JPM a. (SRO)

Revision Number: 07

Date: 02/14/2013

Revised By:	Bill Hochstetter Instructor	02/14/13 Date
Validated By:	_____ Operations Dept	_____ Date
Approved By:	/s/ Operations Representative	_____ Date

INITIAL CONDITIONS

1. You are the Unit 1 Unit Supervisor.

2. The unit is at 100% power.

3. Control Bank D is at 220 steps.

4. Boron concentration is 700 ppm per sample 1 hour ago.

5. Tave is 587°F.

6. Reactor average burn-up is 6500 EFPH, MOL.

7. The Unit 1 Reactor Operator completed a Shut Down Margin Calculation based on control rod K-4 being inoperable and is untrippable as the result of excessive friction. 30 minutes ago. This calculation is good for this shift, 12 hours.

8. You are to review the SDM calculation and determine unit requirements

INITIATING CUE

1. **30 minutes ago it was determined** that control rod K-4 is inoperable and is untrippable as the result of excessive friction. The Reactor Operator just completed 1BOSR 1.1.1-1, Shutdown Margin Surveillance and determine if Shutdown Margin is met at time of trip.

2. **This is a time critical JPM.**

RECORD START TIME: _____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
NOTE JPM task conditions and initiating cues provide the values for core average burnup (6500), RCS Tave (587), RCS boron concentration (700), and total inoperable control rods (1). Minor calculational differences may exist between the candidates calculation and the provided surveillance for values that are correctly calculated. **Hand the candidate the completed 1BOSR 1.1.1-1**				
1. Refer to 1BOSR 1.1.1-1, Shutdown Margin Surveillance. Note: Step 1 may be performed at any time	○ Candidate reviews completed 1BOSR 1.1.1-1 ○ Goes to step F.4 (F.1.a)	____	____	____
NOTE Provide the examinee with a copy of 100-7T1 RRD data worksheet along with BCB-1 Byron Unit 1 Cycle19 Figure 8B, Table 1-1, Table 1-2, Table, Table 1-5, Table 1-6, and Core Operating Limits report cycle 19 , page 3.				
2. Present conditions Today's date and time 6500 EFPH Note: The procedure requires 557 °F for Tave when in Mode 1 or 2 700 ppm, today's date and 30 minutes ago 1 Rod is untrippable Note: Required SDM from COLR is 1.3% DK/K = 1300 pcm	Candidate reviews: ◦ Time and date (F.4.a) ◦ Core average burnup (F.4.b) (from turnover) ◦ RCS average temperature (F.4.c) (from turnover) ◦ RCS boron concentration (F.4.d) (from turnover) ◦ Total inoperable control rods (F.4.e) (from turnover) ◦ Required SDM from COLR (F.4.f)	____	____	____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
3. Bounding assumptions.	○ REVIEW bounding core average temperature (F.5.a) ○ REVIEW most limiting core average temperature (F.5.b) ○ REVIEW bounding time and date (F.5.c) (from turnover)	____	____	____
4. Minimum Required Boron Concentration 991 ppm from Table 1-1. Add 110 ppm for Bias. Total PPM = 1101 SRO Initial and Date Goes to step F.7	○ REVIEW Minimum Required Boron Concentration from BCB-1 Table 1-1 (F.6.a) ○ REVIEW and initial and date for minimum boron concentration (F.6.a) ○ Go to step F.7	____	____	____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
5. Reactivity Worth of Boron Actual calculated value is 5788 pcm 7.a.1) **NOTE: examinee should attain a value of -5589 to -5795** 7.a.2) . Actual calculated value is 8925 pcm **NOTE: examinee should attain a value of -8915 to -9109** 7.a.3). Actual value is +3129 pcm **NOTE: examinee should attain a value of +3129 (-20 to +400)** 7.b Actual value is 1829 pcm **NOTE: examinee should attain a value of 1817 to 2237**	Review: • Integral Boron Worth from 1BCB-Table 1-5 at limiting core avg temperature and current boron concentration (F.7.a.1)) • Integral Boron Worth from 1BCB-Table 1-5 at limiting core avg temperature and minimum required boron concentration (F.7.a.2)) • Subtract the result of above 2 steps (F.7.a.3)) • Calculate net Boron Reactivity Worth. (F.7.b)	____	____	____
*6. Reactivity Worth of Untrippable Rods 1 ROD UNTRIPPABLE ROD WORTH IS 2000 PCM **EXAMINEES COPY LISTS 1000 PCM EXAMINEE SHOULD CORRECT ERROR** ***Cue: Correct the deficiency using the provided references*** 2000 PCM TOTAL	Review: ◦ Number of inoperable control rods (1) (F.8.a) ◦ Predicted Most-reactive rod worth from 1BCB-Table 1-6 • Calculate Reactivity Worth of Untrippable Rods (F.8.b)	____	____	____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
7 Reactivity change due to Xenon Step 9.c NOTE: examinee should attain a value of -3068	Reactivity Change due to Xenon ○ Review Xenon Equivalent power from RRD (F.9.a) ○ Review SD Time and date (F.9.b) • Review Xenon Worth using RRD and BCB-1 Table 1-2 (F.9.c)	____	____	____
8. Review Samarium Worth	Review Samarium Worth ○ Credit not taken for Samarium	____	____	____
*9. Correction for Boron effects on Xenon and Samarium . NOTE: examinee should attain a value of -5589 to -5795 Correction factor from table = 0.92 actual value of -3068 pcm 11.d **NOTE: examinee should notice transposition error, when called to your attention cue…** ***Cue: Correct the deficiency using the provided references*** **NOTE: examinee should attain a value of -3068 x 0.92= 2822** Uncorrected examinee copy has a value of -890 versus an actual value of -2822 pcm	Review Fission Product Worth • Reviews integral worth of boron (step F.11.a) Review correction factor (step F.11.b) • Review Xe and Sm worth (step F.11.c) • Review corrected poison worth (step F.11.d)	____	____	____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*10. Determine Total Shutdown Margin. (step 12a boron worth is 1829 pcm **Untrippable rod worth should be 2000 versus the 1000 pcm on form** ***Cue: Correct the deficiency using the provided references*** **NOTE: examinee should attain a value of -3068 x 0.92= -2822** Examinee's copy has a value of -890 ***Cue: Correct the deficiency using the provided references*** Examinee notices error. Based on convention sign error examinee procedure lists -1939 and actual is + 1007 ***Cue: Correct the deficiency using the provided references*** **NOTE: examinee should attain an unacceptable value**	Review Total Shutdown Margin (F.12.a) • Boron Worth • Untrippable Rod Worth • Fission Product Worth • Total Shutdown Margin	____	____	____
*11. Determine acceptance criteria NOT MET ***Cue: Correct the deficiency using the provided references***	• Determines acceptance criteria for Shutdown Margin is not met and calculated is less negative than –1300 pcm (F.12.c) • Answers NO to acceptance criteria • Initials calculation • Notifies Shift manager IMMEDIAETLY	____	____	____

ELEMENT	**STANDARD**	**SAT**	**UNSAT**	**Comment Number**
12. Informs SM to initiate 1BOL 1.1 or 1BOL 1.h	° Notifies Shift manager IMMEDIAETLY	____	____	____
Cue: ***(if required)*** ***This JPM is completed***	Within **30 minutes** of initiation of JPM	____	____	____

RECORD STOP TIME: _____

INITIAL CONDITIONS

1. You are the Unit 1 Unit Supervisor.
2. The unit is at 100% power.
3. Control Bank D is at 220 steps.
4. Boron concentration is 700 ppm per sample 1 hour ago.
5. Tave is 587°F.
6. Reactor average burn-up is 6500 EFPH, MOL.
7. The Unit 1 Reactor Operator completed a Shut Down Margin Calculation based on control rod K-4 being inoperable and is untrippable as the result of excessive friction. 30 minutes ago. This calculation is good for this shift, 12 hours.
8. You are to review the SDM calculation and determine unit requirements

INITIATING CUE

1. **30 minutes ago it was determined** that control rod K-4 is inoperable and is untrippable as the result of excessive friction. The Reactor Operator just completed 1BOSR 1.1.1-1, Shutdown Margin Surveillance and determine if Shutdown Margin is met at time of trip.
2. **This is a time critical JPM.**

Exelon Nuclear

Job Performance Measure

Perform a Supervisor Review of Calorimetric

JPM Number: Admin JPM b. (SRO)

Revision Number: 00

Date: 02/18/2013

Written By:	Bill Hochstetter Instructor	02/18/13 Date
Validated By:	Greg Gugle Operations Dept	03/03/2013 Date
Approved By:	/s/Rob Lawlor Operations Representative	03/03/2013 Date

INITIAL CONDITIONS

1. You are the Unit 1 Unit Supervisor.

2. Unit 1 is at 100% power, all systems are normally aligned.

INITIATING CUE

1. The Unit 1 NSO is performing the calorimetric surveillance as required by plant conditions and has asked you to review the proposed NI adjustments in accordance with 1BOSR 3.1.2-1 before they are made.

2. The LEFM ONLY method was utilized using the PPC.

3. Inform the Unit NSO when you have completed your review.

RECORD START TIME: _____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
NOTE If this JPM is performed on the simulator, only the cues underlined are required to be provided to the examinee Hand the examinee a copy of the calorimetric surveillance cover sheet with the calorimetric printout and sheet 42 of 42 of the surveillance. Provided the "in-use" copy of the entire surveillance (1BOSR 3.1.2-1) for reference to the examinee.				
1. Examinee reviews NIs Power in step 26	Reviews data sheet D-11 ○ Reviews NIs power in step 26	____	____	____
2. Reviews computer printout and determines LEFM Rx Power is 99.96, per calorimetric	Review Data Sheet D-11 and LEFM calorimetric power print out. ○ Ensures step 27 is properly annotated	____	____	____
*3. Performs "Power Difference" calculation N44 should be -0.46 rather than +0.46 ***Cue: When the examinee discovers the error, inform him to mark-up the needed changes***	On Data sheet checks calculation on step 28 : ○ N-41 is correct ○ N-42 is correct ○ N-43 is correct • N-44 is incorrect ○	____	____	____

ELEMENT	**STANDARD**	**SAT**	**UNSAT**	**Comment Number**
*4. Examinee reviews which NIs require adjustment (step 29) ***Notices 2 errors:*** *Determins N-43 and N-44 need adjustment and strikes initials from step 29* ***Cue: When the examinee discovers the error, inform him to mark-up the needed changes***	On Data sheet reviews step 29: ○ N-41 does not require adjustment and is initialed properly ○ N-42 does require adjustment and no initials are placed • N-43 is incorrect. This NI requires adjustment and initials should be struck • N-44 is incorrect. This NI is reading non-conservative. Initials need to be struck and an adjustment made.	____	____	____
Cue: ***(if required)*** ***<u>This JPM is completed</u>***		____	____	____

RECORD STOP TIME: _____

INITIAL CONDITIONS

1. You are the Unit 1 Unit Supervisor.
2. Unit 1 is at 100% power, all systems are normally aligned.

INITIATING CUE

1. The Unit 1 NSO is performing the calorimetric surveillance as required by plant conditions and has asked you to review the proposed NI adjustments in accordance with 1BOSR 3.1.2-1 before they are made.
2. The LEFM ONLY method was utilized using the PPC.
3. Inform the Unit NSO when you have completed your review.

Exelon Nuclear

Job Performance Measure

Determine PBI requirements for 0DSD094

JPM Number: Admin JPM c. (SRO)

Revision Number: 00

Date: 02/15/2013

Written By:	Bill Hochstetter Instructor	02/15/13 Date
Validated By:	Greg Gugle Operations Dept	03/03/2013 Date
Approved By:	/s/Rob Lawlor Operations Representative	03/03/2013 Date

INITIAL CONDITIONS

1. You are the WEC Supervisor.

2. You have just received a call that door 0DSD094 (HVAC Room from Turbine Operating Floor) is broken and stuck half way open.

3. The Shift Manager has asked you to determine compensatory requirements and if a PBI is required.

INITIATING CUES:

1. The Shift Manager has asked you to determine compensatory requirements and if a PBI is required based on the condition of 0DSD094 as indicated above.

2. When the determination is made report out to the Shift Manager

RECORD START TIME: _____

ELEMENT	**STANDARD**	**SAT**	**UNSAT**	**Comment Number**
NOTE Hand the examinee a copy of BAP 1100-3 and BAP 1100-3A3				
1. Determines procedural requirements Note: Step 1 may be performed at any time	Refer to turnover information: • Review BAP 1100-3 to determine 1100-3A3 should be used • Review BAP 1100-3A3.	____	____	____
*2. Finds the degraded door in the matrix to determine affected design features (i.e, vent, rad, fire, etc.)	Using BAP 1100-3A3: • Finds 0DSD 094 in the matrix (1100-3A3)	____	____	____
*3. Determines Fire and Ventilation design features are affected	In matrix determines door is: • F1 (non-TRM fire door) AND • X (in ventilation category)	____	____	____
NOTE **Examinee may perform step 4 and 5 below in any order**				
*4. Determines compensatory actions for Fire Finds F1 and interprets meaning Requires: 1- SM or FM authorization 2- A placard on door	Determines (F1): • Authorization from SM or FM if door will be blocked open and left unattended. • Requires a placard to be placed • NO PBI required • NO compensatory actions needed for Fire	____	____	____
5. Determines compensatory actions for Ventilation Finds X and interprets meaning	Determines (X): • Does not negatively affect ventilation design basis • NO PBI required	____	____	____

ELEMENT	**STANDARD**	**SAT**	**UNSAT**	**Comment Number**
6. No other features are affected	Determines no other design features are affected	____	____	____
7. When examinee indicates they are ready to report out: ***Cue: I am the Shift Manager, report out when ready***	Report out to Shift Manager • The door must be placarded • No PBI is required	____	____	____
Cue: (if required) <u>This JPM is completed</u>		____	____	____

RECORD STOP TIME: _____

INITIAL CONDITIONS

1. You are the WEC Supervisor.

2. You have just received a call that door 0DSD094 (HVAC Room from Turbine Operating Floor) is broken and stuck half way open.

3. The Shift Manager has asked you to determine compensatory requirements and if a PBI is required.

INITIATING CUES:

1. The Shift Manager has asked you to determine compensatory requirements and if a PBI is required based on the condition of 0DSD094 as indicated above.

2. When the determination is made report out to the Shift Manager

Exelon Nuclear

Job Performance Measure

Accessing Containment at Power

JPM Number: Admin JPM d. (SRO)

Revision Number: 5

Date: 2/15/2013

Revised By:	Bill Hochstetter Instructor	02/15/2013 Date
Validated By:	Greg Gugle SME or Instructor	03/03/2103 Date
Approved By:	Rob Lawlor Operations Representative	03/03/2013 Date

INITIAL CONDITIONS

1. You are the WEC Supervisor.

2. Unit 1 has just failed 1BOSR 4.13.1-1, Reactor Coolant System Water Inventory Balance 72 Hour Surveillance, due to unidentified leakage of 2.2 gpm.

3. Reactor power is 100%, steady state.

INITIATING CUES

1. Two EOs (Jay Eby, Greg Ryan) and one RP Technician (Bob Ward) will be entering Unit 1 Containment to search for an RCS leak outside the missile barrier.
2. Jay Eby, ext 2473, is originating the Containment Entry Checklist, BAP 1450-T2.
3. The access control guard will be Steve Smith, a security guard.
4. They will spend up to 2 hours searching for the leak.
5. RP directs entry through the emergency hatch.
6. Complete the required form for the containment entry through the WEC Supervisor responsibilities.

RECORD START TIME: _____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
EVALUATORS NOTE: The order of the steps are slightly different in the procedure and checklist.				
EVALUATORS NOTE: The examinee may elect to notify Radiation Protection of the intent to enter containment first in order to expedite the verification of sampling requirements.				
1. REFER to BAP 1450-1, Access to Containment, and BAP 1450-T2, Containment Entry Checklist **Note: Provide the examinee with a copies of BAP 1450-1 and 1450-T2**	LOCATE and OPEN: ◦ BAP 1450-1 ◦ BAP 1450-T2	____	____	____
*2. Ensure MCR Turbine and Rx Panel placards are in place **Cue: The "Do Not Change Power" placards are in place**	• Call MCR to PLACE "Do Not Change Power" placards	____	____	____
3. Ensure NSO is notified of Access Control Guard's name **Cue: NSO has been told security guard's name.**	• NSO is notified of name of Access Control Guard	____	____	____
4. MIDs are tagged out **Cue: The MIDs are parked at the bottom the vessel and are Tagged Out**	• MIDS are deenergized per OP-AA-109-101 and form is checked	____	____	____
*5. For emergency hatch entry, initiate 1BOL PC-1 **Cue: 1BOL PC-1 is initiated**	• 1BOL PC-1 is required	____	____	____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*6. Determine BOL entry condition **Cue: Hand candidate a copy of 1BOL PC-1.** **Cue: Ask candidate which condition would be entered for this LCO** **Cue: After the candidate answers return to BAP 1450-1**	• Candidate reviews 1BOL PC-1 **Answers: Condition C**	____	____	____
7. Turn on lights inside missile barrier if entering inside the missile barrier **Cue: (from cue sheet) there will be no entry inside missile barrier**	• No Entry Inside the Missle Barrier (No Lights required)	____	____	____
*8. Sign WEC Supervisor Approval	• Examinee signs WEC approval	____	____	____
CUE: The JPM is complete.				

RECORD STOP TIME: _____

INITIAL CONDITIONS

1. You are the WEC Supervisor.
2. Unit 1 has just failed 1BOSR 4.13.1-1, Reactor Coolant System Water Inventory Balance 72 Hour Surveillance, due to unidentified leakage of 2.2 gpm.
3. Reactor power is 100%, steady state.

INITIATING CUES

1. Two EO's (Jay Eby, Greg Ryan) and one RP Technician (Bob Ward) will be entering Unit 1 Containment to search for an RCS leak outside the missile barrier.
2. Jay Eby, ext 2473, is originating the Containment Entry Checklist, BAP 1450-T2.
3. The access control guard will be Steve Smith, a security guard.
4. They will spend up to 2 hours searching for the leak.
5. RP directs entry through the emergency hatch.
6. Complete the required form for the containment entry through the WEC Supervisor responsibilities.

Exelon Nuclear

Job Performance Measure

Emergency Dose Authorization

JPM Number: Admin JPM e. (SRO)

Revision Number: 02

Date: 02/15/2013

Revised By:	Bill Hochstetter Instructor	02/15/13 Date
Validated By:	Greg Gugle Operations Dept	03/03/2013 Date
Approved By:	/s/Rob Lawlor Operations Representative	03/03/2013 Date

INITIAL CONDITIONS

1. A LOCA has occurred on Unit 2.
2. An operator has been seriously injured in the 2A Containment Spray Pump Room.
3. A rescue attempt must be made.
4. The estimated dose to an individual attempting a rescue is approximately 50 Rem.
5. You are the Emergency Director. The TSC and OSC have NOT yet been staffed.
6. Joe Smith, age 45, (Employee# 123456) assigned to your shift, is a friend of the injured operator and wants to help. His current annual exposure is 100 mrem

INITIATING CUE

1. As the Emergency Director, perform the actions in authorizing this rescue operation in accordance with EP procedure

RECORD START TIME: _____

ELEMENT	**STANDARD**	**SAT**	**UNSAT**	**Comment Number**
NOTE: Provide the examinee with a copy of EP-AA-113 and EP-AA-113-F-02, when requested				
1. Refer to EP-AA-113. Note: Step 1 may be performed at any time	○ Locate and open EP-AA-113: • Determines emergency exposure is section 4.3	____	____	____
2. Goes to section 4.3.1 Determines section 4.3.2 (briefing) is applicable	Determines that: • Dose is greater than 5 Rem	____	____	____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*3. ***Cue: Hand examinee blank EP-AA-113 F-02 when asked*** Determines >25 R required Determines life saving priority Conducts Brief	Determines that: • EP-AA-113-F-02 is required to be filled out • Asks if Joe is a volunteer? (Requires a volunteer) Requests whether Joe Smith has had a previous emergency exposure • Conducts Brief using Attachment 1 • 2% of population obtain reddening of the skin, loss of appetite, nausea, fatique or diarrhea • Approximately 5.3 per 1000 premature deaths at 25R exposure and 15 years may be lost	____	____	____
*4. Authorize proposed radiation exposure in excess of 10CFR20 limits in accordance with listed criteria, and ALARA principles. **Cue: (if asked) ALARA concurrence has been authorized by phone**	• Complete EP-AA-113-F-02 for Emergency Exposure including: • Name, date, time,Employee ID#, current annual exposure, reason and the 3rd box checked	____	____	____
*5. **Cue: Joe Smith has reviewed and signed EP-AA-113-F-02.**	Ensures volunteers have: • Signed acknowledgement that they have volunteered	____	____	____

ELEMENT	STANDARD	SAT	UNSAT	Comment Number
6. Notify Occupational Health Services. **Question: How would you perform this step?** **Cue: Depending on how the question is answered inform the candidate that OHS has been contacted**	• Ensures that Occupational Health Services are promptly notified if EPA-400 dose limits are exceeded. ○ Notifies Station nurse or Sr. Mgmt of requirement to notify OHS (Corporate Medical Dept.)	____	____	____
7. Ensure documentation of dose when complete. **Question: How would you recommend performing this step?** **Answer: Contact R-P for estimated dose and further guidance**.	• Ensures that dose is estimated and recorded. ○ Ensures that final dose exposure is recorded and reported to NRC if EPA-400 dose limits are exceeded	____	____	____
Cue: ***(if required)*** ***<u>This JPM is completed</u>***		____	____	____

RECORD STOP TIME: _____

INITIAL CONDITIONS

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