

Facility: <u>Palisades</u>		Date of Examination: <u>Sept 2014</u>
Examination Level: RO <input checked="" type="checkbox"/> SRO <input type="checkbox"/>		Operating Test Number: <u>1</u>
Administrative Topic (See Note)	Type Code*	Describe activity to be performed
Conduct of Operations	S, D, P	(2.1.7) Calculate the Excore Quadrant Power Tilt
Conduct of Operations	R, N	(2.1.20) Estimation of RIA-0631, Condenser Off Gas Monitor, Count Rate Using Predetermined Primary to Secondary Leakrate
Equipment Control	S, D	(2.2.12) Perform TSST MO-8 Comparison of Delta-T Power vs Actual Power
Radiation Control		
Emergency Procedures/Plan	R, D	(2.4.39) Obtain Meteorological Data for Emergency Notification Form
<p>NOTE: All items (5 total) are required for SROs. RO applicants require only 4 items unless they are retaking only the administrative topics, when 5 are required.</p>		
<p>* Type Codes & Criteria:</p> <p>(C)ontrol room, (S)imulator, or Class(R)oom</p> <p>(D)irect from bank (≤ 3 for ROs; ≤ 4 for SROs & RO retakes)</p> <p>(N)ew or (M)odified from bank (≥ 1)</p> <p>(P)revious 2 exams (≤ 1; randomly selected)</p>		

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Conduct of Operations	S, D	(2.1.7) Determine Average Qualified CET Temperature and Sub-cooling Value
Conduct of Operations	S, D	(2.1.19) Monitor PCS Heatup Rate via PPC
Equipment Control	R, D, P	(2.2.12) Review and Approve Completed TSST (MO-29)
Radiation Control	S, D	(2.3.8) Authorize Waste Gas Release Alarm Setpoint
Emergency Procedures/Plan	R, N	(2.4.41) Classify Event with Plant in MODE 6
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Exam Level: RO <input checked="" type="checkbox"/> SRO-I <input type="checkbox"/> SRO-U <input type="checkbox"/>		Operating Test Number: <u>1</u>
Control Room Systems [@] (8 for RO); (7 for SRO-I); (2 or 3 for SRO-U, including 1 ESF)		
System / JPM Title	Type Code*	Safety Function
a. CVCS/ Gravity Feed Boration While Shutdown	A, L, N	1
b. ESS/Manually Initiate Containment Isolation	EN, D	2
c. PPCS/Perform Post RAS step 54 of EOP-4.0, "Loss of Coolant Accident"	N	3
d. MSS/Bypass MSIV Closure	A, L, D, P	4s
e. CAC/Align Containment Air Coolers	A, D, P	5
f. EDG/Perform a Diesel Generator Voltage Regulator Test on 1-1 D/G	D	6
g. RWS/Adjust Liquid Radwaste Discharge Monitor, RIA-1049 Setpoint	D, P	7
h. SCS/Transfer Shield Cooling Coils	A, D	8
In-Plant Systems [@] (3 for RO); (3 for SRO-I); (3 or 2 for SRO-U)		
i. SPS/Energize Bus 1C from Start Up Transformer 1-2 locally	A, D, E	6
j. FPS/Manually Start P-9A Fire Pump	A, D, E	8
k. AFW/Alt Suction to AFW Pump P-8C	D, R, E	4s
<p>@ All RO and SRO-I control room (and in-plant) systems must be different and serve different safety functions; all 5 SRO-U systems must serve different safety functions; in-plant systems and functions may overlap those tested in the control room.</p>		
*Type Codes	Criteria for RO / SRO-I / SRO-U	
(A)lternate path	4-6 / 4-6 / 2-3	
(C)ontrol room		
(D)irect from bank	≤ 9 / ≤ 8 / ≤ 4	
(E)mergency or abnormal in-plant	≥ 1 / ≥ 1 / ≥ 1	
(EN)gineered safety feature	- / - / ≥ 1 (control room system)	
(L)ow-Power / Shutdown	≥ 1 / ≥ 1 / ≥ 1	
(N)ew or (M)odified from bank including 1(A)	≥ 2 / ≥ 2 / ≥ 1	
(P)revious 2 exams	≤ 3 / ≤ 3 / ≤ 2 (randomly selected)	
(R)CA	≥ 1 / ≥ 1 / ≥ 1	
(S)imulator		

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d.		
e. CAC/Align Containment Air Coolers	A, D, P	5
f. EDG/Perform a Diesel Generator Voltage Regulator Test on 1-1 D/G	D	6
g. RWS/Adjust Liquid Radwaste Discharge Monitor, RIA-1049 Setpoint	D, P	7
h. SCS/Transfer Shield Cooling Coils	A, D	8
In-Plant Systems [@] (3 for RO); (3 for SRO-I); (3 or 2 for SRO-U)		
i. SPS/Energize Bus 1C from Start Up Transformer 1-2 locally	A, D, E	6
j. FPS/Manually Start P-9A Fire Pump	A, D, E	8
k. AFW/Alt Suction to AFW Pump P-8C	D, R, E	4s
<p>[@] All RO and SRO-I control room (and in-plant) systems must be different and serve different safety functions; all 5 SRO-U systems must serve different safety functions; in-plant systems and functions may overlap those tested in the control room.</p>		
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e. CAC/Align Containment Air Coolers	A, D, P	5
f.		
g.		
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In-Plant Systems [@] (3 for RO); (3 for SRO-I); (3 or 2 for SRO-U)		
i. SPS/Energize Bus 1C from Start Up Transformer 1-2 locally	A, D, E	6
j.		
k. AFW/Alt Suction to AFW Pump P-8C	D, R, E	4s
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(N)ew or (M)odified from bank including 1(A)	≥ 2 / ≥ 2 / ≥ 1	
(P)revious 2 exams	≤ 3 / ≤ 3 / ≤ 2 (randomly selected)	
(R)CA	≥ 1 / ≥ 1 / ≥ 1	
(S)imulator		

REACTOR OPERATOR ADMINISTRATIVE TOPICS OUTLINE
TASK SUMMARY

- A.1.a Applicant will determine the quadrant power tilt ratio using the power range nuclear instruments channels per PO-3, "Alternate Incore and Excore Applications." Critical tasks include obtaining individual channel readings and performing calculation correctly.
- A.1.b **NEW.** Applicant will estimate RIA-0631, Condenser Off Gas Monitor count rate per AOP-24, "Steam Generator Tube Leak." The critical tasks include correctly performing the calculation for the current Action Level.
- A.2 Applicant will perform a comparison of ΔT Power verses Actual Power using MO-8, "Palisades Plant Computer (PPC) - PDIL and PPDIL Check and Control Rod Out-Of-Sequence Alarm." Critical tasks include proper completion of surveillance data sheet.
- A.4 Applicant will determine meteorological data for the Shift Manager's emergency notification using a backup method. Critical tasks include interpreting provided printout to determine actual meteorological data.

SENIOR REACTOR OPERATOR ADMINISTRATIVE TOPICS OUTLINE
TASK SUMMARY

- A.1.a Applicant will determine the average qualified CET temperature and subcooling value per SOP-34, "Palisades Plant Computer (PPC) System." Critical tasks include performing calculation correctly.
- A.1.b Applicant will setup the Palisades Plant Computer (PPC) to monitor PCS heatup rate per PO-2, "PCS Heatup/Cooldown Operations." Critical tasks include setup of PPC screen and determination of entry into LCO Action statement.
- A.2 Applicant will review and approve a completed Technical Specification Surveillance test. Critical tasks include determining component is inoperable and entry into LCO Action statement.
- A.3 Applicant will review Waste Gas Release Authorization. Critical tasks include determining high alarm setpoint is incorrect.
- A.4 **NEW**. Applicant will determine the emergency classification for a given event per EI-1, "Emergency Classifications and Actions" with the Plant in MODE 6. Critical task includes completing emergency form properly.

CONTROL ROOM/IN-PLANT SYSTEMS OUTLINE
TASK SUMMARY

- Sys A **NEW**. Applicant will perform actions to borate the primary coolant system using the gravity feed method per SOP-2A, "Chemical and Volume Control Systems." The **alternate path** includes failure of the operating Charging Pump requiring starting of a Charging Pump.
- Sys B Applicant will manually initiate Containment Isolation per EOP 4.0, "Loss of Coolant Accident Recovery." Critical tasks include actions in response to a Containment Isolation Valve that failed to close.
- Sys C **NEW**. Applicant will perform actions of EOP-4.0, "Loss of Coolant Accident Recovery," to verify HPSI flow post RAS. Critical tasks include recognizing HPSI flow being less than required and tripping of Charging Pumps.
- Sys D Applicant will attempt to bypass automatic MSIV closure during a normal plant cooldown per GOP-9, "MODE 3 \geq 525°F to MODE 4 or MODE 5." The **alternate path** includes opening the MSIV Bypass Valves to maintain steam to the secondary system.
- Sys E Applicant will align Containment Air Coolers per SOP-5, "Containment Air Cooling." The **alternate path** includes diagnosing inadequate Service Water flow and the need to start a third Service Water Pump.
- Sys F Applicant will perform Diesel Generator Voltage Regulator test per MO-7A-1, "Emergency Diesel Generator 1-1." Critical tasks include correct operation of D/G controls.
- Sys G Applicant will adjust setpoint for RIA-1049, Liquid Radwaste Discharge Monitor, per SOP-37, "Process Liquid Monitor System." Critical tasks include correct operation of radiation monitor controls.
- Sys H Applicant will perform actions to transfer Shield Cooling coils in operation per SOP-29, "Shield Cooling System." The **alternate path** includes response to tripping of in-service Shield Cooling Pump requiring starting of alternate train pump.
- Sys I Applicant will perform actions for energizing Bus 1C from Startup Transformer 1-2 locally per EOP Supplement 29, "Restore Buses 1C, 1D, 1E From Offsite Power." The **alternate path** includes responding to a tripped DC control power breaker.
- Sys J Applicant will perform actions to start Electric Fire Pump P-9A locally per SOP-21, "Fire Protection System." The **alternate path** includes failure of pump to start and use of the alternate manual start method.
- Sys K Applicant will perform actions to provide alternate suction to Auxiliary Feedwater Pump P-8C per EOP Supplement 31, "Supply AFW Pumps from Alternate Sources." Critical tasks include locating equipment and simulating operation of valves.