

Facility: <u>Robinson</u>		Date of Examination: <u>8/25/14</u>
Exam Level: RO <input type="checkbox"/> SRO-I <input type="checkbox"/> SRO-U <input type="checkbox"/>		Operating Test No.: _____
Control Room Systems [@] (8 for RO); (7 for SRO-I, a-g); (2 or 3 for SRO-U, including 1 ESF)		
System / JPM Title	Type Code*	Safety Function
a. Restore Control Power to SI Valves and Isolate Accumulators IAW EPP-008.	EN, A, D, S	3
b. Fill Reactor Coolant Stand Pipe	A,D, S	4P
c. Terminate an Inadvertent CV Spray Actuation	N, S	5
d. Perform an Emergency Boration IAW EOP-ES-0.1, using the RWST	A, L, D, S	1
e. Remove N-44 from service IAW OWP-011	D, S	7
f. Respond to a Reactor trip and Turbine trip	A, M, S	4S
g. Restore Normal Power after Loss of Startup Transformer	D, S	6
h. Respond to a Loss of a Circulating Water Pump	D, S	8
In-Plant Systems [@] (3 for RO); (3 for SRO-I); (3 or 2 for SRO-U)		
i. Trip the Reactor Locally as Outside Auxiliary Operator	D, E	1
j. Local Control of S/G Level and Pressure during a Site Black Out	D, E	4S
k. Locally align containment isolation valves following a Safety Injection	R, D, E	5
<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		

JPM A: Restore Control Power to SI Valves and Isolate Accumulators IAW EPP-008.

K/A 009 EA1.13: Ability to operate and monitor the following as they apply to a small break LOCA: ESFAS

(009 Small Break LOCA) The plant has been tripped due to a small break LOCA. The crew is in EPP-8 and they are at the point to restore control power to SI Valves and isolate or depressurize SI Accumulators. The candidate will be given a marked up copy of EPP-8 to this point. The candidate will then restore power to multiple SI Valves. After that they will verify SI Accumulator Discharge valves are shut. One valve will not be shut and they will then have to depressurize the accumulator to prevent it from discharging. Once the Accumulator is depressurized, the JPM will be complete. (Bank JPM CR-069) (RO, SRO-I, SRO-U)

JPM B: Fill Reactor Coolant Stand Pipe

K/A 003 A4.05: Ability to manually operate and/or monitor in the control room: RCP seal leakage detection instrumentation.

(003 Reactor Coolant Pump System (RCPS)) The plant will be at 100% power. The candidate will assume the watch. APP-001-C5, RCP STANDPIPE HI/LO LVL is in alarm. The candidate will use OP-101 Section 8.2 to refill the standpipe until APP-001-C5 is extinguished. RC-519B will not close which will force them to OP-103 to relieve the Hydraulic lock. Once RC-519B goes closed, the JPM will be complete. (Bank JPM CR-111) (RO, SRO-I)

JPM C: Terminate an Inadvertent CV Spray Actuation(New)

K/A 026 A4.01: Ability to manually operate and/or monitor in the control room: CSS Controls.

(026 Containment Spray System(CSS)) The plant will have just tripped. The candidate will take the watch while in EOP-E-0, REACTOR TRIP OR SAFETY INJECTION, at step 9, Check CV Spray NOT Required. The candidate will verify that CV spray is not required but that it has actuated. The candidate will go through the actions to terminate CV Spray. Once CV Spray is terminated, the JPM will be complete. (RO, SRO-I, SRO-U, SRO-U)

JPM D: Perform an Emergency Boration IAW EOP-ES-0.1

K/A 024 AA1.02/AA1.04: Ability to operate and/or monitor the following as they apply to Emergency Boration: Boric Acid Pump/Manual boration valve.

(024 Emergency Boration) The plant has tripped and the crew is in EOP-ES-0.1, REACTOR TRIP RESPONSE. The candidate will recognize that two control rods are stuck out and will need to emergency borate the RCS to cold shutdown. The candidate will attempt to borate via the BAST but this will not work. The candidate will then transition to borating from the RWST. Once the candidate has an emergency boration flow path from the RWST aligned, the JPM will be complete. (Bank JPM CR-054) (RO, SRO-I)

JPM E: Remove N-44 from service IAW OWP-011

K/A 015 A4.03: Ability to manually operate and/or monitor in the control room: Trip Bypasses

(015 Nuclear Instrumentation System(NIS)) The plant is at 100% power. The candidate will be directed to remove NI-44 from service IAW OWP-011. The candidate will get OWP-011 and remove NI-44 from service. Once the NI is removed from service, the JPM will be complete. (Bank JPM CR-009) (RO, SRO-I, SRO-U)

JPM F: Respond to a Reactor Trip and Turbine Trip

K/A 007 EA1.07: Ability to operate and monitor the following as they apply to a reactor trip: MT/G trip; verification that the MT/G has been tripped.

(007 Reactor Trip) The candidate will assume the watch at 100% power. The reactor will fail to automatically trip and the candidate will be required to depress either reactor trip pushbutton. The turbine will fail to trip. The candidate will be required to respond to the reactor trip IAW EOP-E-0, REACTOR TRIP OR SAFETY INJECTION. The candidate will verify the reactor is tripped then respond to the turbine not being tripped. The candidate will attempt to run the turbine back, however, this will not work. The candidate will then shut the MSIV's. The candidate will finish the Immediate Actions of EOP-E-0. Once these Immediate Actions are complete, the JPM is complete. (Bank JPM CR-085 modified) (RO, SRO-I, SRO-U)

JPM G: Restore normal power after loss of startup transformer

K/A 062 A4.01: Ability to manually operate and/or monitor in the control room: All breakers(including available switchyard)

(062 AC Electrical Distribution System) The plant will be shutdown due to a reactor trip and Safety Injection from a loss of the startup transformer. The candidate is directed by the CRS to perform OP-603 Section 6.4.1(with the exception of E-1, E-2, and 480V bus 4 and 4KV bus 5). The candidate will make multiple switch manipulations in order to restore power. Once power is restored, the JPM is complete. (Bank JPM CR-28) (RO, SRO-I)

JPM H: Respond to a Loss of a Circulating Water Pump

K/A 075 A2.02: Ability to (a) predict the impacts of the following malfunctions or operations on the circulating water system; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Loss of Circulating Water Pumps

(075 Circulating Water System) The plant is at 50% power. The Candidate will be given the shift and told to respond as necessary. Circulating Water Pump "A" will trip. The candidate will recognize the pump has tripped and take Immediate Actions of AOP-012, PARTIAL LOSS OF CONDENSER VACUUM OR CIRCULATING WATER PUMP TRIP. The candidate will then start Circulating Water Pump "C". Once Circulating Water Pump "A" discharge valve has closed, the JPM is complete. (Bank JPM CR-055) (RO)

JPM I: Trip the Reactor Locally as Outside Auxiliary Operator(OAO).

K/A 029 EA1.12: Ability to operate and monitor the following as they apply to a ATWS: M/G Set power supply and reactor trip breakers.

(O29 ATWS) The plant is at 100% power with an ATWS in progress. As the OAO, the CRS has dispatched the candidate to 480V Busses 2B and 3 to trip the following breakers: ROD DRIVE MOTOR GENERATOR SET A and ROD DRIVE MOTOR GENERATOR SET B. The candidate will go to the 4Kv room and find 480V bus 2B and breaker 52/10B. The candidate will then open the breaker by depressing the trip pushbutton in the center of the cubicle door. The candidate will find 480V bus 3 and breaker 52/14A in the 4Kv room. The candidate will then open the breaker by depressing the trip pushbutton in the center of the cubicle door. Once the breakers are open, the JPM will be complete. (RO, SRO-I, SRO-U)

JPM J: Local Control of S/G Level and Pressure during a Site Black Out.

K/A 061 A1.01/A1.02: Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the AFW controls including: S/G Level and S/G Pressure.

(061 Auxiliary/Emergency Feedwater(AFW) System) The plant has experienced a loss of onsite and offsite power. EPP-1 has been implemented. S/G levels are currently 55%. The candidate will be directed by the CRS to perform Attachment 1 of EPP-1 which is Local Control of S/G Level and Pressure. The candidate will first go to the Pipe Jungle and open one of the V1-8A/B/ or C Steam Supply to the SDAFW Pump. Next, the candidate will go to the Secondary Control Panel area and manually throttle V2-14A/B/C to control S/G level between 60-68%. Next, the candidate will go to the Pipe Jungle and perform several valve manipulations to align Nitrogen to the S/G PORV's. Once the candidate has notified the Control Room that S/G level is under control locally and the S/G PORV's have Nitrogen supplied for motive air, the JPM will be complete. (RO, SRO-I, SRO-U)

JPM K: Locally align containment isolation valves following a Safety Injection.

K/A E02 EA1.1: Ability to operate and / or monitor the following as they apply to the (SI Termination); Components, and functions of control and safety systems, including instrumentation, signals, interlocks, failure modes, and automatic and manual features.

(E02 SI Termination) A plant trip and Safety Injection have occurred. EPP-7 is currently being implemented and the CRS has directed the candidate to perform Attachment 2 of EPP-7, Realignment of Components following SI Termination for Inside AO. The candidate will have to go to several different locations inside the Auxiliary Building(RCA) and reset multiple valves in order to realign components necessary to terminate Safety Injection. Once the Control Room is notified that the attachment is complete, the JPM will be complete. (RO, SRO-I)

K/A ASSIGNMENTS

ES-401

PWR Examination Outline

Form ES-401-2

Facility: H.B. ROBINSON		Date of Exam: AUGUST 2014																
Tier	Group	RO K/A Category Points											SRO-Only Points					
		K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G *	Total	A2	G*	Total		
1. Emergency & Abnormal Plant Evolutions	1	3	3	3	N/A			3	3	N/A			3	18	3	3	6	
	2	1	1	2				2	2				1	9	2	2	4	
	Tier Totals	4	4	5				5	5				4	27	5	5	10	
2. Plant Systems	1	3	2	3	3	3	2	3	2	2	3	2	28	3	2	5		
	2	1	1	1	1	1	1	0	1	1	1	1	10	0	1	3		
	Tier Totals	4	3	4	4	4	3	3	3	3	4	3	38	4	4	8		
3. Generic Knowledge and Abilities Categories				1		2		3		4		10		1	2	3	4	7
				2		2		3		3				2	2	1	2	

- Note:**
1. Ensure that at least two topics from every applicable K/A category are sampled within each tier of the RO and SRO-only outlines (i.e., except for one category in Tier 3 of the SRO-only outline, the "Tier Totals" in each K/A category shall not be less than two).
 2. The point total for each group and tier in the proposed outline must match that specified in the table. The final point total for each group and tier may deviate by ± 1 from that specified in the table based on NRC revisions. The final RO exam must total 75 points and the SRO-only exam must total 25 points.
 3. Systems/evolutions within each group are identified on the associated outline; systems or evolutions that do not apply at the facility should be deleted and justified; operationally important, site-specific systems/evolutions that are not included on the outline should be added. Refer to Section D.1.b of ES-401 for guidance regarding the elimination of inappropriate K/A statements.
 4. Select topics from as many systems and evolutions as possible; sample every system or evolution in the group before selecting a second topic for any system or evolution.
 5. Absent a plant-specific priority, only those K/As having an importance rating (IR) of 2.5 or higher shall be selected. Use the RO and SRO ratings for the RO and SRO-only portions, respectively.
 6. Select SRO topics for Tiers 1 and 2 from the shaded systems and K/A categories.
 - 7.* The generic (G) K/As in Tiers 1 and 2 shall be selected from Section 2 of the K/A Catalog, but the topics must be relevant to the applicable evolution or system. Refer to Section D.1.b of ES-401 for the applicable K/As.
 8. On the following pages, enter the K/A numbers, a brief description of each topic, the topics' importance ratings (IRs) for the applicable license level, and the point totals (#) for each system and category. Enter the group and tier totals for each category in the table above; if fuel handling equipment is sampled in other than Category A2 or G* on the SRO-only exam, enter it on the left side of Column A2 for Tier 2, Group 2 (Note #1 does not apply). Use duplicate pages for RO and SRO-only exams.
 9. For Tier 3, select topics from Section 2 of the K/A catalog, and enter the K/A numbers, descriptions, IRs, and point totals (#) on Form ES-401-3. Limit SRO selections to K/As that are linked to 10 CFR 55.43.

KA NAME / SAFETY FUNCTION: IR K1 K2 K3 K4 K5 K6 A1 A2 A3 A4 G TOPIC: RO SRO

RO	SRO	NAME / SAFETY FUNCTION	IR	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC
007EA1.03	Andreas	Reactor Trip - Stabilization - Recovery / 1	4.2	4.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	RCS pressure and temperature
008AK2.03	Matt	Pressurizer Vapor Space Accident / 3	2.5	2.4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Controllers and positioners
009EK2.03	Newton	Small Break LOCA / 3	3	3.3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	S/Gs
011EG2.4.21	Joe	Large Break LOCA / 3	4.0	4.6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Knowledge of the parameters and logic used to assess the status of safety functions
022AA1.09	Mike	Loss of Rx Coolant Makeup / 2	3.2	3.3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	RCP seal flows, temperatures, pressures and vibrations
025AA2.07	Andreas	Loss of RHR System / 4	3.4	3.7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pump cavitation
026AK3.03	Matt	Loss of Component Cooling Water / 8	4	4.2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Guidance actions contained in EOP for Loss of CCW
027AG2.4.49	Newton	Pressurizer Pressure Control System Malfunction / 3	4.6	4.4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Ability to perform without reference to procedures those actions that require immediate operation of system components and controls.
029EG2.4.31	Joe	ATWS / 1	4.2	4.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Knowledge of annunciators alarms, indications or response procedures
038EA1.10	Mike	Steam Gen. Tube Rupture / 3	3.7	3.7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Control room radiation monitoring indicators and alarms
040AK3.04	Andreas	Steam Line Rupture - Excessive Heat Transfer / 4	4.5	4.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Actions contained in EOPs for steam line rupture

KA	NAME / SAFETY FUNCTION:	IR	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
		RO	SRO											
003K5.04 <i>Joe</i>	Reactor Coolant Pump	3.2	3.5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Effects of RCP shutdown on secondary parameters, such as steam pressure, steam flow and feed flow
003K6.04 <i>Joe</i>	Reactor Coolant Pump	2.8	3.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Containment isolation valves affecting RCP operation
004K3.06 <i>Matt</i>	Chemical and Volume Control	3.4	3.6	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	RCS temperature and pressure
005K4.12 <i>Andreas</i>	Residual Heat Removal	3.1	3.7	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Lineup for piggyback mode with CSS
005K5.05 <i>Andreas</i>	Residual Heat Removal	2.7	3.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Plant response during "solid plant": pressure change due to the relative incompressibility of water
006A4.02 <i>Newton</i>	Emergency Core Cooling	4.0	3.8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Valves				
007K5.02 <i>Newton</i>	Pressurizer Relief/Quench Tank	3.1	3.4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Method of forming a steam bubble in the PZR
008A1.02 <i>Mike</i>	Component Cooling Water	2.9	3.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	CCW temperature
008K3.03 <i>Mike</i>	Component Cooling Water	4.1	4.2	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	RCP
010K1.08 <i>Matt</i>	Pressurizer Pressure Control	3.2	3.5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	PZR LCS
012A2.03 <i>Joe</i>	Reactor Protection	3.4	3.7	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Incorrect channel bypassing				

KA NAME / SAFETY FUNCTION: IR K1 K2 K3 K4 K5 K6 A1 A2 A3 A4 G TOPIC:

RO SRO

012A4.07 <i>Joe</i>	Reactor Protection	3.9	3.9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	M/G set breakers
013K2.01 <i>Mike</i>	Engineered Safety Features Actuation	3.6	3.8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ESFAS/safeguards equipment control
022A3.01 <i>Andreas</i>	Containment Cooling	4.1	4.3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Initiation of safeguards mode of operation
026G2.1.31 <i>Andreas</i>	Containment Spray	4.6	4.3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Ability to locate control room switches, controls and indications and to determine that they are correctly reflecting the desired plant lineup.
039A4.04 <i>Newton</i>	Main and Reheat Steam	3.8	3.9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Emergency feedwater pump turbines
059A2.12 <i>Joe</i>	Main Feedwater	3.1	3.4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Failure of feedwater regulating valves
061K6.02 <i>Joe</i>	Auxiliary/Emergency Feedwater	2.6	2.7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pumps
062A1.01 <i>Mike</i>	AC Electrical Distribution	3.4	3.8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Significance of D/G load limits
062K1.04 <i>Mike</i>	AC Electrical Distribution	3.7	4.2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off-site power sources
063A1.01 <i>Andreas</i>	DC Electrical Distribution	2.5	3.3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Battery capacity as it is affected by discharge rate
064A3.13 <i>Newton</i>	Emergency Diesel Generator	3.0	2.9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Rpm controller/megawatt load control (breaker-open/breaker-closed effects)

KA	NAME / SAFETY FUNCTION:	IR	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
		RO	SRO											
064G2.4.35 <i>Newton</i>	Emergency Diesel Generator	3.8	4.0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of local auxiliary operator tasks during emergency and the resultant operational effects
073K4.02 <i>Mike</i>	Process Radiation Monitoring	3.3	3.9	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Letdown isolation on high-RCS activity
076K2.04 <i>Matt</i>	Service Water	2.5	2.6	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Reactor building closed cooling water
078K1.05 <i>Matt</i>	Instrument Air	3.4	3.5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	MSIV air
078K3.02 <i>Matt</i>	Instrument Air	3.4	3.6	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Systems having pneumatic valves and controls
103K4.04 <i>Andreas</i>	Containment	2.5	3.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Personnel access hatch and emergency access hatch					

KA NAME / SAFETY FUNCTION: IR K1 K2 K3 K4 K5 K6 A1 A2 A3 A4 G TOPIC:

RO SRO

G2.1.1	Conduct of operations	3.8	4.2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of conduct of operations requirements.								
<i>Matt</i>														
G2.1.27	Conduct of operations	3.9	4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of system purpose and or function.								
<i>Newton</i>														
G2.2.2	Equipment Control	4.6	4.1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to manipulate the console controls as required to operate the facility between shutdown and designated power levels.								
<i>Joe</i>														
G2.2.42	Equipment Control	3.9	4.6	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to recognize system parameters that are entry-level conditions for Technical Specifications								
<i>Mike</i>														
G2.3.11	Radiation Control	3.8	4.3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to control radiation releases.								
<i>Andreas</i>														
G2.3.5	Radiation Control	2.9	2.9	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to use radiation monitoring systems								
<i>Matt</i>														
G2.3.7	Radiation Control	3.5	3.6	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to comply with radiation work permit requirements during normal or abnormal conditions								
<i>Newton</i>														
G2.4.1	Emergency Procedures/Plans	4.6	4.8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of EOP entry conditions and immediate action steps.								
<i>Joe</i>														
G2.4.32	Emergency Procedures/Plans	3.6	4.0	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of operator response to loss of all annunciators.								
<i>Mike</i>														
G2.4.4	Emergency Procedures/Plans	4.5	4.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to recognize abnormal indications for system operating parameters which are entry-level conditions for emergency and abnormal operating procedures.								
<i>Andreas</i>														

KA NAME / SAFETY FUNCTION: IR K1 K2 K3 K4 K5 K6 A1 A2 A3 A4 G TOPIC:

RO SRO

007EG2.1.7 Matt	Reactor Trip - Stabilization - Recovery / 1	4.4	4.7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to evaluate plant performance and make operational judgments based on operating characteristics, reactor behavior and instrument interpretation.	
009EG2.2.22 Newton	Small Break LOCA / 3	4.0	4.7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of limiting conditions for operations and safety limits.	
026AA2.03 Joe	Loss of Component Cooling Water / 8	2.6	2.9	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The valve lineups necessary to restart the CCWS while bypassing the portion of the system causing the abnormal condition
057AA2.15 Mike	Loss of Vital AC Inst. Bus / 6	3.8	4.1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	That a loss of ac has occurred
062AA2.01 Andrew	Loss of Nuclear Svc Water / 4	2.9	3.5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Location of a leak in the SWS
we12EG2.1.23 Matt	Steam Line Rupture - Excessive Heat Transfer / 4	4.3	4.4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to perform specific system and integrated plant procedures during all modes of plant operation.	

KA NAME / SAFETY FUNCTION: IR K1 K2 K3 K4 K5 K6 A1 A2 A3 A4 G TOPIC:

RO SRO

001A2.19 Control Rod Drive 3.6 4.0 Axial flux distribution

Mott

011G2.2.44 Pressurizer Level Control 4.2 4.4 Ability to interpret control room indications to verify the status and operation of a system, and understand how operator actions and directives affect plant and system conditions

Newton

015G2.4.11 Nuclear Instrumentation 4.0 4.2 Knowledge of abnormal condition procedures.

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KA NAME / SAFETY FUNCTION: IR K1 K2 K3 K4 K5 K6 A1 A2 A3 A4 G TOPIC:

RO SRO

G2.1.34 <i>Mike</i>	Conduct of operations	2.7	3.5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of primary and secondary chemistry limits						
G2.1.41 <i>Andreas</i>	Conduct of operations	2.8	3.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of the refueling processes						
G2.2.38 <i>Matt</i>	Equipment Control	3.6	4.5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of conditions and limitations in the facility license.						
G2.2.5 <i>Newton</i>	Equipment Control	2.2	3.2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of the process for making design or operating changes to the facility						
G2.3.6 <i>Joe</i>	Radiation Control	2.0	3.8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to approve release permits						
G2.4.26 <i>Mike</i>	Emergency Procedures/Plans	3.1	3.6	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of facility protection requirements including fire brigade and portable fire fighting equipment usage.						
G2.4.40 <i>Andreas</i>	Emergency Procedures/Plans	2.7	4.5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of the SRO's responsibilities in emergency plan implementation.						