ES-401, Rev. 9

BWR Examination Outline

Form ES-401-1

Facility B	Facility Brunswick Date of Exam: 2014																	
Tier	Group		RO K/A Category Points SRO-Only Points												ts			
		к 1	к 2	к 3	к 4	К 5	К 6	A 1	A 2	A 3	A 4	G *	Total	1	42	0	3*	Total
1.	1	4	3	3				4	3			3	20		3	4	1	7
Emergency & Abnormal Plant	2	1	2	1		N/A		1	1	N		1	7		1	2	2	3
Evolutions	Tier Totals	5	5	4				5	4			4	27		4		3	10
	1	3	2	3	2	2	2	2	2	3	3	2	26		2	:	3	5
2. Plant	2	1	1	1	1	1	1	1	2	1	1	1	12	0	1	2	2	3
Systems	Tier Totals	4	3	4	3	3	3	3	4	4	4	3	38		3		5	8
3. Generic K	nowledge and	d Ab	ilitie	s		1		2	;	3	2	4	10	1	2	3	4	7
	Categories				3 3 2 2					-	1	2	2	2				
Categories 3 3 2 2 1 2 2 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 ATier Totalse 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 added. Refer to ES-401, Attachment 2, 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. 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																		

ES-401, REV 9			T1G	1G1 BWR EXAMINATION OUTLINE	FORM ES-401-1	
KA	NAME / SAFETY FUNCTION:		IR	K1 K2 K3 K4 K5 K6 A1 A2 A3 A4 G TOPIC:		
		RO	SRO	RO		
295001AK1.02	Partial or Complete Loss of Forced Core Flow Circulation / 1 & 4	3.3	3.5	5 🖌 🗌 🗌 🗌 🗌 🔲 🔲 🔤 Power/flow distribution		
295003AA2.05	Partial or Complete Loss of AC / 6	3.9	4.2	2 Whether a partial or co occurred	mplete loss of A.C. power has	
295004AA1.03	Partial or Total Loss of DC Pwr / 6	3.4	3.6	6 A.C. electrical distribut	ion	
295005AK1.01	Main Turbine Generator Trip / 3	4.0	4.1	1 ☑ □ □ □ □ □ □ □ □ □ Pressure effects on re	actor power	
295006AK1.02	SCRAM / 1	3.4	3.7	7 🖌 🗌 🗌 🗌 🗌 🔲 🔲 🔲 Shutdown margin		
GJÍ €FÎ 01503ÈF	Control Room Abandonment / 7	2.9	3.1	1 □ ✔ □ □ □ □ □ □ □ □ □ □ Control room HVAC		
295018AA1.01	Partial or Total Loss of CCW / 8	3.3	3.4	4		
295019G2.4.47	Partial or Total Loss of Inst. Air / 8	4.2	4.2	2	recognize trends in an accurate izing the appropriate control room	
295021AK1.02	Loss of Shutdown Cooling / 4	3.3	3.4	4 🗹 🗌 🗌 🗌 🔲 🔲 🔲 🗍 Thermal stratification		
295023AK2.06	Refueling Acc Cooling Mode / 8	3.4	3.8	8 Sontainment ventilation	n: Mark-III	
295024EA1.14	High Drywell Pressure / 5	3.4	3.5	5 Drywell ventilation sys	em	

ES-401, RE	:V 9		T1G	1 BWR EXAMINATION OUTLINE	FORM ES-401-1	
KA	NAME / SAFETY FUNCTION:		IR	K1 K2 K3 K4 K5 K6 A1 A2 A3 A4 G	TOPIC:	
		RO	SRC)		
295025EK3.09	High Reactor Pressure / 3	3.7	3.7		Low-low set initiation: Plant-Specific	
295026G2.1.28	Suppression Pool High Water Temp. / 5	4.1	4.1		Knowledge of the purpose and function of major system components and controls.	
295028EK2.03	High Drywell Temperature / 5	3.6	3.8		Reactor water level indication	
295030G2.2.38	Low Suppression Pool Wtr Lvl / 5	3.6	4.5		Knowledge of conditions and limitations in the facility license.	
295031EA2.03	Reactor Low Water Level / 2	4.2	4.2		Reactor pressure	
295037EA1.01	SCRAM Condition Present and Power Above APRM Downscale or Unknown / 1	4.6	4.6		Reactor Protection System	
295038EK3.03	High Off-site Release Rate / 9	3.7	3.9		Control room ventilation isolation: Plant-Specific	
600000AA2.04	Plant Fire On Site / 8	2.8	3.1		The fire's extent of potential operational damage to plant equipment	
700000AK3.01	Generator Voltage and Electric Grid Distrurbancecs	3.9	4.2		Reactor and Turbine trip criteria	

ES-401, RE	EV 9	T10	G2 BWR EXAMINATION OUTLINE	FORM ES-401-1		
KA	NAME / SAFETY FUNCTION:	IR	K1 K2 K3 K4 K5 K6 A1 A2 A3 A4 G	TOPIC:		
		RO SR	0			
295008AA2.01	High Reactor Water Level / 2	3.9 3.9		Reactor water level		
295014AK1.06	Inadvertent Reactivity Addition / 1	3.8 3.9		Abnormal reactivity additions		
295015AK3.01	Incomplete SCRAM / 1	3.4 3.7		Bypassing rod insertion blocks		
295032EK2.04	High Secondary Containment Area Temperature / 5	3.6 3.8		PCIS/NSSSS		
295033G2.4.45	High Secondary Containment Area Radiation Levels / 9	4.1 4.3		Ability to prioritize and interpret the significance of each annunciator or alarm.		
295034EK2.03	Secondary Containment Ventilation High Radiation / 9	4.3 4.5		SBGT/FRVS: Plant-Specific		
295036EA1.03	Secondary Containment High Sump/Area Water Level / 5	2.8 3.0		Radwaste		

ES-401, RI	EV 9		T2G	1 BWR EXAMINATION OUTLINE	FORM ES-401-1	
KA	NAME / SAFETY FUNCTION:		IR	K1 K2 K3 K4 K5 K6 A1 A2 A3 A4 G	TOPIC:	
		RO	SRO			
203000A1.05	RHR/LPCI: Injection Mode	3.8	3.7		Suppression pool level	
203000A3.03	RHR/LPCI: Injection Mode	3.7	3.6		Pump discharge pressure	
205000K4.05	Shutdown Cooling	3.6	3.7		Reactor cooldown rate	
206000A2.08	HPCI	3.9	4.2		†High suppression pool temperature: BWR-2,3,4	
206000K2.04	HPCI	2.5	2.7		Turbine control circuits: BWR-2.3.4	
209001K5.05	LPCS	25	25		System venting	
		2.0	2.0		Cycloni Vorang	
21100044.02	910	10	12		SPI C control switch	
21100074.02	310	4.2	4.2			
0100001/0 01					220	
212000K2.01	RPS	3.2	3.3		RPS motor-generator sets	
215003K1.07	IRM	3.0	3.0		Reactor vessel	
a					-	
215004K3.02	Source Range Monitor	3.4	3.4		Reactor manual control: Plant-Specific	
215004K5.03	Source Range Monitor	2.8	2.8		Changing detector position	

ES-401, REV 9			T2G	1 BWR EXAMINATION OUTLINE	FORM ES-401-1		
КА	NAME / SAFETY FUNCTION:		IR	K1 K2 K3 K4 K5 K6 A1 A2 A3 A4 G	TOPIC:		
		RO	SRO				
215005A2.06	APRM / LPRM	3.4	3.5		Recirculation flow channels upscale		
217000A4.07	RCIC	3.9	3.8		Reactor pressure		
217000G2.4.4	RCIC	4.5	4.7		Ability to recognize abnormal indications for system operating parameters which are entry-level conditions for emergency and abnormal operating procedures.		
218000A3.03	ADS	3.7	3.8		ADS valve acoustical monitor noise: Plant-Specific		
223002G2.2.36	PCIS/Nuclear Steam Supply Shutoff	3.1	4.2		Ability to analyze the effect of maintenance activities, such as degraded power sources, on the status of limiting conditions of operations		
239002K1.05	SRVs	3.1	3.3		Plant air systems: Plant-Specific		
239002K6.03	SRVs	2.7	2.9		A.C. power: Plant-Specific		
259002K3.07	Reactor Water Level Control	3.4	3.4		Reactor water level indication		
261000K1.11	SGTS	3.2	3.3		Primary containment pressure		
262001A4.02	AC Electrical Distribution	3.4	3.4		Synchroscope, including understanding of running and incoming voltages		
262002K6.03	UPS (AC/DC)	2.7	2.9		Static inverter		

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ES-401, REV 9			T2G		FORM ES-401-1	
КА	NAME / SAFETY FUNCTION:	l	IR	K1 K2 K3 K4 K5 K6 A1 A2 A3 A4 G	TOPIC:	
		RO	SRO			
263000A1.01	DC Electrical Distribution	2.5	2.8		Battery charging/discharging rate	
264000K4.05	EDGs	3.2	3.5		Load shedding and sequencing	
300000K3.01	Instrument Air	2.7	2.9		Containment air system	
400000A3.01	Component Cooling Water	3.0	3.0		Setpoints on instrument signal levels operations, warnings, and trips that a CCWS	for normal re applicable to the

ES-401, REV 9			T2G	32 BWR EXAMINATION OUTLINE	FORM ES-401-1		
KA	NAME / SAFETY FUNCTION:		IR	K1 K2 K3 K4 K5 K6 A1 A2 A3 A4 G	TOPIC:		
		RO	SRC)			
201002A1.04	RMCS	3.6	3.5		Overall reactor power		
	,						
201003A2.09	Control Rod and Drive Mechanism	3.2	3.4		Low reactor pressure		
201006K6.05	RWM	2.7	2.7		Steam flow input: P-Spec(Not-BWR6)		
214000A4.01	RPIS	3.2	3.3		RCIS rod action control bypass switches		
216000A2.02	Nuclear Boiler Inst.	2.9	3.0		Instrument line plugging		
0100001/0 01		0.5			Value		
21900082.01	HHH/LFCI: Totus/Fool Cooling Mode	2.5	2.9		valves		
230000A3.01	RHR/LPCI: Torus/Pool Spray Mode	3.4	3.3		Valve operation		
0450001/1 07		0.5	0.5		Distriction		
245000K1.07	Main Turbine Gen. / Aux.	2.5	2.5		Plant air systems		
256000K4.11	Reactor Condensate	2.9	3.0		Isolation of SJAE's on low flow: Plant-Specific		
259001K5.03	Reactor Feedwater	2.8	2.8		Turbine operation: TDRFP's-Only		
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271000K3.01	Offgas	3.5	3.5		Condenser vacuum		

ES-401, RE	V 9	T2G	2 BWR EXAMINATION OUTLINE	FORM ES-401-1
KA	NAME / SAFETY FUNCTION:	IR	K1 K2 K3 K4 K5 K6 A1 A2 A3 A4 G	TOPIC:
		RO SRO	1	
290001G2.4.34	Secondary CTMT	4.2 4.1		Knowledge of RO tasks performed outside the main control room during an emergency and the resultant operational effects

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ES-401, F	REV 9		ТЗ	3 BWR EXAMINATION OUTLINE	FORM ES-401-1		
KA	NAME / SAFETY FUNCTION:	I	R	K1 K2 K3 K4 K5 K6 A1 A2 A3 A4 G	TOPIC:		
		RO	SRO	80			
G2.1.25	Conduct of operations	3.9	4.2		Ability to interpret reference materials such as graphs, monographs and tables which contain performance data.		
G2.1.27	Conduct of operations	3.9	4		Knowledge of system purpose and or function.		
G2.1.31	Conduct of operations	4.6	4.3		Ability to locate control room switches, controls and indications and to determine that they are correctly reflecting the desired plant lineup.		
G2.2.13	Equipment Control	4.1	4.3		Knowledge of tagging and clearance procedures.		
G2.2.3	Equipment Control	3.8	3.9		(multi-unit license) Knowledge of the design, procedural and operational differences between units.		
G2.2.41	Equipment Control	3.5	3.9		Ability to obtain and interpret station electrical and mechanical drawings		
G2.3.13	Radiation Control	3.4	3.8		Knowledge of radiological safety procedures pertaining to licensed operator duties		
G2.3.14	Radiation Control	3.4	3.8	3 □ □ □ □ □ □ □ □ □ □ □ □ □	Knowledge of radiation or contamination hazards that may arise during normal, abnormal, or emergency conditions or activities		
G2.4.21	Emergency Procedures/Plans	4.0	4.6		Knowledge of the parameters and logic used to assess the status of safety functions		
G2.4.9	Emergency Procedures/Plans	3.8	4.2	2 □ □ □ □ □ □ □ □ □ □ □ ■	Knowledge of low power / shutdown implications in accident (e.g. LOCA or loss of RHR) mitigation strategies.		

ES-401, RE	V 9	S	RO T	1G1 BWR EXAMINATION OUTLINE	FORM ES-401-1		
KA	NAME / SAFETY FUNCTION:	1	R	K1 K2 K3 K4 K5 K6 A1 A2 A3 A4 G	TOPIC:		
		RO	SRO)			
295001G2.1.27	Partial or Complete Loss of Forced Core Flow Circulation / 1 & 4	3.9	4		Knowledge of system purpose and or function.		
295005G2.2.22	Main Turbine Generator Trip / 3	4.0	4.7		Knowledge of limiting conditions for operations and safety limits.		
295025G2.4.45	High Reactor Pressure / 3	4.1	4.3		Ability to prioritize and interpret the significance of each annunciator or alarm.		
295026EA2.01	Suppression Pool High Water Temp. / 5	4.1	4.2		Suppression pool water temperature		
295030EA2.02	Low Suppression Pool Wtr Lvl / 5	3.9	3.9		Suppression pool temperature		
295031G2.4.30	Reactor Low Water Level / 2	2.7	4.1		Knowledge of events related to system operations/status that must be reported to internal orginizations or outside agencies.		
295038EA2.03	High Off-site Release Rate / 9	3.5	4.3		Radiation levels		

ES-401, REV 9			RO T	1G2 BWR EXAMINATION OUTLINE	FORM ES-401-1		
KA	NAME / SAFETY FUNCTION:		IR	K1 K2 K3 K4 K5 K6 A1 A2 A3 A4 G	TOPIC:		
		RO	SRO)			
295015G2.4.20	Incomplete SCRAM / 1	3.8	4.3		Knowledge of operational implications of EOP warnings, cautions and notes.		
295022AA2.02	Loss of CRD Pumps / 1	3.3	3.4		CRD system status		
295033G2.2.44	High Secondary Containment Area Radiation Levels / 9	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		

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ES-401, RE	:V 9	S	RO T	2G1 BWR EXAMINATION OUTLINE	FORM ES-401-1
KA	NAME / SAFETY FUNCTION:	ļ	IR	K1 K2 K3 K4 K5 K6 A1 A2 A3 A4 G	TOPIC:
		RO	SRO		
203000A2.16	RHR/LPCI: Injection Mode	4.4	4.5		Loss of coolant accident
215003G2.4.30	IRM	2.7	4.1		Knowledge of events related to system operations/status that must be reported to internal orginizations or outside agencies.
215005G2.2.3	APRM / LPRM	3.8	3.9		(multi-unit license) Knowledge of the design, procedural and operational differences between units.
261000G2.2.39	SGTS	3.9	4.5		Knowledge of less than one hour technical specification action statements for systems.
400000A2.01	Component Cooling Water	3.3	3.4		Loss of CCW pump

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ES-401, RE	EV 9	S	SRO T2G2 BWR EXAMINATION OUTLINE	FORM ES-401-1
KA	NAME / SAFETY FUNCTION:		IR K1 K2 K3 K4 K5 K6 A1 A2 A3 A4 G	TOPIC:
	9 8 6 RAVER O STEDERS	RO	SRO	
201006G2.4.47	RWM	4.2	4.2	Ability to diagnose and recognize trends in an accurate and timely manner utilizing the appropriate control room reference material.
290001G2.4.45	Secondary CTMT	4.1	4.3	Ability to prioritize and interpret the significance of each annunciator or alarm.
290003A2.04	Control Room HVAC	3.1	3.3	Initiation/failure of fire protection system

ES-401, F	REV 9	SRO	T3 BWR EXAMINATION OUTLINE	FORM ES-401-1
KA	NAME / SAFETY FUNCTION:	IR	K1 K2 K3 K4 K5 K6 A1 A2 A3 A4 G	TOPIC:
		RO SRO	C	
G2.1.39	Conduct of operations	3.6 4.3		Knowledge of conservative decision making practices
G2.2.3	Equipment Control	3.8 3.9		(multi-unit license) Knowledge of the design, procedural and operational differences between units.
G2.2.37	Equipment Control	3.6 4.6		Ability to determine operability and/or availability of safety related equipment
G2.3.14	Radiation Control	3.4 3.8		Knowledge of radiation or contamination hazards that may arise during normal, abnormal, or emergency conditions or activities
G2.3.4	Radiation Control	3.2 3.7		Knowledge of radiation exposure limits under normal and emergency conditions
G2.4.27	Emergency Procedures/Plans	3.4 3.9		Knowledge of "fire in the plant" procedures.
G2.4.45	Emergency Procedures/Plans	4.1 4.3		Ability to prioritize and interpret the significance of each annunciator or alarm.

ES-301

Facility: <u>Brunswick</u> Examination Level: RO	RO	Date of Examination: <u>October 2014</u> Operating Test Number: <u>FINAL</u>
Administrative Topic (see Note)	Type Code*	Describe activity to be performed
Conduct of Operations (COO-01) (RO, then SRO)	R, M	 Calculate GAFS and T.S. Assessment 2.1.23 Ability to perform specific system and integrated plant procedures during all modes of operation.
Conduct of Operations (COO-02) (RO)	R, M	 Verifying SLC Operating Parameters 2.1.7 Ability to evaluate plant performance and make operational judgments based on operating characteristics, reactor behavior, and instrument interpretation.
Conduct of Operations (COO-03) (SRO)	R, D	 Evaluate Plant Chemistry Limits During Condenser Tube Leak 2.1.34 Knowledge of primary and secondary plant chemistry limits.
Equipment Control (RO and SRO)	R, D	<i>Evaluate a CRD Clearance</i> 2.2.13 Knowledge of tagging and clearance procedures.
Radiation Control (RO and SRO)	R, D, P	Determine Total Dose for ALARA 2.3.7 Ability to comply with radiation work permit requirements during normal or abnormal conditions
Emergency Procedures/Plan (SRO Only)	R, N	<i>Classify an Emergency per PEP-2.1</i> 2.4.29 Knowledge of the emergency plan.
NOTE: All items (5 total) are re retaking only the admin	quired for SR istrative topics	Os. RO applicants require only 4 items unless they are s, when all 5 are required.
* Type Codes & Criteria:	(C)ontrol roo (D)irect from (N)ew or (M) (P)revious 2	om, (S)imulator, or Class(R)oom bank (≤ 3 for ROs; ≤ 4 for SROs & RO retakes) odified from bank (≥ 1) exams (≤ 1; randomly selected)

Conduct of Operations (COO-01) (RO, then SRO)

Calculate GAFs and Tech Spec Assessment

R, M

K/A 2.1.23 Ability to perform specific system and integrated plant procedures during all modes of operation.

This is a modified JPM that requires the Examinee to calculate Gain Adjustment Factors (GAFs) per 0PT-01.8C, and then the SRO determines the Tech Spec implications based on the calculations. Numbers were modified to provide different values for calculated GAFs and different GAFs that were out of spec.

Conduct of Operations (COO-02) (RO)

Verifying SLC Operating Parameters

K/A 2.1.7 Ability to evaluate plant performance and make operational judgments based on operating characteristics, reactor behavior, and instrument interpretation.

This is a modified JPM that requires the RO to verifying SLC Tank operating parameters. This is part of the RO DSR. Parameters were changed to provide satisfactory results.

Conduct of Operations (COO-03) (SRO)

Evaluate Plant Chemistry Limits during Condenser Tube Leak R, M

2.1.34 Knowledge of primary and secondary plant chemistry limits.

This is a bank JPM that was used on the 2008 NRC Exam. It requires the Examinee to evaluate plant chemistry limit IAW 0AOP-26.0, High Reactor Coolant Or Condensate Conductivity and then determine the determine applicable actions required by 0AI-81, Water Chemistry Guidelines, related to plant operations.

Equipment Control (RO and SRO)

Evaluate a Clearance Boundary – 2A CRD Pump

R, D

K/A 2.2.13 Knowledge of tagging and clearance procedures.

This is a bank JPM that was used on the 2008 NRC exam. Given a boundary request form and a written clearance, the Examinee must evaluate the clearance for safety and accuracy.

Radiation Control (RO and SRO)

Determine Total Dose for ALARA

R, M

K/A 2.3.7 Ability to comply with radiation work permit requirements during normal or abnormal conditions.

The is a bank JPM that was used on the previous NRC Exam (2012). It required the Examinee to determine the travel path which gives the lowest dose, ALARA.

Emergency Procedures/Plan (SRO only)

Classify and Emergency IAW 0PEP-2.1

R, N

K/A 2.4.40 Knowledge of SRO responsibilities in Emergency Plan implementation.

This is a new JPM that requires the SRO Examinee to classify and emergency. Although classification JPMs have been use in previous exams, the classification requirements for this JPM are new.

Date of Examination	: <u>OCT 2014</u>						
Operating Test No.:	perating Test No.: DRAFT						
Type Code*	Safety Functio						
S, P, A	1						
S, D, L, A	2						
S, P	3						
S, D, A, L, EN	4						
S, D	5						
S, D, A	6						
S,D	7						
S, N	9						
Plant Systems [@] (3 for RO/SRO-I)							
R, D, E	2						
ailure) R, A, E, D	7						
R, N, E	8						
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 m overlap those tested in the control room.							
Criteria for RO / SRO-I / S	Criteria for RO / SRO-I / SRO-U $4-6 / 4-6 / 2-3$ $\leq 9 / \leq 8 / \leq 4$ $\geq 1 / \geq 1 / \geq 1$ $- / - / \geq 1 \text{ (control room system}$ $\geq 1 / \geq 1 / \geq 1$ $\geq 2 / \geq 2 / \geq 1$ $\leq 3 / \leq 3 / \leq 2 \text{ (randomly selected)}$						
4-6 / 4-6 / 2-3 ≤ 9 / ≤ 8 / ≤ 4 ≥ 1 / ≥ 1 / ≥ 1 - / - / ≥1 (col ≥ 1 / ≥ 1 / ≥ 1 ≥ 2 / ≥ 2 / ≥ 1							
	Date of ExaminationOperating Test No.:Type Code*S, P, AS, P, AS, D, L, AS, DS, DdS, D, A, L, ENS, DdS, DdS, DdS, NR, D, Eailure)R, A, E, DR, N, Ecriteria for RO / SRO-I / S $4-6/4-6/2-3$ $\leq 9/\leq 8/\leq 4$ $\geq 1/\geq 1/\geq 1$ $< 3/\leq 3/\leq 2$ (rational stress of the second						

a. Recovery from Recirc System Runback

202001 A4.01

Ability to operate and/or monitor in the control room: Recirculation Pumps

This is a previous exam (2012) simulator alternate path JPM that will have the examinees preparing to start the second recirc pump. When the pump is started and the discharge valve is being throttled open the only running pump will trip requiring a reactor manual scram. This JPM was randomly selected from the 2012 exam.

b. Start HPCI with Exhaust Diaphragm failure

206000 A3.09

Ability to monitor automatic operation of HPCI including response to system isolation

This is a banked JPM that will require the examinee to start HPCI for injection per the Hard Card and restore RPV water level. As an alternate path the exhaust diaphragm breaks and HCI does not auto isolate requiring manual isolation of HPCI.

c. Emergency Equalize around MSIVs

239001 A4.01

Ability to manually operate and or monitor in the Control Room: MSIVs

This is a banked simulator JPM that will require the examinee to perform the control operator actions associated with emergency equalization around the MSIVs. This JPM was randomly selected from the 2010-2 exam.

d. SDC restoration with RHR valve overload

295021 AA1.04

Ability to manually operate Alternate Heat Removal Methods

This is a low power banked simulator JPM that will require the examinee to perform Alternate Shutdown Cooling IAW 0AOP-15.0. As an alternate path the RHR pump has on overload condition.

e. (RO only) Terminate PC venting 295024 EA1.19 Ability to or

Ability to operate/monitor Containment Atmosphere Control System as it applies to High Drywell Pressure

This is a banked simulator JPM that will require the examinee to terminate Primary Containment Venting, using SEP-01, Section 4.

f. Bus E3 Normal feeder to DG3, with DG Ground 264000 A4.04 Ability to manually operate

Ability to manually operate and/or monitor in the control room Manual start, loading, and stopping of emergency generator.

This is a banked simulator JPM that will require the examinee to place E3 on the DG. This is an alternate path JPM in that an annunciator will alert the operator to remove the load from the DG.

g. Place RPS to Alternate

212000 A2.02

Ability to predict the impacts of RPS bus power supply failure on RPS System ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations.

This is a banked simulator JPM that will require the examinee to transfer RPS alternate power to alternate.

h. Perform PASS lineup

295038 EA1.05

Ability to manually operate and/or monitor in the control room: Post Accident Sampling System (PASS).

This is a new simulator JPM that will require the examinee to lineup the Post Accident Sampling System for taking a sample.

i. SEP-09 with RB Accessible

295009 AA1.02

Ability to operate or monitor the CRD System as it applies to low reactor water level.

This is a banked in-plant JPM that will require the examinee to simulate performing SEP-09, CRD System flow maximization using two pumps and the reactor building accessible. This JPM is performed in the RCA.

j. Secure Condensate Pump IAW AOP-32 (Bkr Failure)

295016 AA1.06

Ability to operate and/or monitor the following as it they apply to Control Room Abandonment-Reactor Water Level.

This is a banked in-plant JPM that will require the examinee to simulate the actions associated with AOP-32. This JPM is alternate path in that the condensate pump does not trip requiring additional actions to trip the pump. This JPM is performed in the RCA.

k. Place IA Dryer in Sweep Mode 300000 A2.01 Ability to 1

Ability to predict the impacts of Air Dryer and filter malfunctions on the Instrument Air System and based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operations.

This is a new in-plant JPM that will require the examinee to simulate setting the Service Air Dryer maximum sweep value to zero IAW 0AOP-20.0. This JPM is performed in the RCA.