

Facility: SOUTH TEXAS PROJECT													Date of Exam: NOV 11, 2005					
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	1	4	N/A			4	3	N/A			3	18	3	3	6	
	2	1	2	1				1	3				1	9	3	1	4	
	Tier Totals	4	3	5				5	6				4	27	6	4	10	
2. Plant Systems	1	4	2	2	4	2	2	1	5	2	2	2	28	3	2	5		
	2	0	0	1	1	1	0	2	1	1	2	1	10	2	1	3		
	Tier Totals	4	2	3	5	3	2	3	6	3	4	3	38	5	3	8		
3. Generic Knowledge and Abilities Categories				1		2		3		4		10		1	2	3	4	7
				2		3		3		2		2	2	2	1			
<p>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).</p> <p>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.</p> <p>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 that are not included on the outline should be added. Refer to ES-401, Attachment 2, for guidance regarding the elimination of inappropriate K/A statements.</p> <p>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.</p> <p>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.</p> <p>6. Select SRO topics for Tiers 1 and 2 from the shaded systems and K/A categories.</p> <p>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.</p> <p>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. Use duplicate pages for RO and SRO-only exams.</p> <p>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.</p>																		

ES-401		PWR Examination Outline						Form ES-401-2	
		Emergency and Abnormal Plant Evolutions - Tier 1/Group 1 (RO / SRO)							
E/APE # / Name / Safety Function	K 1	K 2	K 3	A 1	A 2	C	K/A Topic(s)	IR	#
000007 (BW/E02&E10; CE/E02) Reactor Trip - Stabilization - Recovery / 1		X					EK2.03 - Interrelations between a reactor trip and reactor trip status panel.	3.8	1
000008 Pressurizer Vapor Space Accident / 3				X	S		AA1.04 - Operate and / or monitor feedwater pumps. (S) AA2.28 – Safety parameter display system indications	2.8* 3.9	2 76
000009 Small Break LOCA / 3						X	2.1.25 – Obtain and interpret station ref material (graphs, tables) that contain performance data	2.8	3
000011 Large Break LOCA / 3					X		EA2.08 - Determine or interpret conditions necessary for recovery when accident reaches stable phase.	3.4*	4
000015/17 RCP Malfunctions / 4					X		AA2.08 – When to secure RCPs on high bearing temperature	3.4	5
000022 Loss of Rx Coolant Makeup / 2			X			S	AK3.03 - Reasons for performance of lineup to establish excess letdown after determining need. (S) 2.4.30 - Knowledge of which events related to system operations/status should be reported to outside agencies.	3.1* 3.6	6 77
000025 Loss of RHR System / 4									
000026 Loss of Component Cooling Water / 8				X	S		AA1.06 - Operate and / or monitor the control of flow rates to components cooled by the CCWS. (S) AA2.06 - Determine and interpret length of time after loss of CCW flow to a component before that component may be damaged.	2.9 3.1*	7 78
000027 Pressurizer Pressure Control System Malfunction / 3						X	2.2.24 – Analyze effect of maintenance activities on LCO status.	2.6	8
000029 ATWS / 1	X						EK1.03 - Operational implications of the effects of boron on reactivity.	3.6	9
000038 Steam Gen. Tube Rupture / 3	X						EK1.02 - Operational implications of leak rate vs. pressure drop as they apply to the SGTR.	3.2	10
000040 (BW/E05; CE/E05; W/E12) Steam Line Rupture - Excessive Heat Transfer / 4				X			AA1.10 - Operate and / or monitor the AFW system.	4.1	11
000054 (CE/E06) Loss of Main Feedwater / 4				X			AA1.04 - Operate and / or monitor HPI under total feedwater loss conditions.	4.4	12
000055 Station Blackout / 6			X				EK3.02 – Actions contained in EOP for loss of offsite and onsite power.	4.3	13
000056 Loss of Off-site Power / 6	X						AK1.03 - Definition of subcooling: use of steam tables to determine it.	3.1 *	14
000057 Loss of Vital AC Inst. Bus / 6					S		AA2.19 - Determine and interpret plant automatic actions that will occur on the loss of a vital AC electrical instrumentation bus.	4.3	79
000058 Loss of DC Power / 6					X		AA2.03 - DC loads lost; impact on ability to operate and monitor plant systems.	3.5	15
000062 Loss of Nuclear Svc Water / 4						X	2.1.28 – Knowledge of the purpose and function of major system components and controls.	3.2	16

000065 Loss of Instrument Air / 8			X				AK3.08 – Actions contained in EOP for loss of instrument air.	3.7	17
W/E04 LOCA Outside Containment / 3						S	2.4.24 – Knowledge of loss of cooling water procedures.	3.7	80
W/E11 Loss of Emergency Coolant Recirc. / 4			X				EK3.2 - Normal, abnormal and emergency operating procedures associated with (Loss of Emergency Coolant Recirculation).	3.5	18
BW/E04; W/E05 Inadequate Heat Transfer - Loss of Secondary Heat Sink / 4						S	2.4.8 – Knowledge of how the event-based emergency/abnormal operating procedures are used in conjunction with the symptom-based EOPs.	3.7	81
K/A Category Totals: RO	3	1	4	4	3	3	Group Point Total: RO		18
SRO						3	3	SRO	6

[illegible]

BW/A05 Emergency Diesel Actuation / 6										
BW/A07 Flooding / 8										
BW/E03 Inadequate Subcooling Margin / 4										
BW/E08; W/E03 LOCA Cooldown - Depress. / 4							S	2.4.21 – Knowledge of parameters and logic used to assess status of safety functions (1-5).	4.3	85
BW/E09; CE/A13; W/E09&E10 Natural Circ. / 4										
BW/E13&E14 EOP Rules and Enclosures										
CE/A11; W/E08 RCS Overcooling - PTS / 4						X		EA2.2 - Adherence to appropriate procedures and op within limitations in the facility's license and amendments.	3.5	27
CE/A16 Excess RCS Leakage / 2										
CE/E09 Functional Recovery										
K/A Category Point Totals:	RO	1	2	1	1	3	1	Group Point Total:	RO	9
SRO						3	1	SRO		4

ES-401		PWR Examination Outline Plant Systems - Tier 2/Group 1 (RO / SRO)											Form ES-401-2		
System # / Name	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G	K/A Topic(s)	IR	#	
003 Reactor Coolant Pump				X				X				K4.04 - RCPS design feature(s) and/or interlock(s) that provide for adequate cooling of RCP motor and seals.	2.8	28	
												A2.03 - Predict the impacts of problems associated with RCP motors, including faulty motors and current, and winding and bearing temperature problems and use of procedures to correct, control, or mitigate the consequences.	2.7	29	
004 Chemical and Volume Control							X					A1.06 - Predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the VCT level controls.	3.0	30	
005 Residual Heat Removal		X										K2.01 - Bus power supplies to RHR pumps.	3.0	31	
006 Emergency Core Cooling					X			X				K5.08 - Operational implications of operating ECCS pumps in parallel.	2.9*	32	
												A2.04 - Predict impacts of improper discharge pressure and use of procedures to correct, control, or mitigate the consequences.	3.4	33	
007 Pressurizer Relief/Quench Tank				X								K4.01 - PRTS design feature(s) and/or interlock(s) that provide for quench tank cooling.	2.6	34	
008 Component Cooling Water										X	X	A4.07 - Manually control minimum level in the CCWS surge tank.	2.9*	35	
												2.1.27 - Knowledge of system purpose and/or function.	2.8	36	
010 Pressurizer Pressure Control								X				A2.02 - Predict the impacts of spray valve failures and use of procedures to correct, control, or mitigate the consequences.	3.9	37	
012 Reactor Protection					X	X		S				K5.01 - Operational implications of the DNB concepts.	3.3*	38	
												K6.10 - Effect of a loss or malfunction of permissive circuits.	3.3	39	
												(S) A2.02 - Predict the impacts of loss of instrument power and use of procedures to correct, control, or mitigate the consequences.	3.9	86	
013 Engineered Safety Features Actuation	X											K1.16 - Physical connections and/or cause effect relationships between the ESFAS and MRSS.	2.9*	40	
022 Containment Cooling				X								K4.04 - CCS design feature(s) and/or interlock(s) that provide for cooling of control rod drive motors.	2.8	41	
025 Ice Condenser															

026 Containment Spray											X	2.4.11 – Knowledge of abnormal condition procedures. (S) 2.1.7 – Ability to evaluate plant performance and make op judgments based on op characteristics, reactor behavior, and instrument interpretation.	3.4	42
											S		4.4	87
039 Main and Reheat Steam			X									K3.05 - Effect that a loss or malfunction of the MRSS will have on the RCS.	3.6	43
059 Main Feedwater	X							S				K1.02 - Physical connections and/or cause effect relationships between the MFW and the AFW system. (S) A2.07 - Predict impacts of tripping MFW pump turbine on MFW system and use of procedures to correct, control, or mitigate consequences.	3.4*	44
													3.0*	88
061 Auxiliary/Emergency Feedwater									X			A3.01 - Monitor automatic operation of AFW startup and flows.	4.2	45
062 AC Electrical Distribution	X							S				K1.03 - Physical connections and/or cause effect relationships between the AC and DC distribution systems. (S) A2.01 – Types of loads that, if de-energized, would degrade or hinder plant operation.	3.5	46
													3.9	89
063 DC Electrical Distribution									X			A3.01 - Monitor automatic operation of DC electrical system, Including meters, annunc., dials, recorders, and indicating lights.	2.7	47
064 Emergency Diesel Generator						X		X				K6.07 - Effect of a loss or malfunction of air receivers. A2.11 - Predict impacts of conditions (min load) required for unloading an ED/G and use of procedures to correct, control, or mitigate consequences.	2.7	48
													2.6	49
073 Process Radiation Monitoring				X							S	K4.01 - PRM system design feature(s) and/or interlock(s) that provide for release termination when radiation exceeds setpoint. (S) 2.3.11 – Ability to control radiation releases.	4.0	50
													3.2	90
076 Service Water		X								X		K2.08 – Bus power supplies to ESF-actuated MOVs. A4.01 - Manually operate and/or monitor SWS pumps in the control room.	3.1	51
													2.9	52
078 Instrument Air	X											K1.02 - Physical connections and/or cause-effect relationships between the IA and SA systems.	2.7*	53
103 Containment			X					X				K3.02 - Effect that a loss or malfunction of the containment system will have on loss of containment integrity under normal operations. A2.04 - Predict the impacts of containment evacuation (incl recognition of alarm) on containment sys and use of procedures to correct, control, or mitigate consequences.	3.8	54
													3.5*	55
K/A Category Point Totals: RO	4	1	2	4	2	2	1	6	2	2	2	Group Point Total:	RO	28
SRO								3			2	SRO		5

ES-401		PWR Examination Outline Plant Systems - Tier 2/Group 2 (RO / SRO)											Form ES-401-2	
System # / Name	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G	K/A Topic(s)	IR	#
001 Control Rod Drive				X								K4.02 - Knowledge of CRDS design feature(s) and/or interlock(s) that provide for control rod mode select control (movement control).	3.8	56
002 Reactor Coolant														
011 Pressurizer Level Control							S					(S) A2.08 - Predict the impacts of loss of level compensation and use of procedures to correct, control, or mitigate the consequences.	2.8	91
014 Rod Position Indication							X					A1.04 - Predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with axial and radial power distribution.	3.5	57
015 Nuclear Instrumentation					X							K5.15 - Operational implications of the effects of xenon on local flux, and factors affecting xenon concentrations.	3.3	58
016 Non-nuclear Instrumentation														
017 In-core Temperature Monitor									X			A4.02 - Manually operate and/or monitor temperature values used to determine RCS/RCP operation during inadequate core cooling (i.e., if applicable, average of five highest values) in the control room.	3.8	59
027 Containment Iodine Removal														
028 Hydrogen Recombiner and Purge Control							X					A1.01 - Predict and/or monitor changes in parameter (to prevent exceeding design limits) associated with operating the HRPS controls including hydrogen concentration.	3.4	60
029 Containment Purge			X					S				K3.01 - Effect that a loss or malfunction of the Containment Purge System will have on containment parameters. (S) A2.04 - Predict the impacts of health physics sampling of containment atmosphere and use of procedures to correct, control, or mitigate the consequences.	2.9 3.2*	61 92
033 Spent Fuel Pool Cooling											S	2.4.37 – Knowledge of the lines of authority during an emergency.	3.5	93
034 Fuel Handling Equipment														
035 Steam Generator														
041 Steam Dump/Turbine Bypass Control										X		2.1.2 – Knowledge of operator responsibilities during all modes of plant operation.	3.0	62
045 Main Turbine Generator														
055 Condenser Air Removal														
056 Condensate														

068 Liquid Radwaste																		
071 Waste Gas Disposal																		
072 Area Radiation Monitoring										X			A3.01 – Ability to monitor automatic operation of the ARM system including changes in ventilation alignment.	2.9*	63			
075 Circulating Water									X				A2.02 - Predict the impacts of loss of circulating water pumps and use of procedures to correct, control, or mitigate the consequences.	2.5	64			
079 Station Air											X		A4.01 - Manually operate and/or monitor cross-tie valves with IAS in the control room.	2.7	65			
086 Fire Protection																		
K/A Category Point Totals: RO	0	0	1	1	1	0	2	1	1	2	1	Group Point Total: RO			10			
SRO								2		1	SRO			3				

Facility: SOUTH TEXAS PROJECT			Date of Exam: NOV 11, 2005			
Category	K/A #	Topic	RO		SRO-Only	
			IR	#	IR	#
1. Conduct of Operations	2.1.21	Ability to obtain and verify controlled procedure copy.	3.1	66		
	2.1.14	Knowledge of system status criteria that require the notification of plant personnel.	2.5	67		
	2.1.5	Ability to locate and use procedures and directives related to shift staffing and activities.			3.4	94
	2.1.22	Ability to determine Mode of Operation.			3.3	95
	Subtotal		2		2	
2. Equipment Control	2.2.2	Ability to manipulate the console controls as required to operate the facility between shutdown and designated power levels.	4.0	68		
	2.2.22	Knowledge of limiting conditions for operations and safety limits.	3.4	69		
	2.2.27	Knowledge of the refueling process.	2.6	70		
	2.2.26	Knowledge of refueling administrative requirements.			3.7	96
	2.2.23	Ability to track limiting conditions for operations.			3.8	97
	Subtotal		3		2	
3. Radiation Control	2.3.9	Knowledge of the process for performing a containment purge.	2.5	71		
	2.3.2	Knowledge of facility ALARA program.	2.5	72		
	2.3.4	Knowledge of radiation exposure limits and contamination control, including permissible levels in excess of those authorized.	2.5	73		
	2.3.1	Knowledge of 10 CFR: 20 and related facility radiation control requirements.			3.0	98
	2.3.4	Knowledge of radiation exposure limits and contamination control, including permissible levels in excess of those authorized.			2.5	99
	Subtotal		3		2	
4. Emergency Procedures / Plan	2.4.20	Knowledge of operational implications of EOP warnings, cautions, and notes.	3.3	74		
	2.4.32	Knowledge of operator response to loss of all annunciators.	3.3	75		
	2.4.18	Knowledge of the specific bases for EOPs.			3.6	100
	Subtotal		2		1	
Tier 3 Point Total				10		7

Tier / Group	Randomly Selected K/A	Reason for Rejection
RO - 1/1 Q13	055.EK3.01	Answer to KA requires TS bases knowledge (not applicable for ROs). Replaced with 055.EK3.02
RO – 1/1 Q16	062.G2.3.4	Rad exposure limits not applicable to ECW system and 2.3.4 is tested in Tier 3. Replaced with 062.G2.1.28
RO – 1/1 Q17	065.AK3.04	IA/SA crossover tested by two KA's (078.K1.02, 079.A4.01). Replaced with 065.AK3.08
RO – ½ Q24	W/E14.G2.3.2	KA is duplicate from Tier 3. Replaced with W/E14.G2.4.16
RO – 2/1 Q50	073.K4.02	CVCS PRM does not auto isolate letdown at STP. Replace with 073.K4.01
RO – 2/2 Q63	072.K4.03	ARM system has no interface with plant ventilation system at STP. Replace with 072.A3.01
SRO – 1/1 Q78	026.AA2.06	Topic not an SRO expectation at STP (procedures don't address time from loss of CCW to damage of components). Replace with 026.AA2.01
SRO – 1/1 Q79	057.AA2.09	Tave and Tref chart recorders at not a SRO-only level topic. Replace with 057.AA2.19
SRO – 1/1 Q80	W/E04.G2.3.9	Knowledge of containment purge is not applicable during LOCA outside of containment. Replace with W/E04.G2.4.24
SRO – 1/2 Q83	061.AA2.03	Not able to write a SRO-only level question for ARM alert and high alarm setpoints. Replace with 061.AA2.06
SRO – 2/1 Q88	059.AA2.04	Use of MFW to feed dry SG is not applicable at STP. Replace with 059.AA2.07
SRO – 2/1 Q89	062.A2.14	STP does not have a procedure for ground isolation. Replace with 062.A2.01
SRO – 2/2 Q91	011.A2.08	STP does not have level compensation for PZR level. Replace with 011.A2.11
SRO – 3 Q96	2.2.13	Not able to write a SRO-only level question for tagging and clearance procedures. Replace with 2.2.26
SRO – 3 Q99	2.3.5	Not able to write a SRO-only level question for use and function of personnel monitoring equipment. Replace with 2.3.4

Facility: South Texas Project Date of Examination: 11/14/ 2005

Examination Level: RO

Operating Test Number: 1

Administrative Topic (see Note)	Type Code*	Describe activity to be performed:
Conduct of Operations	N	(A1) Determine Reactor Vessel Water Level K/A 2.1.20 (4.3) Ability to execute procedure steps.
Conduct of Operations	D	(A2) Perform a SDM Calculation K/A 2.1.12 (2.9), Ability to apply Technical Specifications for a system
Equipment Control	N	(A3) Determine H2 Recombiner Power Settings K/A 2.1.23 (3.9) Ability to perform specific and integrated plant procedures during all modes of operation.
Radiation Control	N	(A4) Terminating an unmonitored/unplanned release K/A 2.3.10 (2.9) Ability to control radiation releases
Emergency Plan	NA	NA

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.

***Type Codes and Criteria:** (C)ontrol Room
(D)irect from bank (≤ 3 for ROs; (≤ 4 for SROs & RO retakes)
(N)ew or (M)odified from bank (≥ 1)
(P)revious 2 exams (≤ 1 ; randomly selected)
(S)imulator

Approved: _____ Date _____
Facility Representative

Facility: South Texas Project Date of Examination: 11/14/ 2005

Examination Level: SRO

Operating Test Number: 1

Administrative Topic (see Note)	Type Code*	Describe activity to be performed:
Conduct of Operations	N	(A5) Review a SDM Calculation K/A 2.1.12 (4.0), Ability to apply Technical Specifications for a system
Conduct of Operations	N	(A6) Comply with AFD Tech Spec requirements for raising power. K/A 2.1.12 (4.0), Ability to apply Technical Specifications for a system
Equipment Control	D	(A7) Review a faulted ECO for ECW Pump K/A 2.2.13 (3.8), Knowledge of tagging and clearance procedures
Radiation Control	N	(A4) Terminating an unmonitored/unplanned release K/A 2.3.10 (3.2) Ability to control radiation releases
Emergency Plan	C, N, S	(A8) Declare an Emergency Action Level K/A 2.4.4.41 (4.1) Knowledge of the emergency action level and thresholds and classification.

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.

***Type Codes and Criteria:** (C)ontrol Room
(D)irect from bank (≤ 3 for ROs; (≤ 4 for SROs & RO retakes)
(N)ew or (M)odified from bank (≥ 1)
(P)revious 2 exams (≤ 1 ; randomly selected)
(S)imulator

Approved: _____ Date _____
Facility Representative

Facility: <u>South Texas Project</u>	Date of Examination: <u>11/14/2005</u>	
Exam Level (circle one): RO / SRO(I)	Operating Test No.: <u>1</u>	
Control Room Systems® (8 for RO; 7 for SROI; 2 or 3 for SROU, including 1 ESF)		
System / JPM Title	Type Code*	Safety Function
e. (S1) Roll Electrical Buses during Plant Startup	S,N	VI
f. (S2) Respond to FHB Rad Monitor Alarm (ESF System)	S,N,A,E	VII
a. (S3) Perform Control Rod Operability Test	S,M,A	I
b. (S4) Fill an SI Accumulator	S,D	III
c. (S5) Place a SGFPT in service	S,N	IV-S
d. (S6) Shift CCW Trains	S,N	VIII
g. (C1) Establish Alternate Charging Lineup	C,D,A,E,L	II
h. (C2) Feed and Bleed the PRT (RO Only)	C,D,L	V
In-Plant Systems® (3 for RO; 3 for SROI; 3 or 2 for SROU)		
i. (P1) Place RWST on Recirc	D,E,R,A	III
j. (P2) Locally close MSIV's/MSIB's	D,L,E	IV-S
k. (P3) Startup of GWPS following PMT	N,A,R	IX
@ All RO and SRO-I control room (and in-plant) systems must be different and serve different safety functions; all 5 SROU systems must serve different safety functions; in-plant systems and functions may overlap those tested in the control room.		
*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	$\leq 9 / \leq 8 / \leq 4$	
(E)mergency or abnormal in-plant	$\geq 1 / \geq 1 / \geq 1$	
(L)ow-Power	$\geq 1 / \geq 1 / \geq 1$	
(N)ew or (M)odified from bank including 1(A)	$\geq 2 / \geq 2 / \geq 1$	
(P)revious 2 exams	$\leq 3 / \leq 3 / \leq 2$ (randomly selected)	
(R)CA	$\geq 1 / \geq 1 / \geq 1$	
(S)imulator		

NOTE: The following simulator JPMs are designed to be done concurrent: S1 and S2, S3 and S4, S5 and S6

Approved: _____ Date _____
 Facility Representative

Facility: <u>South Texas Project</u>		Date of Examination: <u>11/14/2005</u>
Exam Level (circle one): SRO(U)		Operating Test No.: <u>1</u>
Control Room Systems[@] (8 for RO; 7 for SROI; 2 or 3 for SROU, including 1 ESF)		
System / JPM Title	Type Code*	Safety Function
a. (S1) Roll Electrical Buses during Plant Startup	S,N	VI
b. (S2) Respond to FHB Rad Monitor Alarm (ESF System)	S,N,A,E	VII
In-Plant Systems[@] (3 for RO; 3 for SROI; 3 or 2 for SROU)		
c. (P1) Place RWST on Recirc	D,E,R,A	III
d. (P2) Locally close MSIV's/MSIB's	D,L,E	IV-S
e. (P3) Startup of GWPS following PMT	N,A, R	IX
<p>@ All RO and SRO-I control room (and in-plant) systems must be different and serve different safety functions; all 5 SROU 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	$\leq 9 / \leq 8 / \leq 4$	
(E)mergency or abnormal in-plant	$\geq 1 / \geq 1 / \geq 1$	
(L)ow-Power	$\geq 1 / \geq 1 / \geq 1$	
(N)ew or (M)odified from bank including 1(A)	$\geq 2 / \geq 2 / \geq 1$	
(P)revious 2 exams	$\leq 3 / \leq 3 / \leq 2$ (randomly selected)	
(R)CA	$\geq 1 / \geq 1 / \geq 1$	
(S)imulator		

NOTE: The following simulator JPMs are designed to be done concurrent: S1 and S2

Approved: _____ Date _____
 Facility Representative

Facility: STP

NRC Exam Scenario No.: 1

Op-Test No.: 1

Source:

New ____ Bank - Significantly Modified X Bank - Initial Condition Change X

See page 3 for Examiner/student assignments

Initial Conditions: 77% power with a plant startup in progress following a refueling outage (POP03-ZG-0005, step 7.32.6).

Turnover: Continue power increase. BOL (150 MWD/MTU), 1621 ppmB. Circ Water Pump #14 and 'B' CCP are OOS for maintenance

Event No.	Malf. No.	Event Type*	Event Description
1 (1 min)	02-19-03 (1.0)	RO (I) SRO (I)	Pressurizer Pressure transmitter PT-457 fails high
2 (NA)	50-HV-01 (0.4)	RO (C) SRO (C)	Pressurizer PORV 655A fails to close and the associated block valve must be closed – integral with scenario, occurs with above malfunction
3 (21 min)	08-29-01 08-29-02	BOP (C) SRO (C)	FWBP trip with failure of standby pump 1 min. after starting – occurs after TS consulted or after 20 min.
4	NA	ALL (N)	Power decrease due to FWBP failures – integral with scenario
5 (41 min)	05-03-01 (0.17)	All (M)	SG 'A' Steam Generator Tube Rupture (~500 gpm) ramped over 4 min. – occurs after main turbine load decrease is stopped or after 20 min.
6 (NA)	50-SA-02 (1.0) 50-SA-10 (0.09)	BOP (C) SRO (C)	SG 'A' stuck open PORV - integral to scenario, will occur when PORV setpoint adj. during SGTR
7 (NA)	04-09-11 (True)	RO (C) SRO (C)	Shaft Shear on ECW Pump 'B'

* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor

Facility: STP

NRC Exam Scenario No.: 2

Op-Test No.: 1

Source:

New _____ Bank - Significantly Modified X Bank - Initial Condition Change X

See page 3 for Examiner/student assignments

Initial Conditions: 28% power with a plant shutdown in progress for periodic turbine blade inspection.

Turnover: continue with power decrease (POP03-ZG-0006, step 5.18.7) after Letdown orifice swap. BOL (150 MWD/MTU), 1689 ppmB. The National Weather Service has issued a Severe Weather Warning in effect until 2000 hrs. The Aux. Steam header is being warmed up.

Event No.	Malf. No.	Event Type*	Event Description
1 (1 min)	N/A	RO (N) SRO (N)	Swap Letdown orifices
2 (13 min)	02-20-03	RO (I) SRO (I)	Pressurizer Level channel (LT-468) fails low – once Letdown Demins returned to service or after 12 minutes
3 (26 min)	Rose Override Schematic sap040s (0.0)	BOP (I) SRO (I)	SG 'A' steam pressure channel PT-514 fails low – after TS for failed Pzr. Level channel are consulted or after 13 minutes.
4 39 min)	08-18-01 (0.5)	BOP (C) SRO (C)	SG 'A' MFW Reg Valve drifts open - after TS consulted for failed steam pressure channel or 13 minutes.
5 (NA)	52-LI-31 52-LI-36	RO (C) SRO (C)	2 Control Rods fail to fully insert on the Reactor Trip – integral to the scenario
6 (NA)	Stem Override	RO (C) SRO (C)	Emergency Borate Valve MOV-218 fails to open – integral to scenario
7 (~60 min)	02-01-01 (1.0)	All (M)	RCS break develops into a LBLOCA (upon ES01 entry) – 5 min. ramp – after boation started in ES01 entered or 10 minutes after ES01 entered.

* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor

Facility: STP

NRC Exam Scenario No.: 3

Op-Test No.: 1

Source:

New _____ Bank - Significantly Modified _____ Bank - Initial Condition Change X

See page 3 for Examiner/student assignments

Initial Conditions: 100% power, 'A' Train outage in progress with 'A' HHSI, LHSI and #11 AFW Pump OOS.

Turnover: The plant has been at 100% power for the last 124 days. PR-42 failed 4 days ago. Channel II OTDT bistable has been tripped in accordance with 0POP02-NI-0001. BOL, 1363 ppmB.

Event No.	Malf. No.	Event Type*	Event Description
1 (1 min)	10-12-02 (True)	RO (C) SRO (C) BOP (C)**	Ground and Loss of MCC E1B1 – Ground occurs 1 min after crew takes the watch and loss of MCC automatically occurs 1 minutes after LC E1B1Trouble alarm (ground)
2 (14 min)	06-16-02 (0.0)	RO (I) BOP (I) SRO (I)	PT-505 fails low – after the standby charger is in service and Tech Specs consulted or after 12 minutes.
3 (24 min)	02-25-02 (0.0)	RO(I) SRO (I)	Loop 1A Cold Leg RTD TT-410B fails low – once T.S. consulted for PT-505 failure or after 10 minutes.
4 (NA)	01-12-01 01-12-02 1K1/1L1 overrides	RO (C) BOP (C) SRO (C)	ATWS: failure of auto and manual reactor trip. Failure of auto turbine trip from SSPS (failure of Reactor Trip from the Control Room) – occurs automatically with Tcold failure.
5 (NA)	50-HV-02 (1.0)	All (M)	PORV 656A fails open during ATWS actions and cannot be isolated due to loss of power to PORV block valve (E1B1) – will automatically occur 15 seconds after Rad Monitor Containment Isolation Valves are closed.
6 (NA)	04-13-02 (True)	BOP (C) SRO (C)	HHSI Pump 'B' fails to start – integral with scenario, will be apparent after SI initiates

* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor

**the component failure for the BOP relates to failure of AFW valves in Train 'B' and will be evident following the reactor trip.

Facility: STP

NRC Exam Scenario No.: Backup

Op-Test No.: 1

Source:

New _____ Bank - Significantly Modified X Bank - Initial Condition Change X

Refer to page 3 for Examiner/student assignments

Initial Conditions: 48% BOL, 1558 ppmB. Power increase in progress (POP03-ZG-0005, step 7.28.4) following outage for turbine inspection.

Turnover: Fuel pre-conditioning limits have been met. Condensate Pump #13 out of service for maintenance.

Event No.	Malf. No.	Event Type*	Event Description
1 (1 min)	01-14-01	RO(I) SRO (I)	DRPI indication for Control Rod M2 fails
2 (13 min)	03-12-01 (0.3)	RO (C) SRO (C)	Leak in letdown line outside containment – once Tech Specs have been consulted for failed DRPI or after 12 min.
3 (33 min)	07-02-01 (0.2-0.26)	RO (C) BOP (C) SRO (C)	Slowly escalating condenser air in-leakage – after Excess Letdown flush started or after 20 min.
4 (43 min)	N/A	RO (N) BOP (N) SRO (N)	Power reduction due to lowering vacuum – will occur with loss of vacuum actions after approx. 5-10 minutes
5 (63 min)	08-06-03 (0.5)	All(M)	Slow increasing fault (feed line) on SG 1C inside the RCB (5 min. ramp) – will occur after power has been decreased 2-3 % (approx. 20 minutes) or on examiner cue.

* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor