

Facility: Fort Calhoun Rev 1		Date of Exam: 8 / 3 / 2007																
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.	2	2	4	N/A			3	3	N/A			4	18			6	
	2.	2	1	1	N/A			2	1	N/A			2	9			4	
	Tier Totals	4	3	5	N/A			5	4	N/A			6	27			10	
2. Plant Systems	1.	3	2	3	3	1	1	1	3	2	3	6	28			5		
	2.	1	0	1	1	1	1	1	1	1	1	10			3			
	Tier Totals	4	2	4	4	2	2	2	4	3	4	7	38			8		
3. Generic Knowledge and Abilities Categories					1		2		3		4				1	2	3	4
					3		2		2		3		10					7

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 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.
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 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.

PWR RO Written Exam Outline (ES-401-2)

System/Mode	System Title	K1	K2	K3	A1	A2	G	Points
EPE/APE Tier 1 / Group 1								
000008	Pressurizer Vapor Space Accident					1		1
000009	Small Break LOCA			1				1
000011	Large Break LOCA				1			1
000017	Reactor Coolant Pump Malfunctions (Loss of RC Flow)	1						1
000022	Loss of Reactor Coolant Makeup				1			1
000025	Loss of Residual Heat Removal System		1					1
000026	Loss of Component Cooling Water				1			1
000027	Pressurizer Pressure Control System Malfunction						1	1
000029	Anticipated Transient Without Scram (ATWS)			1				1
000038	Steam Generator Tube Rupture						1	1
000040	Steam Line Rupture			1				1
000055	Station Blackout						1	1
000056	Loss of Off-Site Power					1		1
000057	Loss of Vital AC Electrical Instrument Bus					1		1
000058	Loss of DC Power	1						1
000065	Loss of Instrument Air						1	1
CE-E02	Reactor Trip Recovery		1					1
CE-E06	Loss of Feedwater			1				1
		2	2	4	3	3	4	18

EPE/APE Tier 1 / Group 2								
000003	Dropped Control Rod				1			1
000005	Inoperable/Stuck Control Rod		1					1
000024	Emergency Boration	1						1
000028	Pressurizer Level Control Malfunction					1		1
000037	Steam Generator Tube Leak						1	1
000068	Control Room Evacuation			1				1
000074	Inadequate Core Cooling	1						1
CE-A13	Natural Circulation Operations						1	1
CE-A16	Excess RCS Leakage				1			1
		2	1	1	2	1	2	9

Grand Total of EPE/APE K&A Selection:	4	3	5	5	4	6	27
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System/Mode	System Title	KA Number	Title	RO Value	10 CFR 55	
Tier 1	Group 1					
1	000008	Pressurizer Vapor Space Accident	AA2.19	Ability to determine and interpret the following as they apply to the Pressurizer Vapor Space Accident:: PZR spray valve failure, using plant parameters	3.4	43.5 / 45.13
2	000009	Small Break LOCA	EK3.28	Knowledge of the reasons for the following responses as the apply to the small break LOCA:: Manual ESFAS initiation requirements	4.5	41.5 / 41.10 / 45.6 / 45.13
3	000011	Large Break LOCA	EA1.16	Ability to operate and monitor the following as they apply to a Large Break LOCA:: Balancing of HPI loop flows	3.5*	41.7 / 45.5 / 45.6
4	000017	Reactor Coolant Pump Malfunctions (Loss of RC Flow)	AK1.02	Knowledge of the operational implications of the following concepts as they apply to Reactor Coolant Pump Malfunctions (Loss of RC Flow):: Consequences of an RCPS failure	3.7	41.8 / 41.10 / 45.3
5	000022	Loss of Reactor Coolant Makeup	AA1.01	Ability to operate and / or monitor the following as they apply to the Loss of Reactor Coolant Pump Makeup:: CVCS letdown and charging	3.4	41.7 / 45.5 / 45.6
6	000025	Loss of Residual Heat Removal System	AK2.03	Knowledge of the interrelations between the Loss of Residual Heat Removal System and the following:: Service water or closed cooling water pumps	2.7	41.7 / 45.7
7	000026	Loss of Component Cooling Water	AA1.07	Ability to operate and / or monitor the following as they apply to the Loss of Component Cooling Water:: Flow rates to the components and systems that are serviced by the CCWS; interactions among the components	2.9	41.7 / 45.5 / 45.6
8	000027	Pressurizer Pressure Control System Malfunction	2.4.50	: Ability to verify system alarm setpoints and operate controls identified in the alarm response manual.	3.3	45.3
9	000029	Anticipated Transient Without Scram (ATWS)	EK3.08	Knowledge of the reasons for the following responses as the apply to the ATWS:: Closing the main steam isolation valve	3.6*	41.5 / 41.10 / 45.6 / 45.13
10	000038	Steam Generator Tube Rupture	2.1.23	: Ability to perform specific system and integrated plant procedures during all modes of plant operation.	3.9	45.2 / 45.6
11	000040	Steam Line Rupture	AK3.02	Knowledge of the reasons for the following responses as they apply to the Steam Line Rupture:: ESFAS initiation	4.4	41.5 / 41.10 / 45.6 / 45.13

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System/Mode	System Title	KA Number	Title	RO Value	10 CFR 55	
12	000055	Station Blackout	2.1.23	: Ability to perform specific system and integrated plant procedures during all modes of plant operation.	3.9	45.2 / 45.6
13	000056	Loss of Off-Site Power	AA2.47	Ability to determine and interpret the following as they apply to the Loss of Offsite Power:: Proper operation of the ED/G load sequencer	3.8	43.5 / 45.13
14	000057	Loss of Vital AC Electrical Instrument Bus	AA2.05	Ability to determine and interpret the following as they apply to the Loss of Vital AC Instrument Bus:: S/G pressure and level meters	3.5	43.5 / 45.13
15	000058	Loss of DC Power	AK1.01	Knowledge of the operational implications of the following concepts as they apply to Loss of DC Power:: Battery charger equipment and instrumentation	2.8	41.8 / 41.10 / 45.3
16	000065	Loss of Instrument Air	2.4.31	: Knowledge of annunciators alarms and indications, and use of the response instructions.	3.3	41.10 / 45.3
17	CE-E02	Reactor Trip Recovery	EK2.02	Knowledge of the interrelations between the (Reactor Trip Recovery) and the following:: Facility's heat removal systems, including primary coolant, emergency coolant, the decay heat removal systems, and relations between the proper operation of these systems to the operation of the facility.	3.5	41.7 / 45.7
18	CE-E06	Loss of Feedwater	EK3.01	Knowledge of the reasons for the following responses as they apply to the (Loss of Feedwater): Facility operating characteristics during transient conditions, including coolant chemistry and the effects of temperature, pressure, and reactivity changes and operating limitations and reasons for these operating characteristics.	3.2	41.5 / 41.10 / 45.6 / 45.13

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System/Mode	System Title	KA Number	Title	RO Value	10 CFR 55	
Tier 1	Group 2					
19	000003	Dropped Control Rod	AA1.07	Ability to operate and / or monitor the following as they apply to the Dropped Control Rod:: In-core and ex-core instrumentation	3.8	41.7 / 45.5 / 45.6
20	000005	Inoperable/Stuck Control Rod	AK2.02	Knowledge of the interrelations between the Inoperable / Stuck Control Rod and the following:: Breakers, relays, disconnects, and control room switches	2.5	41.7 / 45.7
21	000024	Emergency Boration	AK1.01	Knowledge of the operational implications of the following concepts as they apply to Emergency Boration:: Relationship between boron addition and change in T-ave	3.4	41.8 / 41.10 / 45.3
22	000028	Pressurizer Level Control Malfunction	AA2.06	Ability to determine and interpret the following as they apply to the Pressurizer Level Control Malfunctions:: Letdown flow indicator	2.7	43.5 / 45.13
23	000037	Steam Generator Tube Leak	2.1.32	: Ability to explain and apply all system limits and precautions.	3.4	41.10 / 43.2 / 45.12
24	000068	Control Room Evacuation	AK3.07	Knowledge of the reasons for the following responses as they apply to the Control Room Evacuation:: Maintenance of S/G level, using AFW flow control valves	4.0	41.5 / 41.10 / 45.6 / 45.13
25	000074	Inadequate Core Cooling	EK1.02	Knowledge of the operational implications of the following concepts as they apply to the Inadequate Core Cooling :: Potential consequences of uncovering the core	4.6	41.8 / 41.10 / 45.3
26	CE-A13	Natural Circulation Operations	2.1.27	: Knowledge of system purpose and or function.	2.8	41.7
27	CE-A16	Excess RCS Leakage	AA1.03	Ability to operate and / or monitor the following as they apply to the (Excess RCS Leakage): Desired operating results during abnormal and emergency situations.	3.0	41.7 / 45.5 / 45.6

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System/Mode	System Title	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	Points
Plant System Tier 2 / Group 1													
003000	Reactor Coolant Pump System									1			1
004000	Chemical and Volume Control System	1					1						2
005000	Residual Heat Removal System				1				1				2
006000	Emergency Core Cooling System										1		1
007000	Pressurizer Relief Tank / Quench Tank System											1	1
008000	Component Cooling Water System									1			1
010000	Pressurizer Pressure Control System				1								1
012000	Reactor Protection System								1			1	2
013000	Engineered Safety Features Actuation System				1							1	2
022000	Containment Cooling System										1		1
026000	Containment Spray System		1										1
039000	Main and Reheat Steam System			1				1					2
059000	Main Feedwater System								1		1		2
061000	Auxiliary / Emergency Feedwater System			1									1
062000	A.C. Electrical Distribution		1										1
063000	D.C. Electrical Distribution											1	1
064000	Emergency Diesel Generators	1										1	2
073000	Process Radiation Monitoring System					1							1
076000	Service Water System			1									1
078000	Instrument Air System	1											1
103000	Containment System											1	1
		3	2	3	3	1	1	1	3	2	3	6	28

Plant System Tier 2 / Group 2													
001000	Control Rod Drive System					1							1
002000	Reactor Coolant System							1					1
011000	Pressurizer Level Control System	1											1
014000	Rod Position Indication System											1	1
015000	Nuclear Instrumentation System						1						1
017000	In-Core Temperature Monitor System									1			1
033000	Spent Fuel Pool Cooling System				1								1
035000	Steam Generator System								1				1
041000	Steam Dump System and Turbine Bypass Control										1		1
075000	Circulating Water System			1									1
		1		1	1	1	1	1	1	1	1	1	10

Grand Total of Plant System K&A Selection:

4	2	4	4	2	2	2	4	3	4	7	38
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PWR RO Written Exam Outline (ES-401-2)

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System/Mode	System Title	KA Number	Title	RO Value	10 CFR 55	
Tier	2	Group	1			
28	003000	Reactor Coolant Pump System	A3.05	Ability to monitor automatic operation of the RCPS, including:: RCP lube oil and bearing lift pumps	2.7*	41.7 / 45.5
30	004000	Chemical and Volume Control System	K1.22	Knowledge of the physical connections and/or cause-effect relationships between the CVCS and the following systems:: BWST	3.4	41.2 to 41.9 / 45.7 to 45.8
31	004000	Chemical and Volume Control System	K6.24	Knowledge of the effect of a loss or malfunction on the following CVCS components:: Controllers and positioners	2.5	41.7 / 45.7
32	005000	Residual Heat Removal System	A2.02	Ability to (a) predict the impacts of the following malfunctions or operations on the RHRS, and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations:: Pressure transient protection during cold shutdown	3.5	41.5 / 43.5 / 45.3 / 45.13
33	005000	Residual Heat Removal System	K4.11	Knowledge of RHRS design feature(s) and/or interlock(s) which provide or the following:: Lineup for low head recirculation mode (external and internal)	3.5*	41.7
35	006000	Emergency Core Cooling System	A4.06	Ability to manually operate and/or monitor in the control room:: ESF control panel	4.4	41.7 / 45.5 to 45.8
36	007000	Pressurizer Relief Tank / Quench Tank System	2.1.28	: Knowledge of the purpose and function of major system components and controls.	3.2	41.7
37	008000	Component Cooling Water System	A3.06	Ability to monitor automatic operation of the CCWS, including:: Typical CCW pump operating conditions, including vibration and sound levels and motor current	2.5	41.7 / 45.5
38	010000	Pressurizer Pressure Control System	K4.01	Knowledge of PZR PCS design feature(s) and/or interlock(s) which provide for the following:: Spray valve warm-up	2.7	41.7
29	012000	Reactor Protection System	2.1.33	: Ability to recognize indications for system operating parameters which are entry-level conditions for technical specifications.	3.4	43.2 / 43.3 / 45.3
39	012000	Reactor Protection System	A2.05	Ability to (a) predict the impacts of the following malfunctions or operations on the RPS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations:: Faulty or erratic operation of detectors and function generators	3.1*	41.5 / 43.5 / 45.3 / 45.5

PWR RO Written Exam Outline (ES-401-2)

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System/Mode	System Title	KA Number	Title	RO Value	10 CFR 55	
40	013000	Engineered Safety Features Actuation System	2.1.14	: Knowledge of system status criteria which require the notification of plant personnel.	2.5	43.5 / 45.12
41	013000	Engineered Safety Features Actuation System	K4.01	Knowledge of ESFAS design feature(s) and/or interlock(s) which provide for the following:: SIS reset	3.9	41.7
42	022000	Containment Cooling System	A4.01	Ability to manually operate and/or monitor in the control room:: CCS fans	3.6	41.7 / 45.5 to 45.8
43	026000	Containment Spray System	K2.01	Knowledge of bus power supplies to the following:: Containment spray pumps	3.4*	41.7
44	039000	Main and Reheat Steam System	A1.06	Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the MRSS controls including:: Main steam pressure	3.0	41.5 / 45.5
45	039000	Main and Reheat Steam System	K3.05	Knowledge of the effect that a loss or malfunction of the MRSS will have on the following:: RCS	3.6	41.7 / 45.6
46	059000	Main Feedwater System	A2.01	Ability to (a) predict the impacts of the following malfunctions or operations on the MFW; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations:: Feedwater actuation of AFW system	3.4*	41.5 / 43.5 / 45.3 / 45.13
47	059000	Main Feedwater System	A4.08	Ability to manually operate and monitor in the control room:: Feed regulating valve controller	3.0*	41.7 / 45.5 to 45.8
48	061000	Auxiliary / Emergency Feedwater System	K3.01	Knowledge of the effect that a loss or malfunction of the AFW will have on the following:: RCS	4.4	41.7 / 45.6
49	062000	A.C. Electrical Distribution	K2.01	Knowledge of bus power supplies to the following:: Major system loads	3.3	41.7
50	063000	D.C. Electrical Distribution	2.1.32	: Ability to explain and apply all system limits and precautions.	3.4	41.10 / 43.2 / 45.12

PWR RO Written Exam Outline (ES-401-2)

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System/Mode	System Title	KA Number	Title	RO Value	10 CFR 55	
34	064000	Emergency Diesel Generators	2.1.33	: Ability to recognize indications for system operating parameters which are entry-level conditions for technical specifications.	3.4	43.2 / 43.3 / 45.3
51	064000	Emergency Diesel Generators	K1.03	Knowledge of the physical connections and/or cause-effect relationships between the ED/G system and the following systems:: Diesel fuel oil supply system	3.6	41.2 to 41.9 / 45.7 to 45.8
52	073000	Process Radiation Monitoring System	K5.03	Knowledge of the operational implications as they apply to concepts as they apply to the PRM system:: Relationship between radiation intensity and exposure limits	2.9*	41.5 / 45.7
53	076000	Service Water System	K3.01	Knowledge of the effect that a loss or malfunction of the SWS will have on the following:: Closed cooling water	3.4*	41.7 / 45.6
54	078000	Instrument Air System	K1.02	Knowledge of the physical connections and/or cause-effect relationships between the IAS and the following systems:: Service air	2.7*	41.2 to 41.9 / 45.7 to 45.8
55	103000	Containment System	2.4.06	: Knowledge symptom based EOP mitigation strategies.	3.1	41.10 / 43.5 / 45.13

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System/Mode	System Title	KA Number	Title	RO Value	10 CFR 55	
Tier	2	Group	2			
56	001000	Control Rod Drive System	K5.28	Knowledge of the following operational implications as they apply to the CRDS:: Boron reactivity worth vs. boron concentration, i.e., amount of boron needed (ppm) to change core reactivity to desired amount	3.5	41.5 / 45.7
57	002000	Reactor Coolant System	A1.08	Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the RCS controls including:: RCS average temperature	3.7	41.5 / 45.7
58	011000	Pressurizer Level Control System	K1.02	Knowledge of the physical connections and/or cause-effect relationships between the PZR LCS and the following systems:: RCS	3.7	41.2 to 41.9 / 45.7 to 45.8
59	014000	Rod Position Indication System	2.4.49	: Ability to perform without reference to procedures those actions that require immediate operation of system components and controls.	4.0	41.10 / 43.2 / 45.6
60	015000	Nuclear Instrumentation System	K6.03	Knowledge of the effect of a loss or malfunction on the following will have on the NIS:: Component interconnections	2.6	41.7 / 45.7
61	017000	In-Core Temperature Monitor System	A3.01	Ability to monitor automatic operation of the ITM system including:: Indications of normal, natural, and interrupted circulation of RCS	3.6*	41.7 / 45.5
62	033000	Spent Fuel Pool Cooling System	K4.02	Knowledge of design feature(s) and/or interlock(s) which provide for the following:: Maintenance of spent fuel cleanliness	2.5	41.7
63	035000	Steam Generator System	A2.04	Ability to (a) predict the impacts of the following malfunctions or operations on the GS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations:: Steam flow/feed mismatch	3.6	41.5 / 43.5 / 45.3 / 45.5
64	041000	Steam Dump System and Turbine Bypass Control	A4.04	Ability to manually operate and/or monitor in the control room:: Pressure mode	2.7*	41.7 / 45.5 to 45.8
65	075000	Circulating Water System	K3.01	Knowledge of the effect that a loss or malfunctions of the circulating water system will have on the following:: SWS	2.3	41.7 / 45.6

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PWR RO Written Exam Outline (ES-401-3)

System/Mode	System Title	Cat 1	Cat 2	Cat 3	Cat 4	Points
Generic Knowledge and Abilities Tier 3						
00000	Generic Knowledges and Abilities	3	2	2	3	10
		3	2	2	3	10

Grand Total of Generic K&A Selection:

3	2	2	3	10
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PWR RO Written Exam Outline (ES-401-3)

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System/Mode	System Title	KA Number	Title	RO Value	10 CFR 55	
Tier	3	Group	4			
66	000000	Generic Knowledges and Abilities	2.1.10	: Knowledge of conditions and limitations in the facility license.	2.7	43.1 / 45.13
67	000000	Generic Knowledges and Abilities	2.1.18	: Ability to make accurate, clear and concise logs, records, status boards, and reports.	2.9	45.12 / 45.13
68	000000	Generic Knowledges and Abilities	2.1.21	: Ability to obtain and verify controlled procedure copy.	3.1	45.10 / 45.13
69	000000	Generic Knowledges and Abilities	2.2.27	: Knowledge of the refueling process.	2.6	43.6 / 45.13
70	000000	Generic Knowledges and Abilities	2.2.30	: Knowledge of RO duties in the control room during fuel handling such as alarms from fuel handling area, communication with fuel storage facility, systems operated from the control room in support of fueling operations, and supporting instrumentation.	3.5	45.12
71	000000	Generic Knowledges and Abilities	2.3.02	: Knowledge of facility ALARA program.	2.5	41.12 / 43.4 / 45.9 / 45.10
72	000000	Generic Knowledges and Abilities	2.3.04	: Knowledge of radiation exposure limits and contamination control, including permissible levels in excess of those authorized.	2.5	43.4 / 45.10
73	000000	Generic Knowledges and Abilities	2.4.01	: Knowledge of EOP entry conditions and immediate action steps.	4.3	41.10 / 43.5 / 45.13
74	000000	Generic Knowledges and Abilities	2.4.15	: Knowledge of communications procedures associated with EOP implementation.	3.0	41.10 / 45.13
75	000000	Generic Knowledges and Abilities	2.4.31	: Knowledge of annunciators alarms and indications, and use of the response instructions.	3.3	41.10 / 45.3

Enhanced Form ES-401-4 Record of Rejected K/As from RO Outline

Tier/Group	Randomly Selected K/A	Description	Reason for Rejection
1/1	000007 2.4.30	Knowledge of which events related to system operations/status should be reported to outside agencies.	Low RO Importance, no FCS specific priority
1/1	000017 AA1.15	Ability to operate and / or monitor the following as they apply to the Reactor Coolant Pump Malfunctions (Loss of RC Flow):High-power/low-flow reactor trip block status lights	No high-power/low flow reactor trip at FCS
1/1	000062 AA2.06	Ability to determine and interpret the following as they apply to the Loss of Nuclear Service Water:The length of time after the loss of SWS flow to a component before that component may be damaged	No guidance to determine time to damage
1/2	000033 AA2.06	Ability to determine and interpret the following as they apply to the Loss of Intermediate Range Nuclear Instrumentation:Cause of failure of an intermediate-range channel	Low RO Importance, No FCS specific priority
1/2	000033 AK2.01	Knowledge of the interrelations between the Loss of Intermediate Range Nuclear Instrumentation and the following:Power supplies, including proper switch position	Low RO Importance, No FCS Specific Priority
1/2	000068 AK3.05	Knowledge of the reasons for the following responses as they apply to the Control Room Evacuation:Repositioning valves to isolate and drain the AFW pump turbine and steam supply header	Not an action taken at FCS
1/2	000076 AA2.07	Ability to determine and interpret the following as they apply to the High Reactor Coolant Activity:When demineralizer resin needs to be replaced	Low RO Importance, No FCS specific priority
2/1	004000 K1.05	Knowledge of the physical connections and/or cause-effect relationships between the CVCS and the following systems:CRDS operation in automatic mode control	No automatic rod control at FCS

Tier/Group	Randomly Selected K/A	Description	Reason for Rejection
2/1	007000 2.4.06	Knowledge symptom based EOP mitigation strategies.	Will be evaluated during one of the simulator scenarios.
2/1	010000 K1.04	Knowledge of the physical connections and/or cause-effect relationships between the PZR PCS and the following systems:AFW	Low RO Importance, no FCS specific priority
2/1	022000 K4.05	Knowledge of CCS design feature(s) and/or interlock(s) which provide for the following:Containment cooling after LOCA destroys ventilation ducts	Ducts are provided with overpressure protection devices to prevent damage
2/1	022000 K2.02	Knowledge of power supplies to the following:Chillers	No chillers at FCS
2/1	026000 K3.02	Knowledge of the effect that a loss or malfunction of the CSS will have on the following:Recirculation spray system	Not an FCS design feature
2/1	059000 K4.02	Knowledge of MFW design feature(s) and/or interlock(s) which provide for the following:Automatic turbine/reactor trip runback	Not an FCS design feature
2/1	076000 K1.17	Knowledge of the physical connections and/or cause- effect relationships between the SWS and the following systems:PRMS	No operational rad monitor on raw water system.
2/1	076000 K1.09	Knowledge of the physical connections and/or cause- effect relationships between the SWS and the following systems:Reactor building closed cooling water	Not an FCS design feature.
2/1	103000 A2.03	Ability to (a) predict the impacts of the following malfunctions or operations on the containment system and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operationsPhase A and B isolation	Not an FCS design feature

Tier/Group	Randomly Selected K/A	Description	Reason for Rejection
2/1	103000 A2.01	Ability to (a) predict the impacts of the following malfunctions or operations on the containment system and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Integrated leak rate test	Low RO Importance, no FCS specific priority.
2/2	001000 K5.51	Knowledge of the following operational implications as they apply to the CRDS: Definition of xenon oscillation	GFE Topic
2/2	001000 K5.70	Knowledge of the following operational implications as they apply to the CRDS: Method used to parallel the rod control M/G sets	No rod drive M-G sets at FCS
2/2	011000 K6.07	Knowledge of the effect of a loss or malfunction on the following will have on the PZR LCS: Correlation of demand signal indication with letdown PVC position	Low RO Importance, no FCS specific priority
2/2	034000 K5.02	Knowledge of the operational implication of the following concepts as they apply to the Fuel Handling System: Limiting of load	Low RO Importance, no FCS specific priority
2/2	071000 A2.06	Ability to (a) predict the impacts of the following malfunctions or operations on the Waste Gas Disposal System ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Supply failure to the isolation valve	Low RO Importance, no FCS specific priority
2/2	071000 K6.10	Knowledge of the effect of a loss or malfunction on the Waste Gas Disposal System following will have on the : Surge and decay tanks	Low RO Importance, no FCS specific priority
2/2	071000 A4.16	Ability to manually operate and/or monitor in the control room: Waste gas decay tank shifts	Not performed from the control room
2/2	071000 A2.01	Ability to (a) predict the impacts of the following malfunctions or operations on the Waste Gas Disposal System ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Use of WGDS to prevent entry of oxygen into holdup tanks during liquid transfers	Low RO Importance, no FCS specific priority

Tier/Group	Randomly Selected K/A	Description	Reason for Rejection
2/2	071000 A2.03	Ability to (a) predict the impacts of the following malfunctions or operations on the Waste Gas Disposal System ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations:Rupture disk failures	Relief valves used instead of rupture disk.
2/2	071000 A4.24	Ability to manually operate and/or monitor in the control room:The double verification required before waste gas release	Not performed from the control room
3/4	000000 2.1.05	Ability to locate and use procedures and directives related to shift staffing and activities.	Low RO importance. No specific FCS priority.
3/4	000000 2.2.31	Knowledge of procedures and limitations involved in initial core loading.	Low RO importance. No specific FCS priority.
3/4	000000 2.2.20	Knowledge of the process for managing troubleshooting activities.	Low RO Importance. No FCS specific priority.
3/4	000000 2.2.14	Knowledge of the process for making configuration changes.	Low RO Importance. No FCS sspecific priority
3/4	000000 2.2.10	Knowledge of the process for determining if the margin of safety, as defined in the basis of any technical specification is reduced by a proposed change, test or experiment.	Low RO Importance, no FCS specific priority
3/4	000000 2.2.08	Knowledge of the process for determining if the proposed change, test, or experiment involves an unreviewed safety question.	Low RO Importance, No FCS specific priority
3/4	000000 2.1.15	Ability to manage short-term information such as night and standing orders.	Low RO Importance. No FCS specific priority.
3/4	000000 2.1.06	Ability to supervise and assume a management role during plant transients and upset conditions.	Low RO importance. No FCS specific priority. Will be evaluated for SROs during simulator scenarios.