

Draft Submittal
(Pink Paper)

SURRY EXAM
50-280, 50-281/2004-301

FEBRUARY 24 - MARCH 2
& MARCH 4, 2004 (WRITTEN)

Written Exam Sample outlines

Facility: Surry		Date of Exam: 2004																	
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	K	A	A 2	G *	Total	
1. Emergency & Abnormal Plant Evolutions	1	2	2	6				4	3			1	18	0	0	4	3	7	
	2	0	2	1				2	2			2	9	0	0	4	1	5	
	Tier Totals	2	4	7				6	5			3	27	0	0	8	4	12	
2. Plant Systems	1	2	2	2	3	2	1	5	3	1	4	3	28	0	0	2	2	4	
	2	0	0	0	3	0	1	0	1	1	3	1	10	0	0	1	1	2	
	Tier Totals	2	2	2	6	2	2	5	4	2	7	4	38	0	0	3	3	6	
3. Generic Knowledge and Abilities Categories																			
				1	2	3	4						10	1	2	3	4		
				2	3	2	3						10	2	2	1	2		

- Note:
1. Ensure that at least two topics from every K/A category are sampled within each tier of the RO outline (i.e., the 'Tier Totals' in each WA category shall not be less than two). Refer to Section D.1.c for additional guidance regarding SRO sampling.
 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 SWO-only exam must total 25 points.
 3. Select topics from many systems and evolutions; avoid selecting more than two K/A topics from a given system or evolution unless they relate to plant-specific priorities.
 4. Systems/evolutions within each group are identified on the associated outline.
 5. The shaded areas are not applicable to the category/tier.
 - 6.* The generic (G) K/As in Tiers 1 and 2 shall be selected from Section 2 of the WA Catalog, but the topics must be relevant to the applicable evolution or system. The SRO K/As must also be linked to 10 CFR 55.43 or an SRO-level learning objective.
 7. On the following pages, enter the WA numbers, a brief description of each topic, the topics' importance ratings (IR) 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; summarize all the SRO-only knowledge and non-A2 ability categories in the columns labeled "K" and "A." Use duplicate pages for RO and SRO-only exams.
 - h. For Tier 3, enter the K/A numbers, descriptions, importance ratings, and point totals on Form ES-401-3.
 - i. Refer to ES-401, Attachment 2, for guidance regarding the elimination of inappropriate K/A statements.

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ES-401		PWR Examination Outline Emergency and Abnormal Plant Evolutions - Tier 1/Group 1 (RO/SROx)						Form ES-401-2		
E/APE #	Name/ Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	IR	#
000007	(BW/E028 E10; CE/E02) Reactor Trip - Stabilization - Recovery / 1		✓					✓ EK2.02: Knowledge of the interrelationships between a reactor trip and the following: Breakers, relays, and disconnects.	2.6 / 2.8	1
000008	Pressurizer Vapor Space Accident / 3						✓	✓ AA2.06: Ability to determine and interpret the following as they apply to the Pressurizer Vapor Space Accident: PORV logic control under low-pressure conditions.	3.3 / 3.6	1
000009	Small Break LOCA / 3						x	x EA2.39: Ability to determine or interpret the following as they apply to a small break LOCA: Adequate core cooling.	4.3 / 4.7	1
000011	Large Break LOCA / 3				✓			✓ EA1.13: Ability to operate and monitor the following as they apply to a Large Break LOCA: Safety Injection Components.	4.1 / 4.2	1
000015/17	RCP Malfunctions / 4							Not Selected.		
000022	Loss of Rx Coolant Makeup / 2	✓						✓ AK1.01: Knowledge of the operational implications of the following concepts as they apply to Loss of Reactor Coolant Pump Makeup: Consequences of thermal shock to RCP seals.	2.8 / 3.2	1
000025	Loss of RHR System / 4						x	x 2.4.7: Knowledge of event based EOP mitigation strategies.	3.1 / 3.8	1
000026	Loss of Component Cooling Water / 8			✓				✓ AK3.02: Knowledge of the reasons for the following responses as they apply to Loss of Component Cooling Water: The automatic actions (alignments) within the CCWS resulting from the actuation of the ESFAS.	3.6 / 3.9	1
000027	Pressurizer Pressure Control System Malfunction / 3			✓				✓ AK3.01: Knowledge of the reasons for the following responses as they apply to Pressurizer Pressure Control Malfunctions: Isolation of PZR spray following loss of PZR heaters.	3.5 / 3.8	1
000029	ATWS / 1			✓				✓ EK3.09: Knowledge of the reasons for the following responses as they apply to the ATWS: Opening centrifugal charging pump suction valves from RWST.	3.7 / 4.0	1
000038	Steam Gen. Tube Rupture / 3			✓				✓ EK3.05: Knowledge of the reasons for the following responses as they apply to the SGTR: Normal operating precautions to preclude or minimize SGTR.	4.0 / 4.3	1
000040	(BW/E05; CE/E05; W/E12) Steam Line Rupture - Excessive Heat Transfer / 4		✓					✓ W/E12 EK2.2: Knowledge of the interrelations between the (Uncontrolled Depressurization of all Steam Generators) 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.	3.6 / 3.9	1
000054	(CE/E06) Loss of Main Feedwater / 4						✓	✓ 2.4.31: Knowledge of annunciators, alarms, and indications and use of response instructions.	3.3 / 3.4	1
000055	Station Blackout / 6	✓					x	✓ EK1.01: Knowledge of the operational implications of the following concepts as they apply to the Station Blackout: Effect of battery discharge rates on capacity. x EA2.03: Ability to determine or interpret the following as they apply to a Station Blackout: Actions necessary to restore power.	3.3 / 3.7 3.9 / 4.7	1 1
000056	Loss of Off-site Power / 6				✓			✓ AA1.26: Ability to operate and / or monitor the following as they apply to Loss of Offsite Power: Circuit Breakers.	2.5 / 2.6	1
030055	Loss of Vital AC Inst. Bus / 6			✓			x	✓ AK3.01: Knowledge of the reasons for the following responses as they apply to the Loss of Vital AC Instrument Bus: Actions contained in EOP for loss of vital ac electrical instrument bus. x 2.4.35: Knowledge of local Auxiliary Operator tasks during emergency operations including system geography and system implications.	4.1 / 4.4 3.3 / 3.5	1 1
000058	Loss of DC Power / 6					✓	x	✓ AA2.01: Ability to determine and interpret the following as they apply to the loss of DC Power: That a loss of dc power has occurred; verification that substitute power sources have come on line. x 2.4.32: Knowledge of operator response to loss of all annunciators.	3.7 / 4.1 3.3 / 3.5	1 1
000062	Loss of Nuclear Svc Water / 4				✓		x	✓ AA1.06: Ability to operate and / or monitor the following as they apply to the Loss of Nuclear Service Water (SWS): Control of flow rates to components cooled by the SWS. x AA2.04: Ability to determine and interpret the following as they apply to the Loss of Nuclear Service Water: The normal values and upper limits for the temperatures of components cooled by SWS.	2.9 / 2.9 2.5 / 2.9	1 1
000065	Loss of Instrument Air / 8					✓		✓ AA2.01: Ability to determine and interpret the following as they apply to the Loss of Instrument Air: Cause and effect of low-pressure instrument air alarm.	2.9 / 3.2	1

W/E04 LOCA Outside Containment / 3			✓			✓ W/E04 EK3.2: Knowledge of the reasons for the following responses as they apply to the (LOCA Outside Containment): Normal, abnormal and emergency operating procedures associated with (LOCA Outside Containment).	3.4 / 4.0	1
W/E11 Loss of Emergency Coolant Recirc. / 4				✓		✓ W/E11 EA1.2: Ability to operate and / or monitor the following as they apply to the (Loss of Emergency Coolant Recirculation): Operating behavior characteristics of the facility.	3.5 / 3.8	1
BW/E04; W/E05 Inadequate Heat Transfer - Loss of Secondary Heat Sink / 4					x	x EA2.1: Ability to determine and interpret the following as they apply to the (Loss of Secondary Heat Sink): Facility conditions and selection of appropriate procedures during abnormal and emergency operations.	3.4 / 4.4	1
	K 1	K 2	K 3	A 1	A 2	G		
K/A Category Totals:	2	2	6	4	3	1	Group Point Total:	18 / 7

ES-401		PWR Examination Outline Emergency and Abnormal Plant Evolutions- Tier 1/Group 2 (RO/ /SROx)						Form ES-401-2			
E/APE #	Name	Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	IR	#
000001	Continuous Rod Withdrawal	11							Not Selected.		
000003	Dropped Control Rod	1							Not Selected.		
000005	Inoperable/Stuck Control Rod	1							Not Selected.		
000024	Emergency Boration	1							Not Selected.		
000028	Pressurizer Level Malfunction	2							Not Selected.		
000032	Loss of Source Range Ni	7					✓		✓ AA1.01: Ability to operate and / or monitor the following as they apply to the Loss of Source Range Nuclear Instrumentation: Manual restoration of power.	3.1 / 3.4	1
000033	Loss of Intermediate Range Ni	1 7						✓	✓ AA2.04: Ability to determine and interpret the following as they apply to the Loss of Intermediate Range Nuclear Instrumentation: Satisfactory overlap between source-range, intermediate-range, and power-range instrumentation.	3.2/ 3.6	1
000036	(BW/A08) Fuel Handling Accident	8							Not Selected.		
000037	Steam Generator Tube Leak	13							Not Selected.		
000051	Loss of Condenser Vacuum	4							Not Selected.		
000059	Accidental Liquid RadWaste Rel.	19					✓		✓ AA1.01: Ability to operate and / or monitor the following as they apply to the Accidental Liquid Radwaste Release: Radioactive-liquid monitor.	3.5/ 3.5	1
000060	Accidental Gaseous Radwaste Rel.	9							Not Selected.		
000061	ARM System Alarms	1 7						✓	✓ AA2.01: Ability to determine and interpret the following as they apply to the Area Radiation Monitoring (ARM) System Alarms: ARM panel displays.	3.5/3.7	1
000067	Plant Fire On-site	8						✓	2.4.18: Knowledge for specific bases for EOPs.	2.7 / 3.6	1
000068	(BW/A06) Control Room Evac.	8							Not Selected.		
000069	(W/E14) Loss of CTMT Integrity	5							Not Selected.		
000074	(W/E06&E07) Inad. Core Cooling	1 4			✓				✓ W/E06 EK3.1: Knowledge of the reasons for the following responses as they apply to (Degraded Core Cooling): 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.	3.4 / 8.8	1
000076	High Reactor Coolant Activity	9		✓					✓ AK2.01 Knowledge of the interrelations between the High Reactor Coolant Activity and the following: Process radiation monitors.	2.6 13.C	1
W/E01 & E02	Wediagnosis & SI Termination	3						x	x 2.1.20: Ability to execute procedures.	4.3 14.2	1
W/E13	Steam Generator Over-pressure	4		✓				x	✓ W/E13 EK 2.1 Knowledge of the interrelations between the (Steam Generator Overpressure) and the following: Components, and functions of control and safety systems, including instrumentation, signals, interlocks, failure modes, and automatic and manual features. x W/E13 EA2.1: Ability to determine and interpret the following as they apply to the (Steam Generator Overpressure): Facility conditions and selection of appropriate procedures during abnormal and emergency operations.	3.0 / 3.1 2.9 / 3.4	1 1
W/E15	Containment Flooding	5						x	x W/E15 EA2.1: Ability to determine and interpret the following as they apply to (Containment Flooding): Facility conditions and selection of appropriate procedures during abnormal and emergency operations.	2.7 / 3.2	1
W/E16	High Containment Radiation	19							Not Selected.		
BW/A01	Plant Runback	1							NA		
BW/A02&A03	Loss of NNI-X/Y	7							NA		
BW/A04	Turbine Trip	1 4							NA		
BW/A05	Emergency Diesel Actuation	6							NA		

BW/A07 Flooding / 8								NA		
BW/E03 Inadequate Subcooling Margin / 4								NA		
BW/E08; W/E03 LOCA Cooldown - Depress. / 4							X	x W/E03 EA2.2: Ability to determine and interpret the following as they apply to the (LOCA Cooldown and Depressurization): Adherence to appropriate procedures and operation within the limitations in the facility's license and amendments.	3.5 / 4.1	1
BW/E09; CE/A13; W/E09&E10 Natural Circ. / 4							X	x W/E10 EA 2.1: Ability to determine and interpret the following as they apply to the (Natural Circulation with Steam Void in Vessel with / without RVLIS): Facility conditions and selection of appropriate procedures during abnormal and emergency operations.	3.2 / 3.9	1
BW. E13&E14 EOP Rules and Enclosures								NA		
CE/A11; W/E08 RCS Overcooling - PTS / 4							✓	✓ 2.1.7: Ability to evaluate plant performance and make operational judgements based on operating characteristics, reactor behavior, and instrument interpretation.	3.7 / 4.4	1
CE/A16 Excess RCS Leakage / 2								NA		
CE/E09 Functional Recovery								NA		
		K	K	K	A	A	G			
	1	2	0	1	0	2	4			
K/A Category Point Totals:	0	2	1	2	2	2		Group Point Total:		9/5

ES-401	PWR Examination Outline Plant Systems - Tier 2/Group 1 (RO / SROx)										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				✓								✓ K4.03: Knowledge of RCPs design feature(s) and / or interlock(s) which provide for the following: Adequate lubrication of the RCP.	2.5 / 2.8	1
004 Chemical and Volume Control								✓				✓ A2.17: Ability to (a) predict the impacts of the following malfunctions or operations on the CVCS and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations.	3.4 / 3.7	1
												x 2.1.32 Ability to explain and apply all system limits and precautions.	3.4 / 3.8	1
005 Residual Heat Removal					✓							✓ K5.02: Knowledge of the operational implications of the following concepts as they apply to the RHRS: Need for adequate subcooling.	3.4 / 3.5	1
006 Emergency Core Cooling						✓						✓ K6.03: Knowledge of the effect of a loss or malfunction on the following will have on the ECCS: Safety Injection Pumps.	3.6 / 3.9	1
007 Pressurizer Relief/Quench Tank					✓							✓ K5.02: Knowledge of the operational implications of the following concepts as they apply to PRTS: Method of forming a steam bubble in the PZR.	3.1 / 3.4	1
008 Component Cooling Water	✓			✓								✓ K1.02: Knowledge of the physical connections and / or cause-effect relationships between the CCWS and the following systems: Loads cooled by CCWS.	3.3 / 3.4	1
												✓ K4.01: Knowledge of CCWS design feature(s) and / or interlock(s) which provide for the following: Automatic start of standby pump.	3.1 / 3.3	1
010 Pressurizer Pressure Control							✓					✓ A1.01: Ability to predict and / or monitor changes in parameters (to prevent exceeding design limits) associated with operating the PZR PCS controls including: PZR and RCS boron concentrations.	2.8 / 2.9	1
012 Reactor Protection	✓										✓	✓ K1.05: Knowledge of the physical connections and / or cause-effect relationships between the RPS and the following systems: ESFAS.	3.8 / 3.9	1
												✓ A4.04: Ability to manually operate and / or monitor in the control room: Bistable, trips, reset and test switches.	3.3 / 3.3	1
013 Engineered Safety Features Actuation			✓								✓	✓ K3.01: Knowledge of the effect that a loss or malfunction of the ESFAS will have on the following: Fuel.	4.4 / 4.7	1
												✓ A3.02: Ability to monitor automatic operation of the ESFAS including: Operation of actuated equipment.	4.1 / 4.2	1
022 Containment Cooling			✓								✓	✓ K3.02: Knowledge of the effect that a loss or malfunction of the CCS will have on the following: Containment instrument readings.	3.0 / 3.3	1
												✓ 2.4.22: Knowledge of the bases for prioritizing safety functions during abnormal / emergency operations.	3.0 / 4.0	1
025 Ice Condenser												NA -Surry has no Ice Condensers		
026 Containment Spray								✓			✓	✓ A2.07: Ability to (a) predict the impacts of the following malfunctions or operations on the CSS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Loss of containment spray pump suction when in recirculation mode, possibly caused by clogged sump screen, pump inlet high temperature (exceeded cavitation, voiding), or sump level below cutoff (interlock) limit.	3.6 / 3.9	1
												✓ 2.4.46: Ability to verify that alarms are consistent with plant conditions.	3.5 / 3.6	1
039 Main and Reheat Steam							✓					✓ A1.09: Ability to predict and / or monitor changes in parameters (to prevent exceeding design limits) associated with operating the MRSS controls including: Main steam line radiation monitors.	2.5 / 2.7	1
056 Condensate								✓			x	✓ A2.04: Ability to (a) predict the impacts of the following malfunctions or operations on the Condensate System; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Loss of condensate pumps.	2.6 / 2.8	1
												x 2.4.45: Ability to prioritize and interpret the significance of each annunciator or alarm.	3.3 / 3.6	1
059 Main Feedwater							✓					✓ A1.03: Ability to predict and / or monitor changes in parameters (to prevent exceeding design limits) associated with operating the MFW controls including: Power level restrictions for operation of MFW pumps and valves.	2.7 / 2.9	1

061 Auxiliary/Emergency Feedwater							✓							✓ A1.04: Ability to predict and / or monitor changes in parameters (to prevent exceeding design limits) associated with operating the AFW controls including: AFW source tank level.	3.9 / 3.9	1
062 AC Electrical Distribution							✓	x						✓ A1.01: Ability to predict and / or monitor changes in parameters (to prevent exceeding design limits) associated with operating the ac distribution system controls including: Significant D/G load limits.	3.4 / 3.8	1
														x A2.12: Ability to (a) predict the impacts of the following malfunctions or operations on the ac distribution system; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Restoration of power to a system with a fault on it.	3.2 / 3.4	1
063 DC Electrical Distribution												✓		✓ A4.01: Ability to manually operate and / or monitor in the control room: Major breakers and control power fuses.	2.8 / 3.1	1
064 Emergency Diesel Generator		✓												✓ K2.01: Knowledge of bus power supplies to the following: Air compressors.	2.7 / 3.1	1
073 Process Radiation Monitoring												✓		✓ 2.1.23: Ability to perform specific system and integrated plant procedures during all modes of plant operation.	3.9 / 4.0	1
076 Service Water		✓												✓ K2.04: Knowledge of bus power supplies to the following: Reactor building closed cooling water.	2.5 / 2.6	1
078 Instrument Air				✓								✓		✓ A4.01: Ability to manually operate and / or monitor in the control room: Pressure gauges.	3.1 / 3.1	1
														✓ K4.02: Knowledge of IAS design feature(s) and / or interlock(s) which provide for the following: Cross-over to other air systems.	3.2 / 3.5	1
103 Containment								x				✓		✓ A4.04: Ability to manually operate and / or monitor in the control room: Phase A and phase B resets.	3.5 / 3.5	1
														x 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 tests.	2.0 / 2.6	1
		K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	A5				
K/A Category Point Totals:	2	2	2	3	2	1	5	3	1	4	3			Group Point Total:		28/4

ES-401	PWR Examination Outline Plant Systems - Tier 2/Group 2 (RO / SROx)											Form ES-401-2		
System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	WA Topic(s)	IR	#
001 Control Rod Drive												Not Selected.		
002 Reactor Coolant												Not Selected.		
011 Pressurizer level Control						✓						✓ K6.06: Knowledge of the effect of a loss or malfunction on the following will have on the PZR LCS: Correlation of demand signal indication on charging pump flow valve controller to the valve position.	2.5 / 2.8	1
014 Rod Position Indication									✓			✓ A2.05: Ability to (a) predict the impacts of the following malfunctions or operations on the RPIS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Reactor trip.	3.9 / 4.1	1
015 Nuclear Instrumentation				✓								✓ K4.07: Knowledge of NIS design feature(s) and / or interlock(s) provide for the following: Permissives.	3.7 / 3.8	1
016 Non-nuclear Instrumentation										✓		✓ A4.01: Ability to manually operate and / or monitor in the control room: NNI channel select controls.	2.9 / 2.8	1
017 In-core Temperature Monitor												Not Selected.		
027 Containment Iodine Removal										✓		✓ A4.03: Ability to manually operate and / or monitor in the control room: CIRIS fans.	3.3 / 3.2	1
028 Hydrogen Recombiner and Purge Control											✓	✓ 2.2.12: Knowledge of surveillance procedures.	3.0 / 3.4	1
029 Containment Purge												Not Selected.		
033 Spent Fuel Pool Cooling												Not Selected.		
034 Fuel Handling Equipment										✓		✓ A4.01: Ability to manually operate and / or monitor in the control room: Radiation levels.	3.3 / 3.7	1
035 Steam Generator									✓			✓ A3.01: Ability to monitor automatic operation of the S/G including: S/G water level control.	4.0 / 3.9	1
041 Steam Dump/Turbine Bypass Control												Not Selected.		
045 Main Turbine Generator												Not Selected.		
055 Condenser Air Removal												Not Selected.		
068 Liquid Radwaste				✓					x			✓ K4.01: Knowledge of design feature(s) and / or interlock(s) which provide for the following: Safety and environmental precautions for handling hot, acidic, and radioactive liquids. x A2.02: Ability to (a) predict the impacts of the following malfunctions or operations on the Liquid Radwaste System; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Lack of tank recirculation prior to release.	3.4 / 4.1 2.7 / 2.8	1 1
071 Waste Gas Disposal				✓								✓ K4.06: Knowledge of design feature(s) and / or interlock(s) which provide for the following: Sampling and monitoring of waste gas release tanks.	2.7 / 3.5	1
072 Area Radiation Monitoring												Not Selected.		
075 Circulating Water												Not Selected.		
079 Station Air											x	x 2.4.48: Ability to interpret control room indications to verify the status and operation of system, and understand how operator actions and directives affect plant and system conditions.	3.5 / 3.8	1
086 Fire Protection												Not Selected.		
WA Category Point Totals:	0	0	0	3	0	1	0	1	1	3	1	Group Point Total:		10/2

ES-401		Generic Knowledge and Abilities Outline (Tier 3)			Form ES-401-3	
Facility: Surry		Date of Exam: 2004				
Category	K/A #	Topic	RO		SRO-Only	
			IR	#	IR	#
1. Conduct of Operations	2.1.11	Knowledge of less than one hour technical specification action statements for systems.	3.0 / 3.8	1		
	2.1.25	Ability to obtain and interpret station reference materials such as graphs, monographs, and tables which contain performance data.	2.8 / 3.1	1		
	2.1.4	Knowledge of shift staffing requirements.			2.3 / 3.4	1
	2.1.34	Ability to maintain primary and secondary plant chemistry within allowable limits.			2.3 / 2.9	1
	Subtotal				2	
2. Equipment Control	2.2.22	Knowledge of limiting conditions for operations and safety limits.	3.4 / 4.1	1		
	2.2.23	Ability to track limiting conditions for operations.	2.6 / 3.8	1		
	2.2.27	Knowledge of the refueling process.	2.6 / 3.5	1		
	2.2.31	Knowledge of procedures and limitations involved in initial core loading.			2.2 / 2.9	1
	2.2.6	Knowledge of the process for making changes in procedures as described in the safety analysis report.			2.3 / 3.3	1
Subtotal				3		2
3. Radiation Control	2.3.10	Ability to perform procedures to reduce excessive levels of radiation and guard against personnel exposure .	2.9 / 3.3	1		
	2.3.9	Knowledge of the process for performing a containment purge.	2.5 / 3.4	1		
	2.3.2	Knowledge of facility ALARA program.			2.5 / 2.9	1
	Subtotal				2	
4. Emergency Procedures / Plan	2.4.12	Knowledge of general operating crew responsibilities during emergency operations.	3.4 / 3.9	1		
	2.4.49	Ability to perform without reference to procedures those actions that require immediate operation of system components and controls.	4.0 / 4.0	1		
	2.4.11	Knowledge of abnormal condition procedures	3.4 / 3.6	1		
	2.4.29	Knowledge of the emergency plan.			2.6 / 4.0	1
	2.4.38	Ability to take actions called for in the facility emergency plan, including (if required) supporting or acting as emergency coordinator.			2.2 / 4.0	1
Subtotal				3		2
Tier 3 Point Total				10		7