

Facility: Waterford III Date of Exam: 10/5/00 Exam Level: SRO													
Tier	Group	K/A Category Points											Point Total
		K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G *	
1. Emergency & Abnormal Plant Evolutions	1	2	3	5				6	4			4	24
	2	3	1	3				3	3			3	16
	3	0	1	1				1	0			0	3
	Tier Totals	5	5	9				10	7			7	43
2. Plant Systems	1	2	0	2	2	1	1	3	1	3	2	2	19
	2	2	1	2	1	2	1	1	2	1	3	1	17
	3	1	0	0	0	0	1	0	0	1	1	0	4
	Tier Totals	5	1	4	3	3	3	4	3	5	6	3	40
3. Generic Knowledge and Abilities					Cat 1		Cat 2		Cat 3		Cat 4		17
					4		5		4		4		
<p>Note: 1. Ensure that at least two topics from every K/A category are sampled within each tier (i.e., the "Tier Totals" in each K/A category shall not be less than two).</p> <p>2. Actual point totals must match those specified in the table.</p> <p>3. Select topics from many systems; avoid selecting more than two or three K/A topics from a given system unless they relate to plant-specific priorities.</p> <p>4. Systems/evolutions within each group are identified on the associated outline.</p> <p>5. The shaded areas are not applicable to the category/tier.</p> <p>6.* The generic 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>7. On the following pages, enter the K/A numbers, a brief description of each topic, the topics' importance ratings for the SRO license level, and the point totals for each system and category. K/As below 2.5 should be justified on the basis of plant-specific priorities. Enter the tier totals for each category in the table above.</p>													

NUREG-1021, Revision 8

ES-401 PWR SRO Examination Outline Form ES-401-3
 Emergency and Abnormal Plant Evolutions - Tier 1/Group 1

E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
000001 Continuous Rod Withdrawal / 1	X						AK1.20 - Knowledge of the operational implications of the following concepts as they apply to Continuous Rod Withdrawal: Differential rod worth (CFR 41.8 / 41.10 / 45.3)	3.3	1
000003 Dropped Control Rod / 1		X					AK2.05 - Knowledge of the interrelations between the Dropped Control Rod and the following: Control rod drive power supplies and logic circuits (CFR 41.7 / 45.7)	2.8	1
000005 Inoperable/Stuck Control Rod / 1			X				AK3.02 - Knowledge of the reasons for the following responses as they apply to the Inoperable / Stuck Control Rod: Rod insertion limits (CFR 41.5,41.10 / 45.6 / 45.13)	4.2	1
000011 Large Break LOCA / 3				X			EA1.03 - Ability to operate and monitor the following as they apply to a Large Break LOCA: Securing of RCPs (CFR 41.7 / 45.5 / 45.6)	4.0	1
W/E04 LOCA Outside Containment / 3							Not applicable. Waterford III is a CE plant.	N/A	0
W/EO1 & E02 Rediagnosis & SI Termination / 3							Not applicable. Waterford III is a CE plant	N/A	0
000015/17 RCP Malfunctions / 4		X					AK2.08 - Knowledge of the interrelations between the Reactor Coolant Pump Malfunctions (Loss of RC Flow) and the following: CCWS (CFR 41.7 / 45.7)	2.6	1
BW/E09; CE/A13; W/E09&E10 Natural Circ. / 4						X	2.1.32 - Ability to explain and apply all system limits and precautions. (CFR: 41.10 / 43.2 / 45.12)	3.8	1
000024 Emergency Boration / 1		X					AK2.04 - Knowledge of the interrelations between the Emergency Boration and the following: Pumps (CFR 41.7 / 45.7)	2.5	1
000026 Loss of Component Cooling Water / 8			X				AK3.03 - Knowledge of the reasons for the following responses as they apply to the Loss of Component Cooling Water: Guidance actions contained in EOP for Loss of CCW (CFR 41.5,41.10 / 45.6 / 45.13)	4.2	1
000026 Loss of Component Cooling Water / 8					X		AA2.02 Ability to determine and interpret the following as they apply to the Loss of Component Cooling Water: The cause of possible CCW loss (CFR: 43.5 / 45.13)	3.6	1
000029 Anticipated Transient w/o Scram / 1				X			EA1.12 - Ability to operate and monitor the following as they apply to a ATWS: M/G set power supply and reactor trip breakers (CFR 41.7 / 45.5 / 45.6)	4.0	1
000040 (BW/E05; CE/E05; W/E12) Steam Line Rupture - Excessive Heat Transfer / 4			X				EK3.3 - Knowledge of the reasons for the following responses as they apply to the (Excess Steam Demand) Manipulation of controls required to obtain desired operating results during abnormal, and emergency situations. (CFR: 41.5 / 41.10, 45.6, 45.13)	4.0	1
CE/A11; W/E08 RCS Overcooling - PTS / 4						X	2.4.23 - Knowledge of the bases for prioritizing emergency procedure implementation during emergency operations. (CFR: 41.10 / 45.13)	3.8	1
000051 Loss of Condenser Vacuum / 4					X		AA2.01 - Ability to determine and interpret the following as they apply to the Loss of Condenser Vacuum: Cause for low vacuum condition (CFR: 43.5 / 45.13)	2.7*	1
000051 Loss of Condenser Vacuum / 4				X			AA1.04 - Ability to operate and / or monitor the following as they apply to the Loss of Condenser Vacuum: Rod position (CFR 41.7 / 45.5 / 45.6)	2.5*	1

ES-401 PWR SRO Examination OutlineForm ES-401-3
Emergency and Abnormal Plant Evolutions - Tier 1/Group 1

E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
000055 Station Blackout / 6						X	2.4.21 - Knowledge of the parameters and logic used to assess the status of safety functions including: Reactivity control, Core cooling and heat removal, Reactor coolant system integrity, Containment conditions, and Radioactivity release control. (CFR: 43.5 / 45.12)	4.3	1
000057 Loss of Vital AC Elec. 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 (CFR 41.5,41.10 / 45.6 / 45.13)	4.4	1
000057 Loss of Vital AC Elec. Inst. Bus / 6				X			AA1.06 - Ability to operate and / or monitor the following as they apply to the Loss of Vital AC Instrument Bus: Manual control of components for which automatic control is lost (CFR 41.7 / 45.5 / 45.6)	3.5	1
000059 Accidental Liquid RadWaste Rel. / 9					X		AA2.04 - Ability to determine and interpret the following as they apply to the Accidental Liquid Radwaste Release: The valve lineup for a release of radioactive liquid (CFR: 43.5 / 45.13)	3.5*	1
000062 Loss of Nuclear Service Water / 4				X			AA1.05 - Ability to operate and / or monitor the following as they apply to the Loss of Nuclear Service Water (SWS): The CCWS surge tank, including level control and level alarms, and radiation alarm (CFR 41.7 / 45.5 / 45.6)	3.1	1
000067 Plant Fire On-site / 9				X			AA1.01 - Ability to operate and / or monitor the following as they apply to the Plant Fire on Site: Respirator air pack (CFR 41.7 / 45.5 / 45.6)	3.6	1
000068 (BW/A06) Control Room Evac. / 8			X				AK3.06 - Knowledge of the reasons for the following responses as they apply to the Control Room Evacuation: Transfer of S/G atmospheric relief valves to local control; operation to maintain specified T-ave (CFR 41.5,41.10 / 45.6 / 45.13)	4.3	1
000069 (W/E14) Loss of CTMT Integrity / 5	X						AK1.01 - Knowledge of the operational implications of the following concepts as they apply to Loss of Containment Integrity: Effect of pressure on leak rate (CFR 41.8 / 41.10 / 45.3)	3.1	1
000074 (W/E06&E07) Inad. Core Cooling / 4					X		EA2.01 - Ability to determine or interpret the following as they apply to a Inadequate Core Cooling: Subcooling margin (CFR 43.5 / 45.13)	4.9	1
BW/E03 Inadequate Subcooling Margin / 4							Not Applicable. Waterford III is a CE plant.	N/A	0
000076 High Reactor Coolant Activity / 9						X	2.2.25 - Knowledge of bases in technical specifications for limiting conditions for operations and safety limits. (CFR: 43.2)	3.7	1
BW/A02&A03 Loss of NNI-X/Y / 7							Not Applicable. Waterford III is a CE plant.	N/A	0
K/A Category Totals:	2	3	5	6	4	4	Group Point Total:		24

ES-401 PWR SRO Examination Outline Form ES-401-3
Emergency and Abnormal Plant Evolutions - Tier 1/Group 2

E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
000007 (BW/E02&E10; CE/E02) Reactor Trip - Stabilization - Recovery / 1						X	2.1.33 - Ability to recognize indications for system operating parameters which are entry-level conditions for technical specifications. (CFR: 43.2 / 43.3 / 45.3)	4.0	1
BW/A01 Plant Runback / 1							Not Applicable. Waterford III is a CE plant.	N/A	0
BW/A04 Turbine Trip / 4							Not Applicable. Waterford III is a CE plant.	N/A	0
000008 Pressurizer Vapor Space Accident / 3			X				AK3.05 - Knowledge of the reasons for the following responses as they apply to the Pressurizer Vapor Space Accident: ECCS termination or throttling criteria (CFR 41.5, 41.10 / 45.6 / 45.13)	4.5	1
000009 Small Break LOCA / 3					X		EA2.32 - Ability to determine or interpret the following as they apply to a small break LOCA: SDM (CFR 43.5 / 45.13)	3.6	1
BW/E08; W/E03 LOCA Cooldown - Depress. / 4							Not Applicable. Waterford III is a CE plant.	N/A	0
W/E11 Loss of Emergency Coolant Recirc. / 4							Not Applicable. Waterford III is a CE plant.	N/A	0
000022 Loss of Reactor Coolant Makeup / 2						X	2.4.46 - Ability to verify that the alarms are consistent with the plant conditions. (CFR: 43.5 / 45.3/45.12)	3.6	1
000025 Loss of RHR System / 4				X			AA1.12 - Ability to operate and / or monitor the following as they apply to the Loss of Residual Heat Removal System: RCS temperature indicators (CFR 41.7 / 45.5 / 45.6)	3.5	1
000027 Pressurizer Pressure Control System Malfunction / 3	X						AK1.03 - Knowledge of the operational implications of the following concepts as they apply to Pressurizer Pressure Control Malfunctions: Latent heat of vaporization/condensation (CFR 41.8 / 41.10 / 45.3)	2.9	1
000032 Loss of Source Range NI / 7					X		AA2.07 - Ability to determine and interpret the following as they apply to the Loss of Source Range Nuclear Instrumentation: Maximum allowable channel disagreement (CFR: 43.5 / 45.13)	3.4	1
000033 Loss of Intermediate Range NI / 7		X					AK2.01 - Knowledge of the interrelations between the Loss of Intermediate Range Nuclear Instrumentation and the following: Power supplies, including proper switch position (CFR 41.7 / 45.7)	2.9	1
000037 Steam Generator Tube Leak / 3	X						AK1.02 - Knowledge of the operational implications of the following concepts as they apply to Steam Generator Tube Leak: Leak rate vs. pressure drop (CFR 41.8 / 41.10 / 45.3)	3.9	1
000038 Steam Generator Tube Rupture / 3				X			EA1.24 - Ability to operate and monitor the following as they apply to a SGTR: Safety injection pump ammeter and indicators (CFR 41.7 / 45.5 / 45.6)	3.4	1
000054 (CE/E06) Loss of Main Feedwater / 4			X				EK3.3 - Knowledge of the reasons for the following responses as they apply to the (Loss of Feedwater): Manipulation of controls required to obtain desired operating results during abnormal, and emergency situations. (CFR: 41.5 / 41.10, 45.6 / 45.13)	3.8	1
BW/E04; W/E05 Inadequate Heat Transfer - Loss of Secondary Heat Sink / 4							Not Applicable. Waterford III is a CE plant.	N/A	0
							AA1.02 - Ability to operate and / or monitor the following as they apply to the Loss of DC Power: Static inverter dc input breaker, frequency meter,		

ES-401 PWR SRO Examination Outline Form ES-401-3
 Emergency and Abnormal Plant Evolutions - Tier 1/Group 2

E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
000058 Loss of DC Power / 6				X			ac output breaker, and ground fault detector (CFR 41.7 / 45.5 / 45.6)	3.1	1
000060 Accidental Gaseous Radwaste Rel. / 9	X						AK1.02 - Knowledge of the operational implications of the following concepts as they apply to Accidental Gaseous Radwaste Release: Biological effects on humans of the various types of radiation, exposure levels that are acceptable for personnel in a nuclear reactor power plant; the units used for radiation intensity measurements and for radiation exposure levels (CFR 41.8 / 41.10 / 45.3)	3.1	1
000061 ARM System Alarms / 7						X	2.4.11 - Knowledge of abnormal condition procedures. (CFR: 41.10 / 43.5 / 45.13)	3.6	1
W/E16 High Containment Radiation / 9							Not Applicable. Waterford III is a CE plant.	N/A	0
000065 Loss of Instrument Air / 8			X				AK3.04 - Knowledge of the reasons for the following responses as they apply to the Loss of Instrument Air: Cross-over to backup air supplies (CFR 41.5,41.10 / 45.6 / 45.13)	3.2	1
CE/E09 Functional Recovery					X		EA2.2 - Ability to determine and interpret the following as they apply to the (Functional Recovery): Adherence to appropriate procedures and operation within the limitations in the facility's license and amendments. (CFR: 43.5 / 45.13)	4.0	1
K/A Category Point Totals:	3	1	3	3	3	3	Group Point Total:		16

ES-401 PWR SRO Examination Outline Form ES-401-3
 Emergency and Abnormal Plant Evolutions - Tier 1/Group 3

E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
000028 Pressurizer Level Malfunction / 2			X				AK3.05 - Knowledge of the reasons for the following responses as they apply to the Pressurizer Level Control Malfunctions: Actions contained in EOP for PZR level malfunction (CFR 41.5,41.10 / 45.6 / 45.13)	4.1	1
000036 (BW/A08) Fuel Handling Accident / 8							Deselected topic by random selection.	N/A	0
000056 Loss of Off-site Power / 6				X			AA1.09 - Ability to operate and / or monitor the following as they apply to the Loss of Offsite Power: CCW pump (CFR 41.7 / 45.5 / 45.6)	3.3	1
BW/E13&E14 EOP Rules and Enclosures							Not Applicable. Waterford III is a CE plant.	N/A	0
BW/A05 Emergency Diesel Actuation / 6							Not Applicable. Waterford III is a CE plant.	N/A	0
BW/A07 Flooding / 8							Not Applicable. Waterford III is a CE plant.	N/A	0
CE/A16 Excess RCS Leakage / 2		X					AK2.2 - Knowledge of the interrelations between the (Excess RCS Leakage) and the following: Facility 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. (CFR: 41.7 / 45.7)	3.3	1
W/E13 Steam Generator Over-pressure / 4							Not Applicable. Waterford III is a CE plant.	N/A	0
W/E15 Containment Flooding / 5							Not Applicable. Waterford III is a CE plant.	N/A	0

K/A Category Point Totals:	0	1	1	1	0	0	Group Point Total:	3
----------------------------	---	---	---	---	---	---	--------------------	---

ES-401 PWR SRO Examination Outline Form ES-401-3
Plant Systems - Tier 2/Group 1

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
001 Control Rod Drive	X											K1.01 Knowledge of the physical connections and/or cause-effect relationships between the CRDS and the following systems: CCW (CFR: 41.2 to 41.9 / 45.7 to 45.8)	3.2*	1
003 Reactor Coolant Pump				X								K4.07 - Knowledge of RCPS design feature(s) and/or interlock(s) which provide for the following: Minimizing RCS leakage (mechanical seals) (CFR: 41.7)	3.4	1
004 Chemical and Volume Control						X						K6.38 - Knowledge of the effect of a loss or malfunction on the following CVCS components: Methods of minimizing the amount of RCS coolant water processed and reducing the amount of waste water generated (CFR: 41.7 / 45.7)	3.2	1
004 Chemical and Volume Control									X			A3.02 - Ability to monitor automatic operation of the CVCS, including: Letdown isolation (CFR: 41.7 / 45.5)	3.6	1
013 Engineered Safety Features Actuation										X		A4.01 - Ability to manually operate and/or monitor in the control room: ESFAS-initiated equipment which fails to actuate (CFR: 41.7 / 45.5 to 45.8)	4.8	1
013 Engineered Safety Features Actuation											X	2.1.32 - Ability to explain and apply all system limits and precautions. (CFR: 41.10 / 43.2 / 45.12)	3.8	1
014 Rod Position Indication							X					A1.04 - Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the RPIS controls, including: Axial and radial power distribution (CFR: 41.5/45.5)	3.8	1
015 Nuclear Instrumentation			X									K3.02 - Knowledge of the effect that a loss or malfunction of the NIS will have on the following: CRDS (CFR: 41.7 / 45.6)	3.5*	1
017 In-core Temperature Monitor								X				A2.02 - Ability to (a) predict the impacts of the following malfunctions or operations on the ITM system; and (b) based on those predictions, use procedures to correct, control or mitigate the consequences of those malfunctions or operations: Core damage (CFR: 41.5 / 43.5 / 45.3 / 45.5)	4.1	1
022 Containment Cooling							X					A1.02 - Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the CCS controls including: Containment pressure (CFR: 41.5 / 45.5)	3.8	1
025 Ice Condenser												Not Applicable. Waterford III is a CE plant.	N/A	0

ES-401 PWR SRO Examination Outline Form ES-401-3
 Plant Systems - Tier 2/Group 1

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
026 Containment Spray									X			A3.01 - Ability to monitor automatic operation of the CSS, including: Pump starts and correct MOV positioning (CFR: 41.7 / 45.5)	4.5	1
056 Condensate											X	2.4.31 - Knowledge of annunciators alarms and indications, and use of the response instructions. (CFR: 41.10 /45.3)	3.4	1
059 Main Feedwater									X			A3.02 - Ability to monitor automatic operation of the MFW, including: Programmed levels of the S/G (CFR: 41.7 / 45.5)	3.1	1
061 Auxiliary/Emergency Feedwater							X					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 (CFR: 41.5/45.5)	3.9	1
061 Auxiliary/Emergency Feedwater			X									K3.02 - Knowledge of the effect that a loss or malfunction of the AFW will have on the following: S/G (CFR: 41.7 / 45.6)	4.4	1
063 DC Electrical Distribution	X											K1.04 - Knowledge of the physical connections and/or cause- effect relationships between the DC electrical system and the following systems: Battery ventilation system (CFR: 41.2 to 41.9 / 45.7 to 45.8)	2.7	1
068 Liquid Radwaste										X		A4.02 - Ability to manually operate and/or monitor in the control room: Remote radwaste release (CFR: 41.7 / 45.5 to 45.8)	3.1	1
071 Waste Gas Disposal					X							K5.05 - Knowledge of the operational implication of the following concepts as they apply to the Waste Gas Disposal System: Methods of measuring hydrogen gas concentration (CFR: 41.5 / 45.7)	2.7	1
072 Area Radiation Monitoring				X								K4.02 - Knowledge of ARM system design features and/or interlocks which provide for the following: Fuel Bldg Isolation (CFR: 41.7)	3.4*	1
K/A Category Point Totals:	2	0	2	2	1	1	3	1	3	2	2	Group Point Total:		19

ES-401 PWR SRO Examination OutlineForm ES-401-3
Plant Systems - Tier 2/Group 2

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
002 Reactor Coolant											X	2.4.45 - Ability to prioritize and interpret the significance of each annunciator or alarm. (CFR: 43.5 / 45.3/45.12)	3.6	1
006 Emergency Core Cooling							X					A1.04 - Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the ECCS controls including: D/P across accumulator isolation valve (CFR: 41.5/45.5)	2.5	1
010 Pressurizer Pressure Control				X								K4.02 - Knowledge of PZR PCS design feature(s) and/or inter-lock(s) which provide for the following: Prevention of uncovering PZR heaters (CFR: 41.7)	3.4	1
011 Pressurizer Level Control								X				A2.03 - Ability to (a) predict the impacts of the following malfunctions or operations on the PZR LCS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Loss of PZR level (CFR: 41.5/43.5/45.3/45.13)	3.9	1
012 Reactor Protection			X									K3.04 - Knowledge of the effect that a loss or malfunction of the RPS will have on the following: ESFAS (CFR: 41.7 / 45.6)	4.1*	1
016 Non-nuclear Instrumentation									X			A3.02 - Ability to monitor automatic operation of the NNIS, including Relationship between meter readings and actual parameter value: (CFR: 41.7 / 45.5)	2.9*	1
027 Containment Iodine Removal					X							K5.01 - Knowledge of the operational implications of the following concepts as they apply to the CIRS (ARRS): Purpose of charcoal filters (CFR: 41.7 / 45.7)	3.4*	1
028 Hydrogen Recombiner and Purge Control	X											K1.01 - Knowledge of the physical connections and/or cause-effect relationships between the HRPS and the following systems: Containment annulus ventilation system (including pressure limits) (CFR: 41.2 to 41.9 / 45.7 to 45.8)	2.5	1
029 Containment Purge		X										K2.03 - Knowledge of bus power supplies to the following: Purge exhaust radiation monitors (CFR: 41.7)	2.7*	1
033 Spent Fuel Pool Cooling										X		A4.02 - Ability to manually operate and/or monitor in the control room: SFPCS valves (CFR: 41.7 / 45.5 to 45.8)	2.8	1
												K6.02 - Knowledge of the effect of a loss or malfunction on the following will have on the Fuel Handling System: Radiation monitoring		

ES-401 PWR SRO Examination Outline Form ES-401-3
Plant Systems - Tier 2/Group 2

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
034 Fuel Handling Equipment						X						systems (CFR: 41.7 / 45.7)	3.3	1
035 Steam Generator			X									K3.02 - Knowledge of the effect that a loss or malfunction of the S/GS will have on the following: ECCS (CFR: 41.7 / 45.6)	4.3	1
039 Main and Reheat Steam										X		A4.04 - Ability to manually operate and/or monitor in the control room: Emergency feedwater pump turbines (CFR: 41.7 / 45.5 to 45.8)	3.9	1
055 Condenser Air Removal												Deselected topic by random selection.	N/A	0
062 AC Electrical Distribution								X				A2.11 - 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: Aligning standby equipment with correct emergency power source (D/G) (CFR: 41.5 / 43.5 / 45.3 / 45.13)	4.1	1
064 Emergency Diesel Generator	X											K1.05 - Knowledge of the physical connections and/or cause- effect relationships between the ED/G system and the following systems: Starting air system (CFR: 41.2 to 41.9 / 45.7 to 45.8)	3.9	1
073 Process Radiation Monitoring										X		A4.02 - Ability to manually operate and/or monitor in the control room: Radiation monitoring system control panel (CFR: 41.7 / 45.5 to 45.8)	3.7	1
075 Circulating Water												Deselected topic by random selection.	N/A	0
079 Station Air												Deselected topic by random selection.	N/A	0
086 Fire Protection					X							K5.04 - Knowledge of the operational implication of the following concepts as they apply to the Fire Protection System: Hazards to personnel as a result of fire type and methods of protection (CFR: 41.5 / 45.7)	3.5	1
103 Containment												Deselected topic by random selection.	N/A	0
K/A Category Point Totals:	2	1	2	1	2	1	1	2	1	3	1	Group Point Total:		17

ES-401 PWR SRO Examination Outline Form ES-401-3
 Plant Systems - Tier 2/Group 3

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
005 Residual Heat Removal						X						K6.11 - Knowledge of the effect that a loss or malfunction of the following will have on the RHR (SDC): RHR (SDC) heat exchanger and outlet flow control (CFR: 41.7 / 45.7)	2.7*	1
007 Pressurizer Relief/Quench Tank												Deselected topic by random selection.	N/A	0
008 Component Cooling Water									X			A3.06 - Ability to monitor automatic operation of the CCWS, including: Typical CCW pump operating conditions, including vibration and sound levels and motor current (CFR: 41.7 / 45.5)	2.5	1
041 Steam Dump/Turbine Bypass Control												Deselected topic by random selection.	N/A	0
045 Main Turbine Generator												Deselected topic by random selection.	N/A	0
076 Service Water	X											K1.20 - Knowledge of the physical connections and/or cause-effect relationships between the SWS (ACCW) and the following systems: AFW (CFR: 41.2 to 41.9 / 45.7 to 45.8)	3.4*	1
078 Instrument Air										X		A4.01 - Ability to manually operate and/or monitor in the control room: Pressure gauges (CFR: 41.7 / 45.5 to 45.8)	3.1	1
K/A Category Point Totals:	1	0	0	0	0	1	0	0	1	1	0	Group Point Total:		4

ES-401 PWR SRO Examination Outline Form ES-401-3
Plant Systems - Tier 2/Group 3

Plant-Specific Priorities

System / Topic	Recommended Replacement for...	Reason	Points
Plant-Specific Priority Total: (limit 10)			

Facility: Waterford 3		Date of Exam: 10/10/00		Exam Level: SRO	
Category	K/A #	Topic	Imp.	Points	
Conduct of Operations	2.1.10	Knowledge of conditions and limitations in the facility license. (CFR: 43.51/ 45.13)	3.9	1	
	2.1.23	2.1.23 Ability to perform specific system and integrated plant procedures during all modes of plant operation. (CFR: 45.2 / 45.6)	4.0	1	
	2.1.29	2.1.29 Knowledge of how to conduct and verify valve lineups. (CFR: 41.10 / 45.1 / 45.12)	3.3	1	
	2.1.31	Ability to locate control room switches, controls and indications and to determine that they are correctly reflecting the desired plant lineup. (CFR: 45.12)	3.9	1	
	Total				4
Equipment Control	2.2.11	Knowledge of the process for controlling temporary changes. (CFR: 41.10 / 43.3 / 45.13)	3.4*	1	
	2.2.22	Knowledge of limiting conditions for operations and safety limits. (CFR: 43.2 / 45.2)	4.1	1	
	2.2.27	Knowledge of the refueling process. (CFR: 43.6 / 45.13)	3.5	1	
	2.2.28	Knowledge of new and spent fuel movement procedures. (CFR: 43.7 / 45.13)	3.5	1	
	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. (CFR: 45.12)	3.3	1	
	Total				5
Radiation Control	2.3.1	Knowledge of 10 CFR: 20 and related facility radiation control requirements. (CFR: 41.12 / 43.4 45.9 /45.10)	3.0	1	
	2.3.6	Knowledge of the requirements for reviewing and approving release permits. (CFR: 43.4 / 45.10)	3.1	1	
	2.3.8	Knowledge of the process for performing a planned gaseous radioactive release. (CFR: 43.4 / 45.10)	3.2	1	
	2.3.10	Ability to perform procedures to reduce excessive levels of radiation and guard against personnel exposure. (CFR: 43.4 / 45.10)	3.3	1	
	Total				4
Emergency Procedures/ Plan	2.4.22	Knowledge of the bases for prioritizing safety functions during abnormal/emergency operations. (CFR: 43.5 / 45.12)	4.0	1	
	2.4.28	Knowledge of procedures relating to emergency response to sabotage. (CFR: 41.10 / 43.5 / 45.13)	3.3	1	
	2.4.49	Ability to perform without reference to procedures those actions that require immediate operation of system components and controls. (CFR: 41.10 / 43.2 / 45.6)	4.0	1	
	2.4.50	Ability to verify system alarm setpoints and operate controls identified in the alarm response manual. (CFR: 45.3)	3.3	1	
	Total				4
Tier 3 Point Total RO(SRO)				13(17)	