Facility: Kewaunee Date of Exam: 2/07-14/2011

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	3	3	N/A			3	3	N/A		3	18	3	3	6
	2	1	1	1				2	2			2	9	2	2	4
	Tier Totals	4	4	4				5	5			5	27	5	5	10
2. Plant Systems	1	3	3	3	3	2	2	3	2	3	2	2	28	3	2	5
	2	1	0	1	1	1	1	1	1	1	1	1	10	2	1	3
	Tier Totals	4	3	4	4	3	3	4	3	4	3	3	38	5	3	8
3. Generic Knowledge and Abilities Categories		1			2			3			4		10	1	2	3	4	7
		3			2			3			2			2	2	1	2	

Note:

1. Ensure that at least two topics from every applicable K/A category are sampled within each tier of the RO and SRO 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 $\pm$ 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.

ES-401	PWR Examination Outline Emergency and Abnormal Plant Evolutions – Tier 1/Group 1 (**RO** ~~/ SRO~~)							Form ES-401-2	
E/APE # / Name / Safety Function	K 1	K 2	K 3	A 1	A 2	G	K/A Topic(s)	IR	#
000007 ~~(BW/E02&E10; CE/E02)~~ Reactor Trip - Stabilization - Recovery / 1				x			1.07 - Ability to operate and/or monitor the following as they apply to a reactor trip: MT/G trip; verification that the MT/G has been tripped	4.3	1
000008 Pressurizer Vapor Space Accident / 3					x		2.15 - Ability to determine and interpret the following as they apply to the Pressurizer Vapor Space Accident: ESF control board, valve controls, and indicators	3.9	1
000009 Small Break LOCA / 3						x	G 2.1.20 - Ability to interpret and execute procedure steps	4.6	1
000011 Large Break LOCA / 3	x						1.01 - Knowledge of the operational implications of the following concepts as they apply to the Large Break LOCA: Natural circulation and cooling, including reflux boiling	4.1	1
000~~15~~/17 RCP Malfunctions / 4		x					2.10 - Knowledge of the interrelations between the Reactor Coolant Pump Malfunctions and the following: RCP indicators and controls	2.8	1
000022 Loss of Rx Coolant Makeup / 2			x				3.02 - Knowledge of the reasons for the following responses as they apply to the Loss of Reactor Coolant Pump Makeup: Actions contained in SOPs and EOPs for RCPs, loss of makeup, loss of charging, and abnormal charging	3.5	1
000025 Loss of RHR System / 4				x			1.22 - Ability to operate and/or monitor the following as they apply to the Loss of Residual Heat Removal System: Obtaining of water from BWST for LPI system	2.9	1
000026 Loss of Component Cooling Water / 8					x		2.04 - Ability to determine and interpret the following as they apply to the Loss of Component Cooling Water: The normal values and upper limits for the temperatures of the components cooled by CCW	2.5	1
000027 Pressurizer Pressure Control System Malfunction / 3						x	G 2.2.22 - Knowledge of limiting conditions for operations and safety limits.	4.0	1
000029 ATWS / 1	x						1.01 - Knowledge of the operational implications of the following concepts as they apply to the ATWS: Reactor nucleonics and thermo-hydraulics behavior	2.8	1
000038 Steam Gen. Tube Rupture / 3						x	G 2.4.1 - Knowledge of EOP entry conditions and immediate action steps.	4.6	1

000040 (BW/E05; CE/E05; W/E12) Steam Line Rupture - Excessive Heat Transfer / 4							(Not Selected)		
000054 ~~(CE/E06)~~ Loss of Main Feedwater / 4			x				3.04 - Knowledge of the reasons for the following responses as they apply to the Loss of Main Feedwater (MFW): Actions contained in EOPs for loss of MFW	4.4	1
000055 Station Blackout / 6				x			1.06 - Ability to operate and/or monitor the following as they apply to a Station Blackout: Restoration of power with one ED/G	4.1	1
000056 Loss of Off-site Power / 6							(Not Selected)		
000057 Loss of Vital AC Inst. Bus / 6							(Not Selected)		
000058 Loss of DC Power / 6							(Not Selected)		
000062 Loss of Nuclear Svc Water / 4					x		2.02 - Ability to determine and interpret the following as they apply to the Loss of Nuclear Service Water: The cause of possible SWS loss	2.9	1
000065 Loss of Instrument Air / 8			x				3.03 - Knowledge of the reasons for the following responses as they apply to the Loss of Instrument Air: Knowing effects on plant operation of isolating certain equipment from instrument air	2.9	1
W/E04 LOCA Outside Containment / 3	x						1.1 - Knowledge of the operational implications of the following concepts as they apply to the LOCA Outside Containment: Components, capacity, and function of emergency systems	3.5	1
W/E11 Loss of Emergency Coolant Recirc. / 4							(Not Selected)		
~~BW/E04;~~ **W/E05** Inadequate Heat Transfer - Loss of Secondary Heat Sink / 4		x					2.2 - Knowledge of the interrelations between the Loss of Secondary Heat Sink 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	3.9	1
000077 Generator Voltage and Electric Grid Disturbances / 6		x					2.04 - Knowledge of the interrelations between the Generator Voltage and Electric Grid Disturbances and the following: Controllers, positioners	3.0	1
K/A Category Totals:	3	3	3	3	3	3	Group Point Total:		18/~~6~~

ES-401	PWR Examination Outline Emergency and Abnormal Plant Evolutions – Tier 1/Group 2 (**RO** ~~/ SRO~~)							Form ES-401-2	
E/APE # / Name / Safety Function	K 1	K 2	K 3	A 1	A 2	G	K/A Topic(s)	IR	#
000001 Continuous Rod Withdrawal / 1							(Not Selected)		
000003 Dropped Control Rod / 1							(Not Selected)		
000005 Inoperable/Stuck Control Rod / 1							(Not Selected)		
000024 Emergency Boration / 1				x			1.13 - Ability to operate and/or monitor the following as they apply to the Emergency Boration: Boric acid flow controller	3.2	1
000028 Pressurizer Level Malfunction / 2							(Not Selected)		
000032 Loss of Source Range NI / 7							(Not Selected)		
000033 Loss of Intermediate Range NI / 7						x	G 2.4.46 - Ability to verify that the alarms are consistent with the plant conditions.	4.2	1
000036 (BW/A08) Fuel Handling Accident / 8							(Not Selected)		
000037 Steam Generator Tube Leak / 3					x		2.11 - Ability to determine and interpret the following as they apply to the Steam Generator Tube Leak: When to isolate one or more S/Gs	3.8	1
000051 Loss of Condenser Vacuum / 4							(Not Selected)		
000059 Accidental Liquid RadWaste Rel. / 9							(Not Selected)		
000060 Accidental Gaseous Radwaste Rel. / 9							(Not Selected)		
000061 ARM System Alarms / 7	x						1.01 - Knowledge of the operational implications of the following concepts as they apply to Area Radiation Monitoring (ARM) System Alarms: Detector limitations	2.5	1
000067 Plant Fire On-site / 8							(Not Selected)		
000068 ~~(BW/A06)~~ Control Room Evac. / 8		x					2.02 - Knowledge of the interrelations between the Control Room Evacuation and the following: Reactor trip system	3.7	1
000069 (W/E14) Loss of CTMT Integrity / 5							(Not Selected)		
000074 ~~(W/E06&E07)~~ Inad. Core Cooling / 4			x				3.07 - Knowledge of the reasons for the following responses as they apply to the Inadequate Core Cooling: Starting up emergency feedwater and RCPs	4.0	1
000076 High Reactor Coolant Activity / 9				x			1.04 - Ability to operate and/or monitor the following as they apply to the High Reactor Coolant Activity: Failed fuel-monitoring equipment	3.2	1
W/EO1 & E02 Rediagnosis & SI Termination / 3							(Not Selected)		
W/E13 Steam Generator Over-pressure / 4							(Not Selected)		
W/E15 Containment Flooding / 5							(Not Selected)		
W/E16 High Containment Radiation / 9							(Not Selected)		

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BW/A01 Plant Runback / 1							(Not Applicable to plant)		
BW/A02&A03 Loss of NNI-X/Y / 7							(Not Applicable to plant)		
BW/A04 Turbine Trip / 4							(Not Applicable to plant)		
BW/A05 Emergency Diesel Actuation / 6							(Not Applicable to plant)		
BW/A07 Flooding / 8							(Not Selected)		
BW/E03 Inadequate Subcooling Margin / 4							(Not Applicable to plant)		
~~BW/E08;~~ **W/E03** LOCA Cooldown - Depress. / 4					x		2.2 - 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	1
BW/E09; CE/A13; W/E09&E10 Natural Circ. / 4							(Not Selected)		
BW/E13&E14 EOP Rules and Enclosures							(Not Applicable to plant)		
~~CE/A11;~~ **W/E08** RCS Overcooling - PTS / 4						x	G 2.1.30 - Ability to locate and operate components, including local controls.	4.4	1
CE/A16 Excess RCS Leakage / 2							(Not Applicable to plant)		
CE/E09 Functional Recovery							(Not Applicable to plant)		
K/A Category Totals:	1	1	1	2	2	2	Group Point Total:		~~9~~/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							5.01 - Knowledge of the operational implications of the following concepts as they apply to the RCPS: The relationship between the RCPS flow rate and the nuclear reactor core operating parameters (quadrant power tilt, imbalance, DNB rate, local power density, difference in loop T-hot pressure)	3.3	1
004 Chemical and Volume Control					x							5.16 - Knowledge of the operational implications of the following concepts as they apply to the CVCS: Source of T-ave. and T-ref. signals to control and RPS	3.2	1
005 Residual Heat Removal						x						6.03 - Knowledge of the effect of a loss or malfunction of the following will have on the RHRS: RHR heat exchanger	2.5	1
006 Emergency Core Cooling		x					x					2.04 - Knowledge of bus power supplies to the following: ESFAS – operated valves 1.07 - Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the ECCS controls including: Pressure, high and low	3.6 3.3	2
007 Pressurizer Relief/Quench Tank								x				2.01 - Ability to (a) predict the impacts of the following malfunctions or operations on the PRTS and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Stuck-open PORV or code safety	3.9	1
008 Component Cooling Water		x							x			2.02 - Knowledge of bus power supplies to the following: CCW pump, including emergency backup 3.01 - Ability to monitor automatic operation of the CCWS, including: Setpoints on instrument signal levels for normal operations, warnings, and trips that are applicable to the CCWS	3.0 3.2	2
010 Pressurizer Pressure Control										x		4.02 - Ability to manually operate and/or monitor in the control room: PZR heaters	3.7	1

012 Reactor Protection								x			x	2.02 - 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: Loss of Instrument Power G 2.4.49 - Ability to perform without reference to procedures those actions that require immediate operation of system components and controls.	3.6 4.6	2
013 Engineered Safety Features Actuation	x											1.18 - Knowledge of the physical connections and/or cause-effect relationships between the ESFAS and the following systems: Premature reset of ESF actuation	3.7	1
022 Containment Cooling		x	x									2.01 - Knowledge of bus power supplies to the following: Containment cooling fans 3.02 - Knowledge of the effect that a loss or malfunction of the CCS will have on the following: Containment instrumentation readings	3.0 3.0	2
025 Ice Condenser												(Not Applicable to plant)		
026 Containment Spray			x									3.01 - Knowledge of the effect that a loss or malfunction of the CSS will have on the following: CCS	3.9	1
039 Main and Reheat Steam			x	x								3.05 - Knowledge of the effect that a loss or malfunction of the MRSS will have on the following: RCS 4.07 - Knowledge of MRSS design feature(s) and/or interlock(s) which provide for the following: Reactor building isolation	3.6 3.4	2
059 Main Feedwater				x								4.19 - Knowledge of MFW System design feature(s) and/or interlock(s) which provide for the following: Automatic feedwater isolation of MFW	3.2	1
061 Auxiliary/Emergency Feedwater						x						6.01 - Knowledge of the effect of a loss or malfunction of the following will have on the AFW System components: Controllers and positioners	2.5	1
062 AC Electrical Distribution							x					1.01 - Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the A.C. Distribution System controls including: Significance of D/G load limits	3.4	1

063 DC Electrical Distribution				x			x					4.01 - Knowledge of D.C. Electrical System design feature(s) and/or interlock(s) which provide for the following: Manual/automatic transfers of control 1.01 - Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the D.C. Electrical System controls including: Battery capacity as it is affected by discharge rate	2.7 2.5	2
064 Emergency Diesel Generator									x			3.03 - Ability to monitor automatic operation of the ED/G System, including: Indicating lights, meters, and recorders	3.4	1
073 Process Radiation Monitoring										x		4.02 - Ability to manually operate and/or monitor in the control room: Radiation monitoring system control panel	3.7	1
076 Service Water											x	G 2.4.4 - Ability to recognize abnormal indications for system operating parameters thaty are entry-level conditions for emergency and abnormal operating procedures.	4.5	1
078 Instrument Air	x								x			1.05 - Knowledge of the physical connections and/or cause-effect relationships between the IAS and the following systems: MSIV air 3.01 - Ability to monitor automatic operation of the IAS, including: Air pressure	3.4 3.1	2
103 Containment	x											1.05 - Knowledge of the physical connections and/or cause-effect relationships between the Containment System and the following systems: Personnel access hatch and emergency access hatch	2.8	1
K/A Category Totals:	3	3	3	3	2	2	3	2	3	2	2	Group Point Total:		28/~~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												(Not Selected)		
002 Reactor Coolant				x								4.07 - Knowledge of RCS design feature(s) and/or interlock(s) which provide for the following: Contraction and expansion during heatup and cooldown	3.1	1
011 Pressurizer Level Control												(Not Selected)		
014 Rod Position Indication												(Not Selected)		
015 Nuclear Instrumentation					x							5.06 - Knowledge of the operational implications of the following concepts as they apply to the NIS: Subcritical multiplications and NIS indications	3.4	1
016 Non-nuclear Instrumentation												(Not Selected)		
017 In-core Temperature Monitor						x						6.01 - Knowledge of the effect of a loss or malfunction of the following ITM System components: Sensors and detectors	2.7	1
027 Containment Iodine Removal												(Not Selected)		
028 Hydrogen Recombiner and Purge Control	x											1.01 - Knowledge of the physical connections and/or cause-effect relationships between the HRPS and the following systems: Containment annulus ventilation system (including pressure limits)	2.5	1
029 Containment Purge												(Not Selected)		
033 Spent Fuel Pool Cooling								x				2.02 - Ability to (a) predict the impacts of the following malfunctions or operations on the Spent Fuel Pool Cooling System and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Loss of SFPCS	2.7	1
034 Fuel Handling Equipment							x					1.02 - Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the Fuel Handling System controls including: Water level in the refueling canal	2.9	1
035 Steam Generator												(Not Selected)		
041 Steam Dump/Turbine Bypass Control												(Not Selected)		

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045 Main Turbine Generator									x			3.11 - Ability to monitor automatic operation of the MT/G System, including: Generator trip	2.6	1
055 Condenser Air Removal												(Not Selected)		
056 Condensate												(Not Selected)		
068 Liquid Radwaste												(Not Selected)		
071 Waste Gas Disposal										x		4.25 - Ability to manually operate and/or monitor in the control room: Setting of process radiation monitor alarms, automatic functions, and adjustment of setpoints	3.2	1
072 Area Radiation Monitoring												(Not Selected)		
075 Circulating Water											x	G 2.2.36 - Ability to analyze the effect of maintenance activities, such as degraded power sources, on the status of limiting conditions for operations.	3.1	1
079 Station Air												(Not Selected)		
086 Fire Protection			x									3.01 - Knowledge of the effect that a loss or malfunction of the Fire Protection System will have on the following: Shutdown capability with redundant equipment	2.7	1
K/A Category Totals:	1	0	1	1	1	1	1	1	1	1	1	Group Point Total:		10/~~3~~

ES-401	PWR Examination Outline Emergency and Abnormal Plant Evolutions – Tier 1/Group 1 (~~RO~~ / **SRO**)							Form ES-401-2	
E/APE # / Name / Safety Function	K 1	K 2	K 3	A 1	A 2	G	K/A Topic(s)	IR	#
000007 (BW/E02&E10; CE/E02) Reactor Trip - Stabilization - Recovery / 1							(Not Selected)		
000008 Pressurizer Vapor Space Accident / 3							(Not Selected)		
000009 Small Break LOCA / 3							(Not Selected)		
000011 Large Break LOCA / 3							(Not Selected)		
000015/17 RCP Malfunctions / 4							(Not Selected)		
000022 Loss of Rx Coolant Makeup / 2							(Not Selected)		
000025 Loss of RHR System / 4							(Not Selected)		
000026 Loss of Component Cooling Water / 8							(Not Selected)		
000027 Pressurizer Pressure Control System Malfunction / 3							(Not Selected)		
000029 ATWS / 1							(Not Selected)		
000038 Steam Gen. Tube Rupture / 3					x		2.07 - Ability to determine and interpret the following as they apply to a SGTR: Plant conditions, from survey of control room indications	4.8	1
000040 ~~(BW/E05; CE/E05; W/E12)~~ Steam Line Rupture - Excessive Heat Transfer / 4						x	G 2.2.40 - Ability to apply Technical Specifications for a system.	4.7	1
000054 (CE/E06) Loss of Main Feedwater / 4							(Not Selected)		
000055 Station Blackout / 6							(Not Selected)		
000056 Loss of Off-site Power / 6						x	G 2.4.6 - Knowledge of EOP mitigation strategies.	4.7	1
000057 Loss of Vital AC Inst. Bus / 6					x		2.15 - Ability to determine and interpret the following as they apply to the Loss of Vital AC Instrument Bus: That a loss of ac has occurred	4.1	1
000058 Loss of DC Power / 6						x	G 2.1.20 - Ability to interpret and execute procedure steps.	4.6	1
000062 Loss of Nuclear Svc Water / 4							(Not Selected)		
000065 Loss of Instrument Air / 8							(Not Selected)		
W/E04 LOCA Outside Containment / 3							(Not Selected)		
W/E11 Loss of Emergency Coolant Recirc. / 4					x		2.2 - Ability to determine and interpret the following as they apply to the Loss of Emergency Coolant Recirculation: Adherence to appropriate procedures and operation within the limitations in the facility's license and amendments	4.2	1
BW/E04; W/E05 Inadequate Heat Transfer - Loss of Secondary Heat Sink / 4							(Not Selected)		

000077 Generator Voltage and Electric Grid Disturbances / 6							(Not Selected)		
K/A Category Totals:					3	3	Group Point Total:		~~18~~/6

ES-401	PWR Examination Outline Emergency and Abnormal Plant Evolutions – Tier 1/Group 2 (~~RO~~ / **SRO**)							Form ES-401-2	
E/APE # / Name / Safety Function	K 1	K 2	K 3	A 1	A 2	G	K/A Topic(s)	IR	#
000001 Continuous Rod Withdrawal / 1							(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						x	G 2.1.32 - Ability to explain and apply system limits and precautions	4.0	1
000033 Loss of Intermediate Range NI / 7							(Not Selected)		
000036 (BW/A08) Fuel Handling Accident / 8							(Not Selected)		
000037 Steam Generator Tube Leak / 3							(Not Selected)		
000051 Loss of Condenser Vacuum / 4							(Not Selected)		
000059 Accidental Liquid RadWaste Rel. / 9							(Not Selected)		
000060 Accidental Gaseous Radwaste Rel. / 9							(Not Selected)		
000061 ARM System Alarms / 7							(Not Selected)		
000067 Plant Fire On-site / 8							(Not Selected)		
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 / 4							(Not Selected)		
000076 High Reactor Coolant Activity / 9					x		2.02 - Ability to determine and interpret the following as they apply to the High Reactor Coolant Activity: Corrective actions required for high fission product activity in RCS	3.4	1
W/EO1 & E02 Rediagnosis & SI Termination / 3							(Not Selected)		
W/E13 Steam Generator Over-pressure / 4						x	G 2.4.21 - Knowledge of the parameters and logic used to assess the status of safety functions, such as reactivity control, core cooling and heat removal, reactor coolant system integrity, containment conditions, radioactivity release control, etc.	4.6	1
W/E15 Containment Flooding / 5					x		2.02 - Ability to determine and interpret the following as they apply to the Containment Flooding: Adherence to appropriate procedures and operation within the limitations in the facility's license and amendments	3.3	1
W/E16 High Containment Radiation / 9							(Not Selected)		
BW/A01 Plant Runback / 1							(Not Applicable to plant)		
BW/A02&A03 Loss of NNI-X/Y / 7							(Not Applicable to plant)		
BW/A04 Turbine Trip / 4							(Not Applicable to plant)		

BW/A05 Emergency Diesel Actuation / 6							(Not Applicable to plant)		
BW/A07 Flooding / 8							(Not Selected)		
BW/E03 Inadequate Subcooling Margin / 4							(Not Applicable to plant)		
~~BW/E08;~~ W/E03 LOCA Cooldown - Depress. / 4							(Not Selected)		
BW/E09; CE/A13; W/E09&E10 Natural Circ. / 4							(Not Selected)		
BW/E13&E14 EOP Rules and Enclosures							(Not Applicable to plant)		
~~CE/A11;~~ W/E08 RCS Overcooling - PTS / 4							(Not Selected)		
CE/A16 Excess RCS Leakage / 2							(Not Applicable to plant)		
CE/E09 Functional Recovery							(Not Applicable to plant)		
K/A Category Totals:					2	2	Group Point Total:		~~9~~/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												(Not Selected)		
004 Chemical and Volume Control												(Not Selected)		
005 Residual Heat Removal												(Not Selected)		
006 Emergency Core Cooling												(Not Selected)		
007 Pressurizer Relief/Quench Tank												(Not Selected)		
008 Component Cooling Water												(Not Selected)		
010 Pressurizer Pressure Control												(Not Selected)		
012 Reactor Protection								x				2.05 - 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	3.2	1
013 Engineered Safety Features Actuation								x				2.01 - Ability to (a) predict the impacts of the following malfunctions or operations on the ESFAS and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: LOCA	4.8	1
022 Containment Cooling												(Not Selected)		
025 Ice Condenser												(Not Applicable to plant)		
026 Containment Spray								x				2.08 - 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: Safe securing of containment spray (when it can be done)	3.7	1
039 Main and Reheat Steam												(Not Selected)		
059 Main Feedwater												(Not Selected)		
061 Auxiliary/Emergency Feedwater												(Not Selected)		
062 AC Electrical Distribution												(Not Selected)		
063 DC Electrical Distribution												(Not Selected)		

064 Emergency Diesel Generator										x	G 2.1.7 - Ability to evaluate plant performance and make operational judgments based on operating characteristics, reactor behavior, and instrument interpretation.	4.7	1
073 Process Radiation Monitoring											(Not Selected)		
076 Service Water											(Not Selected)		
078 Instrument Air											(Not Selected)		
103 Containment										x	G 2.4.30 - Knowledge of events related to system operation/status that must be reported to internal organizations or external agencies, such as the State, the NRC, or the transmission system operator.	4.1	1
K/A Category Totals:								3			2	Group Point Total:	~~28~~/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												(Not Selected)		
002 Reactor Coolant												(Not Selected)		
011 Pressurizer Level Control												(Not Selected)		
014 Rod Position Indication								x				2.05 - 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	4.1	1
015 Nuclear Instrumentation												(Not Selected)		
016 Non-nuclear Instrumentation												(Not Selected)		
017 In-core Temperature Monitor												(Not Selected)		
027 Containment Iodine Removal												(Not Selected)		
028 Hydrogen Recombiner and Purge Control												(Not Selected)		
029 Containment Purge												(Not Selected)		
033 Spent Fuel Pool Cooling												(Not Selected)		
034 Fuel Handling Equipment												(Not Selected)		
035 Steam Generator												(Not Selected)		
041 Steam Dump/Turbine Bypass Control								x				2.02 - Ability to (a) predict the impacts of the following malfunctions or operations on the SDS and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Steam valve stuck open	3.9	1
045 Main Turbine Generator												(Not Selected)		
055 Condenser Air Removal												(Not Selected)		
056 Condensate											x	2.1.32 - Ability to explain and apply system limits and precautions.	4.0	1
068 Liquid Radwaste												(Not Selected)		
071 Waste Gas Disposal												(Not Selected)		
072 Area Radiation Monitoring												(Not Selected)		
075 Circulating Water												(Not Selected)		
079 Station Air												(Not Selected)		
086 Fire Protection												(Not Selected)		

K/A Category Totals:							2			1	Group Point Total:		~~10~~/3

Facility:		Date of Exam:				
Category	K/A #	Topic	RO		SRO-Only	
			IR	#	IR	#
1. Conduct of Operations	2.1.23	Ability to perform specific system and integrated plant procedures during all modes of plant operation.	4.3	1		
	2.1.39	Knowledge of conservative decision making practices.	3.6	1		
	2.1.30	Ability to locate and operate components, including local controls.	4.4	1		
	2.1.40	Knowledge of refueling administrative requirements.			3.9	1
	2.1.20	Ability to interpret and execute procedure steps.			4.6	1
	2.1.					
	Subtotal			3		2
2. Equipment Control	2.2.40	Ability to apply Technical Specifications for a system.	3.4	1		
	2.2.17	Knowledge of the process for managing maintenance activities during power operations, such as risk assessments, work prioritization, and coordination with the transmission system operator.	2.6	1		
	2.2.36	Ability to analyze the effect of maintenance activities, such as degraded power sources, on the status of limiting conditions for operations.			4.2	1
	2.2.43	Knowledge of the process used track inoperable alarms.			3.3	1
	2.2.					
	2.2.					
	Subtotal			2		2
3. Radiation Control	2.3.14	Knowledge of radiation or contamination hazards that may arise during normal, abnormal, or emergency conditions or activities.	3.4	1		
	2.3.4	Knowledge of radiation exposure limits under normal or emergency conditions	3.2	1		
	2.3.12	Knowledge of radiological safety principles pertaining to licensed operator duties, such as containment entry requirements, fuel handling responsibilities, access to locked high-radiation areas, aligning filters, etc.	3.2	1		
	2.3.11	Ability to control radiation releases.			4.3	1
	2.3.					
	2.3.					
	Subtotal			3		1

4. Emergency Procedures / Plan	2.4.39	Knowledge of RO responsibilities in emergency plan implementation.	3.9	1		
	2.4.45	Ability to prioritize and interpret the significance of each annunciator or alarm.	4.1	1		
	2.4.11	Knowledge of abnormal condition procedures.			4.2	1
	2.4.27	Knowledge of "fire in the plant" procedures.			3.9	1
	2.4.					
	2.4.					
	Subtotal			2		2
Tier 3 Point Total				10		7