

Facility: Kewaunee Nuclear Plant Date of Exam: 02/2004 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	4	2	4				5	4			5	24
	2	2	2	3				3	3			3	16
	3	1	0	0				0	1			1	3
	Tier Totals	7	4	7				8	8			9	43
2. Plant Systems	1	1	2	1	1	2	2	2	2	3	1	2	19
	2	2	1	2	2	1	1	2	3	1	1	1	17
	3	1	0	1	1	0	0	0	0	0	1	0	4
	Tier Totals	4	3	4	4	3	3	4	5	4	3	3	40
3. Generic Knowledge and Abilities					Cat 1		Cat 2		Cat 3		Cat 4		17
					5		5		3		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. 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 exam must total 100 points.</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>													

ES-401	PWR SRO Examination Outline Emergency and Abnormal Plant Evolutions - Tier 1/Group 1						Form ES-401-3		
E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
000001 Continuous Rod Withdrawal / 1			X		X		AK3.02 T/S LIMITS-OPERABILITY AA2.03 PROPER ACTIONS	4.3 4.8	2
000003 Dropped Control Rod / 1						X	2.1.6 SUPERVISE-USE PROCEDURES	4.3	1
000005 Inoperable/Stuck Control Rod / 1	X						AK1.05 CALC. MIN. SDM	4.1	1
000011 Large Break LOCA / 3			X				EK3.12 Actions in the EOPs	4.6	1
W/E04 LOCA Outside Containment / 3		X					EK2.2 HEAT REMOVAL SYSTEMS	4.2	1
W/E01 & E02 Rediagnosis & SI Termination / 3				X	X		WE01 EA1.1 COMPONENTS w.r.t SI TERMINATION WE02 EA2 SELECTION OF PROCEDURES	3.7 4.2	2
000015/17 RCP Malfunctions / 4				X			AA1.09 RCS temperature detection	3.2	1
BW/E09; CE/A13; W/E09&E10 Natural Circ. / 4						X	2.4.4 ABNORMAL INDICATIONS / ENTRY CONDITIONS	4.3	1
000024 Emergency Boration / 1	X						AK1.02 BORATION VS. REACTOR POWER	3.9	1
000026 Loss of Component Cooling Water / 8			X				AK3.03 EOP ACTIONS	4.2	1
000029 Anticipated Transient w/o Scram / 1						X	2.4.49 ATWS IMMEDIATE ACTIONS	4.0	1
000040 (BW/E05; CE/E05; W/E12) Steam Line Rupture - Excessive Heat Transfer / 4				X			W/E12 EA1.3 DESIRED OPERATING RESULTS	3.9	1
CE/A11; W/E08 RCS Overcooling - PTS / 4					X		EA2.2 PTS PROCEDURE ADHERENCE	4.1	1
000051 Loss of Condenser Vacuum / 4						X	2.1.30 LOCATE/OPERATE COMPONENTS	3.4	1
000055 Station Blackout / 6	X						EK1.01 BATTERY DISCHARGE EFFECTS	3.7	1
000057 Loss of Vital AC Elec. Inst. Bus / 6				X			AA1.02 MANUAL PZR LEVEL CONTROL	3.7	1
000059 Accidental Liquid RadWaste Rel. / 9		X					AK2.02 RADIOACTIVE-GAS MONITORS	2.7	1
000062 Loss of Nuclear Service Water / 4				X			AA1.02 SWS LOADS	3.3	1
000067 Plant Fire On-site / 9					X		AA2.06 NEED FOR PRESSURIZING THE CONTROL ROOM	3.6	1
000068 (BW/A06) Control Room Evac. / 8							N/A TO KEWAUNEE (W)	-	-
000069 (W/E14) Loss of CTMT Integrity / 5						X	2.2.23 ABILITY TO TRACK LCOs	3.8	1
000074 (W/E06&E07) Inad. Core Cooling / 4	X						WE07 EK1.3 SATURATED CORE COOLING INDICATIONS	3.6	1
BW/E03 Inadequate Subcooling Margin / 4							N/A TO KEWAUNEE (W)	-	-
000076 High Reactor Coolant Activity / 9			X				AK3.05 CORRECTIVE ACTIONS	3.6	1
BW/A02&A03 Loss of NNI-X/Y / 7							N/A TO KEWAUNEE (W)	-	-
K/A Category Totals:	4	2	4	5	4	5	Group Point Total:		24

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							NOT SELECTED	-	-
BW/A01 Plant Runback / 1							N/A TO KEWAUNEE (W)	-	-
BW/A04 Turbine Trip / 4							N/A TO KEWAUNEE (W)	-	-
000008 Pressurizer Vapor Space Accident / 3					X		AA2.03 PORV position indicators	3.9	1
000009 Small Break LOCA / 3						X	2.4.45 PRIORITIZE / INTERPRET ANNUNCIATORS	3.6	1
BW/E08; W/E03 LOCA Cooldown - Depress. / 4							NOT SELECTED	-	-
W/E11 Loss of Emergency Coolant Recirc. / 4			X				EK3.4 MCR TEAMWORK	3.8	1
000022 Loss of Reactor Coolant Makeup / 2				X			AA1.08 VCT LEVEL	3.3	1
000025 Loss of RHR System / 4					X		AA2.02 LEAKAGE FROM RHR	3.8	1
000027 Pressurizer Pressure Control System Malfunction / 3						X	2.2.25 T/S BASES/LCOs/SAFETY LIMITS	3.7	1
000032 Loss of Source Range NI / 7	X						AK1.01 EFFECTS OF CHANGES IN VOLTAGE	3.1	1
000033 Loss of Intermediate Range NI / 7					X		AA2.01 EQUIVALENCY OF SR/IR/PR	3.5	1
000037 Steam Generator Tube Leak / 3				X			AA1.13 S/G BLOWDOWN RAD MONITORS	4.0	1
000038 Steam Generator Tube Rupture / 3			X				EK3.08 CRITERIA FOR SECURING RCPs	4.2	1
000054 (CE/E06) Loss of Main Feedwater / 4							NOT SELECTED	-	-
BW/E04; W/E05 Inadequate Heat Transfer - Loss of Secondary Heat Sink / 4		X					W/E05 EK2.2 INTERRELATIONS OF HEAT REMOVAL SYSTEMS	4.2	1
000058 Loss of DC Power / 6						X	2.2.22 LCO KNOWLEDGE	4.1	1
000060 Accidental Gaseous Radwaste Rel. / 9	X						AK1.02 BIOLOGICAL EFFECTS	3.1	1
000061 ARM System Alarms / 7		X					AK2.01 DETECTORS AT EACH LOCATION	2.6	1
W/E16 High Containment Radiation / 9			X				EK3.3 MANIPULATION OF CONTROLS REQUIRED	3.0	1
000065 Loss of Instrument Air / 8				X			AA1.05 RPS	3.3	1
CE/E09 Functional Recovery							N/A TO KEWAUNEE (W)	-	-
K/A Category Point Totals:	2	2	3	3	3	3	Group Point Total:		16

E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
000028 Pressurizer Level Malfunction / 2					X		AA2.06 LETDOWN FLOW INDICATOR	2.8	1
000036 (BW/A08) Fuel Handling Accident / 8						X	2.3.3 RADIATION CONTROL	2.9	1
000056 Loss of Off-site Power / 6							NOT SELECTED	-	-
BW/E13&E14 EOP Rules and Enclosures							N/A TO KEWAUNEE (W)	-	-
BW/A05 Emergency Diesel Actuation / 6							N/A TO KEWAUNEE (W)	-	-
BW/A07 Flooding / 8							N/A TO KEWAUNEE (W)	-	-
CE/A16 Excess RCS Leakage / 2							N/A TO KEWAUNEE (W)	-	-
W/E13 Steam Generator Over-pressure / 4	X						EK1.1 EMERGENCY SYSTEMS COMPONENTS, FUNCTIONS	3.4	1
W/E15 Containment Flooding / 5							NOT SELECTED	-	-
K/A Category Point Totals:	1	0	0	0	1	1	Group Point Total:		3

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
001 Control Rod Drive	X					X						K1.03 CRDM CONNECTORS K6.11 CRDS FAULT DETECTION	3.4 3.2	2
003 Reactor Coolant Pump		X										K2.01 RCPS POWER SUPPLIES	3.1	1
004 Chemical and Volume Control			X									K3.05 PRZR LCS MALFUNCTION	4.2	1
013 Engineered Safety Features Actuation				X								K4.03 MSIVs	4.4	1
014 Rod Position Indication					X							K5.02 RPI'S INDEP FROM DEMAND IND.	3.3	1
015 Nuclear Instrumentation						X						K6.03 COMPONENT INTERCONNECTIONS	3.0	1
017 In-core Temperature Monitor							X					A1.01 MONITORING CET	3.9	1
022 Containment Cooling									X			A3.01 INITIATING SAFEGUARDS	4.3	1
025 Ice Condenser												N/A TO KEWAUNEE (W)	-	-
026 Containment Spray									X			A3.01 PUMP STARTS / MOVES	4.5	1
056 Condensate								X				A2.04 LOSS OF CD PUMPS	2.8	1
059 Main Feedwater											X	2.2.2 MANIPULATE MFW CONTROLS	3.5	1
061 Auxiliary/Emergency Feedwater							X					A1.01 AFW - S/G LEVEL	4.2	1
063 DC Electrical Distribution		X										K2.01 MAJOR DC LOADS	3.1	1
068 Liquid Radwaste								X				A2.04 FAILURE OF AUTO-ISOLATION	3.3	1
071 Waste Gas Disposal									X	X		A4.09 WG RELEASE RAD MONITORS A3.02 PRESS. REG. FOR WG VENT	3.5 2.8	2
072 Area Radiation Monitoring					X						X	K5.01 ARM RADIATION THEORY 2.3.10 RAD EXPOSURE. REDUCTION	3.0 3.3	2
K/A Category Point Totals:	1	2	1	1	2	2	2	2	3	1	2	Group Point Total:		19

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
002 Reactor Coolant								X				A2.03 LOSS OF FORCED CIRCULATION	4.3	1
006 Emergency Core Cooling												NOT SELECTED	-	-
010 Pressurizer Pressure Control	X											K1.03 RCS INTERFACE	3.7	1
011 Pressurizer Level Control												NOT SELECTED	-	-
012 Reactor Protection			X									K3.04 LOSS OF RPS → ESFAS	4.1	1
016 Non-nuclear Instrumentation				X								K4.01 READING NNIS OUTSIDE MCR	2.9	1
027 Containment Iodine Removal												N/A TO KEWAUNEE (W)	-	-
028 Hydrogen Recombiner and Purge Control					X							K5.02 FLAMMABLE H2 CONC.	3.9	1
029 Containment Purge							X					A1.02 RADIATION LEVELS	3.4	1
033 Spent Fuel Pool Cooling								X				A2.03 LOSS OF SFP WATER	3.5	1
034 Fuel Handling Equipment								X				A2.01 DROPPED FUEL ASSEMBLY	4.4	1
035 Steam Generator									X			A3.01 SGWLC	3.9	1
039 Main and Reheat Steam										X		A4.04 AFW PUMP TURBINES	3.9	1
055 Condenser Air Removal	X											K1.06 PRM SYSTEM	2.6	1
062 AC Electrical Distribution											X	2.1.8 COORD. ACTIVITIES OUT OF MCR	3.6	1
064 Emergency Diesel Generator		X										K2.02 FUEL OIL PUMPS	3.1	1
073 Process Radiation Monitoring			X									K3.01 PRM FAULT → RELEASES	4.2	1
075 Circulating Water				X								K4.01 HEAT SINK	2.8	1
079 Station Air												NOT SELECTED	-	-
086 Fire Protection						X						K6.04 FIRE, SMOKE, HEAT DETECTORS	2.9	1
103 Containment							X					A1.01 CONT. TEMP, PRESS & HUMIDITY	4.1	1
K/A Category Point Totals:	2	1	2	2	1	1	2	3	1	1	1	Group Point Total:		17

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
005 Residual Heat Removal	X											K1.01 RHR -> CCW	3.4	1
007 Pressurizer Relief/Quench Tank												NOT SELECTED	-	-
008 Component Cooling Water										X		A4.01 CCW INDICATIONS / CONTROLS	3.1	1
041 Steam Dump/Turbine Bypass Control												NOT SELECTED	-	-
045 Main Turbine Generator												NOT SELECTED	-	-
076 Service Water			X									K3.07 ESF LOADS	3.9	1
078 Instrument Air				X								K4.03 LOSS OF COOLING	3.3	1
K/A Category Point Totals:	1	0	1	1	0	0	0	0	0	1	0	Group Point Total:		4
Plant-Specific Priorities														
System / Topic	Recommended Replacement for...											Reason	Points	
N/A														
Plant-Specific Priority Total: (limit 10)														

Facility: Kewaunee Nuclear Plant Date of Exam: 02/2004 Exam Level: SRO				
Category	K/A #	Topic	Imp.	Points
Conduct of Operations	2.1.4	Shift staffing requirements	3.4	1
	2.1.10	License conditions/limitations	3.9	1
	2.1.11	T/S action statements (<1 hour)	3.8	1
	2.1.25	Reference materials	3.1	1
	2.1.32	System limits & precautions	3.8	1
	2.1.			
	Total			5
Equipment Control	2.2.6	Making procedure changes	3.3	1
	2.2.1	Perform startup procedures	3.6	1
	2.2.27	Refueling Process	3.5	1
	2.2.26	Refueling administrative requirements	3.7	1
	2.2.34	Effects on core reactivity	3.2	1
	2.2.			
	Total			5
Radiation Control	2.3.8	Planned radioactive release	3.2	1
	2.3.2	ALARA	2.9	1
	2.3.9	Containment Purge	3.4	1
	2.3.			
	2.3.			
	2.3.			
	Total			3

Emergency Procedures/ Plan	2.4.40	SRO EPIP responsibilities	4.0	1
	2.4.1	EOP entry conditions / immed. Actions	4.6	1
	2.4.7	Event-based EOP strategies	3.8	1
	2.4.34	RO tasks outside MCR	3.6	1
	2.4.			
	2.4.			
	Total			
Tier 3 Point Total (RO/SRO)				13/17

Facility: Kewaunee Nuclear Plant Date of Exam: 02/2004 Exam Level: RO													
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	4	1	3				3	2			3	16
	2	3	3	3				2	3			3	17
	3	1	0	1				0	1			0	3
	Tier Totals	8	4	7				5	6			6	36
2. Plant Systems	1	4	1	2	2	1	2	2	2	3	2	2	23
	2	3	3	2	2	1	1	1	2	2	1	2	20
	3	1	0	1	1	1	0	1	1	1	1	0	8
	Tier Totals	8	4	5	5	3	3	4	5	6	4	4	51
3. Generic Knowledge and Abilities					Cat 1		Cat 2		Cat 3		Cat 4		13
					4		4		2		3		

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).
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 exam must total 100 points.
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.
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 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.
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.

ES-401		PWR RO Examination Outline Emergency and Abnormal Plant Evolutions - Tier 1/Group 1						Form ES-401-4	
E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
000005 Inoperable/Stuck Control Rod / 1	X						AK1.05 CALC. MIN. SDM	3.3	1
000015/17 RCP Malfunctions / 4				X			AA1.09 RCS temperature detection	3.1	1
BW/E09; CE/A13; W/E09&E10 Natural Circ. / 4						X	2.4.4 ABNORMAL INDICATIONS / ENTRY CONDITIONS	4.0	1
000024 Emergency Boration / 1	X						AK1.02 BORATION VS. REACTOR POWER	3.6	1
000026 Loss of Component Cooling Water / 8			X				AK3.03 EOP ACTIONS	4.0	1
000027 Pressurizer Pressure Control System Malfunction / 3		X					AK2.03 CONTROLLERS AND POSITIONERS	2.6	1
000040 (BW/E05; CE/E05; W/E12) Steam Line Rupture - Excessive Heat Transfer / 4				X			EA1.3 DESIRED OPERATING RESULTS	3.4	1
CE/A11; W/E08 RCS Overcooling - PTS / 4					X		W/E08 EA2.2 PTS PROCEDURE ADHERENCE	3.5	1
000051 Loss of Condenser Vacuum / 4						X	2.1.30 LOCATE/OPERATE COMPONENTS	3.9	1
000055 Station Blackout / 6	X						EK1.01 BATTERY DISCHARGE EFFECTS	3.3	1
000057 Loss of Vital AC Elec. Inst. Bus / 6				X			AA1.02 MANUAL PZR LEVEL CONTROL	3.8	1
000062 Loss of Nuclear Service Water / 4			X				AK3.03 EOP ACTIONS FOR LONSW	4.0	1
000067 Plant Fire On-site / 9					X		AA2.17 SYSTEMS AFFECTED BY FIRE	3.5	1
000068 (BW/A06) Control Room Evac. / 8							NOT SELECTED	-	-
000069 (W/E14) Loss of CTMT Integrity / 5						X	2.2.23 ABILITY TO TRACK LCOs	2.6	1
000074 (W/E06&E07) Inad. Core Cooling / 4	X						WE07 EK1.3 SATURATED CORE COOLING INDICATIONS	3.2	1
BW/E03 Inadequate Subcooling Margin / 4							N/A TO KEWAUNEE (W)	-	-
000076 High Reactor Coolant Activity / 9			X				AK3.05 HIGH FP ACTIVITY	2.9	1
BW/A02&A03 Loss of NNI-X/Y / 7							N/A TO KEWAUNEE (W)	-	-
K/A Category Totals:	4	1	3	3	2	3	Group Point Total:		16

ES-401		PWR RO Examination Outline Emergency and Abnormal Plant Evolutions - Tier 1/Group 2						Form ES-401-4	
E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
000001 Continuous Rod Withdrawal / 1							NOT SELECTED	-	-
000003 Dropped Control Rod / 1	X						AK1.03 REACTIVITY/POWER RELATION TO ROD MOVES (RO ONLY)	3.5	1
000007 (BW/E02&E10; CE/E02) Reactor Trip - Stabilization - Recovery / 1							NOT SELECTED	-	-
BW/A01 Plant Runback / 1							N/A TO KEWAUNEE (W)	-	-
BW/A04 Turbine Trip / 4							N/A TO KEWAUNEE (W)	-	-
000008 Pressurizer Vapor Space Accident / 3					X		AA2.03 PORV position indicators	3.9	1
000009 Small Break LOCA / 3						X	2.2.45 PRIORITIZE / INTERPRET ANNUNCIATORS	3.3	1
000011 Large Break LOCA / 3							NOT SELECTED	-	-
W/E04 LOCA Outside Containment / 3		X					EK2.2 HEAT REMOVAL SYSTEMS	3.8	1
BW/E08; W/E03 LOCA Cooldown/Depress. / 4							NOT SELECTED	-	-
W/E11 Loss of Emergency Coolant Recirc. / 4			X				EK3.2 PROCEDURES ASSOC. WITH LOSS OF ECR	3.5	1
W/E01 & E02 Rediagnosis & SI Termination / 3							NOT SELECTED	-	-
000022 Loss of Reactor Coolant Makeup / 2				X			AA1.08 VCT LEVEL	3.4	1
000025 Loss of RHR System / 4					X		AA2.02 LEAKAGE FROM RHR	3.4	1
000029 Anticipated Transient w/o Scram / 1						X	2.4.49 ATWS IMMEDIATE ACTIONS	4.0	1
000032 Loss of Source Range NI / 7	X						AK1.01 EFFECTS OF CHANGES IN VOLTAGE	2.5	1
000033 Loss of Intermediate Range NI / 7					X		AA2.01 EQUIVALENCY OF SR/IR/PR	3.0	1
000037 Steam Generator Tube Leak / 3				X			AA1.13 S/G BLOWDOWN RAD MONITORS	3.9	1
000038 Steam Generator Tube Rupture / 3			X				EK3.08 RCP TRIP CRITERIA	4.1	1
000054 (CE/E06) Loss of Main Feedwater / 4							NOT SELECTED	-	-
BW/E04; W/E05 Inadequate Heat Transfer - Loss of Secondary Heat Sink / 4		X					EK2.2 INTERRELATIONS OF HEAT REMOVAL SYSTEMS	3.9	1
000058 Loss of DC Power / 6						X	2.2.22 LCO KNOWLEDGE	3.4	1
000059 Accidental Liquid RadWaste Rel. / 9							NOT SELECTED	-	-
000060 Accidental Gaseous Radwaste Rel. / 9	X						AK1.02 BIOLOGICAL EFFECTS	2.5	1
000061 ARM System Alarms / 7		X					AK2.01 DETECTORS AT EACH LOCATION	2.5	1
W/E16 High Containment Radiation / 9			X				EK3.3 MANIPULATION OF CONTROLS REQUIRED	3.0	1
CE/E09 Functional Recovery							N/A TO KEWAUNEE (W)	-	-
K/A Category Point Totals:	3	3	3	2	3	3	Group Point Total:		17

E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
000028 Pressurizer Level Malfunction / 2					X		AA2.06 LETDOWN FLOW INDICATOR	2.7	1
000036 (BW/A08) Fuel Handling Accident / 8							NOT SELECTED	-	-
000056 Loss of Off-site Power / 6							NOT SELECTED	-	-
000065 Loss of Instrument Air / 8			X				AK3.04 CROSSOVER TO SUPPLY B/U AIR SUPPLY	3.0	1
BW/E13&E14 EOP Rules and Enclosures							N/A TO KEWAUNEE (W)	-	-
BW/A05 Emergency Diesel Actuation / 6							N/A TO KEWAUNEE (W)	-	-
BW/A07 Flooding / 8							N/A TO KEWAUNEE (W)	-	-
CE/A16 Excess RCS Leakage / 2							N/A TO KEWAUNEE (W)	-	-
W/E13 Steam Generator Over-pressure / 4	X						EK1.1 EMERGENCY SYSTEMS COMPONENTS, FUNCTIONS	3.2	1
W/E15 Containment Flooding / 5							NOT SELECTED	-	-
K/A Category Point Totals:	1	0	1	0	1	0	Group Point Total:		3

ES-401		PWR RO Examination Outline Plant Systems - Tier 2/Group 1										Form ES-401-4		
System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
001 Control Rod Drive	X					X						K1.09 CRDM CONNECTORS K6.11 CRDS FAULT DETECTION	3.4 2.9	2
003 Reactor Coolant Pump		X							X			K2.01 RCPS POWER SUPPLIES A3.04 RCS FLOW AUTO OPS	3.1 3.6	2
004 Chemical and Volume Control			X							X		K3.05 PRZR LCS MALFUNCTION A4.05 LD TEMP. AND PRESS. CONTROL	3.8 3.6	2
013 Engineered Safety Features Actuation				X								K4.03 MS ISOLATION	3.9	1
015 Nuclear Instrumentation	X					X						K6.03 COMPNT INTERCONNECTIONS K1.01 NIS → RPS	2.6 4.1	2
017 In-core Temperature Monitor							X					A1.01 MONITORING CET	3.7	1
022 Containment Cooling			X						X			A3.01 INITIATING SAFEGUARDS K3.02 CNMT INST READINGS	4.1 3.0	2
025 Ice Condenser												N/A TO KEWAUNEE (W)	-	-
056 Condensate	X							X				A2.04 LOSS OF CD PUMPS K1.03 CND → MFW	2.6 2.6	2
059 Main Feedwater				X							X	2.2.2 MANIPULATE MFW CONTROLS K4.08 FRV OPERATION (SF/FF)	4.0 2.5	2
061 Auxiliary/Emergency Feedwater	X						X					K1.01 AFW - S/G INTERACTION A1.01 S/G LEVEL CONTROL	4.1 3.9	2
068 Liquid Radwaste								X				A2.04 FAILURE OF AUTO-ISOLATION	3.3	1
071 Waste Gas Disposal									X	X		A4.09 WG RADIATION MONITORS A3.02 PRESS. REG. FOR WG VENT	3.3 2.8	2
072 Area Radiation Monitoring					X						X	K5.01 ARM RADIATION THEORY 2.3.10 PERFORM PROCEDURES	2.7 2.9	2
K/A Category Point Totals:	4	1	2	2	1	2	2	2	3	2	2	Group Point Total:		23

ES-401	PWR RO Examination Outline Plant Systems - Tier 2/Group 2											Form ES-401-4		
System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
002 Reactor Coolant								X				A2.03 LOSS OF FORCED CIRCULATION	4.1	1
006 Emergency Core Cooling											X	2.3.11 CONTROL RAD RELEASES	2.7	1
010 Pressurizer Pressure Control	X											K1.01 RCS INTERFACE	3.6	1
011 Pressurizer Level Control		X										K2.02 PZR HTR'S POWER SUPPLY	3.1	1
012 Reactor Protection			X									K3.04 LOSS OF RPS → ESFAS	3.8	1
014 Rod Position Indication					X							K5.02 RPI'S INDEP FROM DEMAND IND.	2.8	1
016 Non-nuclear Instrumentation				X								K4.01 READING NNIS OUTSIDE MCR	2.8	1
026 Containment Spray									X			A3.01 PUMP STARTS / MOVES	4.3	1
029 Containment Purge							X					A1.02 RADIATION LEVELS	3.4	1
033 Spent Fuel Pool Cooling								X				A2.03 LOSS OF SFP WATER	3.1	1
035 Steam Generator									X			A3.01 SGWLC	4.0	1
039 Main and Reheat Steam										X		A4.04 AFW PUMP TURBINES	3.8	1
055 Condenser Air Removal	X											K1.06 PRM SYSTEM	2.6	1
062 AC Electrical Distribution											X	2.1.12 TECH SPECS	2.9	1
063 DC Electrical Distribution		X										K2.01 MAJOR DC LOADS	2.9	1
064 Emergency Diesel Generator		X										K2.02 FUEL OIL PUMPS	2.8	1
073 Process Radiation Monitoring			X									K3.01 PRM FAULT → RELEASES	3.6	1
075 Circulating Water				X								K4.01 HEAT SINK	2.5	1
079 Station Air	X											K1.01 IAS INTERFACE	3.0	1
086 Fire Protection						X						K6.04 FIRE, SMOKE, HEAT DETECTORS	2.6	1
K/A Category Point Totals:	3	3	2	2	1	1	1	2	2	1	2	Group Point Total:		20

ES-401		PWR RO Examination Outline Plant Systems - Tier 2/Group 3											Form ES-401-4	
System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
005 Residual Heat Removal	X											K1.01 RHR -> CCW	3.2	1
007 Pressurizer Relief/Quench Tank												NOT SELECTED	-	-
008 Component Cooling Water									X			A3.08 AUTO ACTIONS DUE TO SI	3.6	1
027 Containment Iodine Removal												N/A TO KEWAUNEE (W)	-	-
028 Hydrogen Recombiner and Purge Control					X							K5.02 FLAMMABLE H2 CONC.	3.4	1
034 Fuel Handling Equipment								X				A2.01 DROPPED FUEL ASSEMBLY	3.6	1
041 Steam Dump/Turbine Bypass Control												NOT SELECTED	-	-
045 Main Turbine Generator										X		A4.01 TURBINE VALVE INDICATORS	3.1	1
076 Service Water			X									K3.07 ESF LOADS	3.7	1
078 Instrument Air				X								K4.03 LOSS OF COOLING	3.1	1
103 Containment							X					A1.01 CONT. TEMP, PRESS & HUMIDITY	3.7	1
K/A Category Point Totals:	1	0	1	1	1	0	1	1	1	1	0	Group Point Total:	8	
Plant-Specific Priorities														
System / Topic		Recommended Replacement for...					Reason					Points		
Plant-Specific Priority Total: (limit 10)														

Facility: Kewaunee Nuclear Plant Date of Exam: 02/2004 Exam Level: RO				
Category	K/A #	Topic	Imp.	Points
Conduct of Operations	2.1.10	License conditions/limitations	2.7	1
	2.1.11	T/S action statements (<1 hour)	3.0	1
	2.1.25	Reference materials	2.8	1
	2.1.32	System limits & precautions	3.4	1
	2.1.			
	2.1.			
	Total			
Equipment Control	2.2.1	Perform startup procedures	3.7	1
	2.2.27	Refueling Process	2.6	1
	2.2.26	Refueling administrative requirements	2.5	1
	2.2.34	Effects on core reactivity	2.8	1
	2.2.			
	2.2.			
	Total			
Radiation Control	2.3.2	ALARA	2.5	1
	2.3.9	Containment Purge	2.5	1
	2.3.			
	2.3.			
	2.3.			
	2.3.			
	Total			

Emergency Procedures/ Plan	2.4.1	EOP entry conditions / immed. Actions	4.3	1
	2.4.7	Event-based EOP strategies	3.1	1
	2.4.34	RO tasks outside MCR	3.8	1
	2.4.			
	2.4.			
	2.4.			
	Total			
Tier 3 Point Total (RO/SRO)				13/17